Chapter Four.

The 1903 Philippines Census scheme of occupational classification.

Information about occupations is intricate and unlike information pertaining to other demographic details, requires management. When conducting the Philippines Census, U.S. officials relied on their knowledge and experience of census taking in the United States, recording, managing and tabulating data in accordance with domestic U.S. purposes and practice. They made no exception for the information about occupations. The immediate purpose of the Philippines occupation statistics therefore corresponded to the then current U.S. purpose, despite the issue's contentious nature for contemporary labour statisticians. It follows that the type and degree of management of the Philippines statistics probably was similar to that exercised in the U.S. Census occupation account. The next two chapters investigate elements of that management and its effect on the 1903 Philippines data. The proposition is that there was sufficient regulation of the occupation account through the classification scheme and measurement of gainful employment to distort the record of occupations. The inquiry is practical, it is largely restricted to evidence in the published Census and it relies on relevant American research. Until scholars provide other evidence, only tentative suggestions are possible.

The focus of this chapter is the occupation classification scheme of 1903. Unfortunately, the scheme was obscure, not only in its conceptualisation but also in its implementation. Because of that obscurity, researchers have previously accepted and used the Philippines information at face value and to my knowledge, there has never been a study of the colonial scheme. Following particularly Margo Anderson's work on the U.S. Census[1], I believe it is now possible to make suggestions about its operation in the Philippines. In particular, her interpretation of the organisational concepts and structures used by the Census Office underlies my study. Although my task involves working from evidence sanctioned and restricted by Census authorities, some of the detail of the scheme's use in the Philippines can be uncovered.

M. Anderson establishes the reasoning behind the U.S. system during her re-assessment of the historical sequence of U.S. Census occupation classification schemes. American officials who set out and conducted the 1900 U.S. and the 1903

Philippines counts of occupations were part of the one Census office[2] and upheld the same thinking. Henry Gannett, for example, was closely involved in both enumerations. It was doubtful whether those officials considered if their logic were appropriate to the Philippines situation or if the purpose and form of the scheme were relevant to occupations in the new colony. But M. Anderson also shows how conceptual confusion, omissions and bias characterised the domestic account of occupations in reality. If any variations from the U.S. scheme were to emerge, then it might have been in the practical aspects of the later Philippines operation, rather than in its logic, which the officials had assumed independently.

Management of the classification scheme by the Census Office, I suggest, happened at different scales. First, authorities regulated the record by adopting a classification scheme that fitted in with their logic and reflected their established purpose. Second, statisticians and staff controlled the process by organising the procedure and compiling the gathered data in accord with their thinking. In doing so, as M. Anderson shows, they contributed to the scheme's obscurity and skewed the data. Last, Bureau supervision of the publication of statistics constituted an additional degree of regulation. This chapter concentrates on the second and third aspects of the Philippines exercise. Only an examination of the Philippines account can indicate if similar or different management of the colonial record most likely happened, to what extent it occurred and what the potential consequences were of that interference.

The scheme affected the placement of individual occupations, as well as the proportion of the working population in each economic sector, leading to latent bias. On the one hand, the placement of occupations was unexplained and appeared to be mysterious. Official decisions to omit much information (textual and statistical) promoted the scheme's obscurity. The concealed nature of the account reinforces the perception of possible manipulation and points to another aspect if not the extent of official management. On the other hand, any attempt to uncover the hidden placement of occupations may appear to be a trivial exercise in relativism. In general, it is immaterial that occupations are transferred among sectors as classification criteria change and as the occupations themselves alter. The assumption is that the criteria are established and accepted, statisticians comply with them and readers understand them. Under these circumstances, an occupation may be confidently located within a sector, including after any changes. Such conditions, however, did not apply to the 1903

Philippines Census record of occupations. When the classification scheme is opaque, the criteria are unstated and poorly understood, and when occupations cannot be located with certainty, then subsequent judgements about change in the occupational structure may be incorrect. It is worthwhile to uncover the extent of manipulation and bias as much as possible and perhaps be able to correct previous misinterpretations.

An attempt, therefore, to probe and clarify the procedural organisation and practical use of the scheme should aid our understanding of the managed nature of the process. After briefly outlining the American background, Section 1 attempts to begin unravelling the uncertain organisation in the Philippines, including the Schedule and coding-punching operation. In seeking to discover the sectoral coding of individual occupations, I then use evidence from the published Tables, for males and females, to describe the use of the scheme and consider why the classification was so unclear (Section 2). The description includes examples of how Bureau decisions about the quantity and depth of published information for each province highlighted the scheme's opacity. Although such an investigation might show the form of regulation, the data on their own do not allow us to verify the fact of official interference or estimate the exact degree of regulation. I nevertheless consider that there was sufficient distortion of the economic sector data as to make them unsuitable for longitudinal studies. Section 3 concludes the chapter by discussing management of the process and the possible misrepresentation.

1. Preparatory organisation.

Statisticians in the late nineteenth century were divided over whether occupation information was collected for economic (industrial or occupational structure) or social purposes (extent of the urban, industrial population, status or mobility) (Gannett 1894; Katz 1972; Scoville 1965). The U.S. Census Office between 1870 and 1910 organised data into what Margo Anderson calls an artisanal classification scheme (Conk 1978)[3]. This reflected the U.S. interest in understanding the nation's economic growth rather than emerging concerns with the changing social order (Davies 1980)[4]. Occupations were designated as belonging to one of four (in 1890), then five economic sectors (1900) – agriculture, manufacturing and mechanical industries, trade and transport, domestic and personal service, professional service.

Because labour was considered to be either productive or merely supporting production, those workers not directly making goods or working with materials were excluded from the manufacturing and mechanical industries sector. Even if the boundaries of production (agricultural and manufacturing occupations) were seemingly evident to Census staff, it is debatable if the service sectors including trade, transport and communications but especially domestic and persona1 service, were rationalised so precisely. This affected the definition and ordering of data and possibly the range of data published. Margo Anderson further points out that for manufacturing industries, statisticians gave consideration to neither skill levels nor the worker's relationship to the production process. Occupation data, therefore, tended to reveal the extent of individual industries rather than the occupation (in today's sense) of each person.

Clearly, the authorities and staff involved in the Philippines Census complied with these principles. On Schedule 1, enumerators were required to fill in a single question for occupation: ''Occupation, Trade or Profession of each person aged 10 or more years''. The wording was vague and perhaps steered enumerators towards nominating the industry in which the respondent worked rather than the job done. Labour force status was not yet a consideration. Preliminary management of the enumerated statistics then occurred. Following the recording of 1200 to 1500 different occupations on the completed Schedules, the Census authors outlined why and how this variety was reduced first to a list of 224 occupations and then to 135 final descriptions (1903 Census, Vol. 2, p. 121). In their opinion, it was not feasible to record each occupation because of poor definition, imprecise answers, duplication, or gender variation of the same job. Moreover, the proposition that the Census was an economic, not social account of occupations can be supported from the comment in the Report that, in some cases, " …the expressed numbers are obviously too low for what should properly represent the industry."[5]

Such a reduction of reported occupations to about one-tenth in number perhaps best illustrates the industrial emphasis of the account. It appears probable that the Bureau consolidated occupations associated with each separate industry into just one or two occupation classifications. The listed occupation, cigar makers, for example, encompassed leaf sorters, leaf strippers, cigar makers, cutters, box makers and packaging workers, cigar sorters, packers, supervisors, managers and possibly agents (Camagay 1995; Clark 1905; de Jesus 1971). In this example, the single classification

hid occupational and gender segregation. Women were concentrated in leaf sorting and stripping and in stamping and rolling cigars for the local market[6], compared with male dominance in the other occupations. Spinners and weavers, who were to portray the textile industry, covered many weaving operations[7] in addition to spinners, proprietors, managers and supervisors where they were reported. These aggregated classifications do not allow us to know proportions of women in each occupation or operation, or conversely, how many might have carried out the total array of jobs needed to produce one length of cloth, for example. As well, they do not disclose the proportions working with different materials within the same province, such as Iloilo. In manipulating occupational uniformity to such a degree, the Bureau disclosed their industrial focus in an obvious manner.

Raw information from the Schedules had to be transferred to punch cards, one per person, if the available tabulating machines were to be used for data compilation. Punching clerks in Washington, diverted from U.S. Census projects (Truesdell 1965), undertook the task in accordance with Bureau directions. For the Philippines Census, particularly in the case of occupations, there is no information available on the exact instructions and procedure used in this process without access to the archives. The Census Report contains just one sentence of limited description: *"Para cada ocupación se hacian tres agujeros según el número asignado á la ocupación determinado en la clasificación correspondiente de ocupaciones"*[8] (1903 Census, Vol. 2, p. 15). In the absence of the detailed instructions, I am necessarily restricted to the following suggestions and possible alternatives.

Punch cards recorded the sector allocation of each occupation as set down on a pre-arranged code sheet. The Philippines punch card format (Figure 4.1) for occupations differed from that on U.S. cards used in 1890, 1900 and 1910 (see Conk 1981; Truesdell 1965). Census staff possibly compiled a code sheet for the Philippines by assigning each occupation or combination (for example, weavers and spinners, bankers and brokers, farmers and farm labourers) to one of the five economic sectors. Conversely, they might have used the equivalent U.S. sheet without alteration. From the detailed examination below, it appears most likely that officials followed the U.S allocation with minor variations. Clerks punched the cards corresponding to the code sheet designations, although I cannot tell if all occupations were included on the sheet.

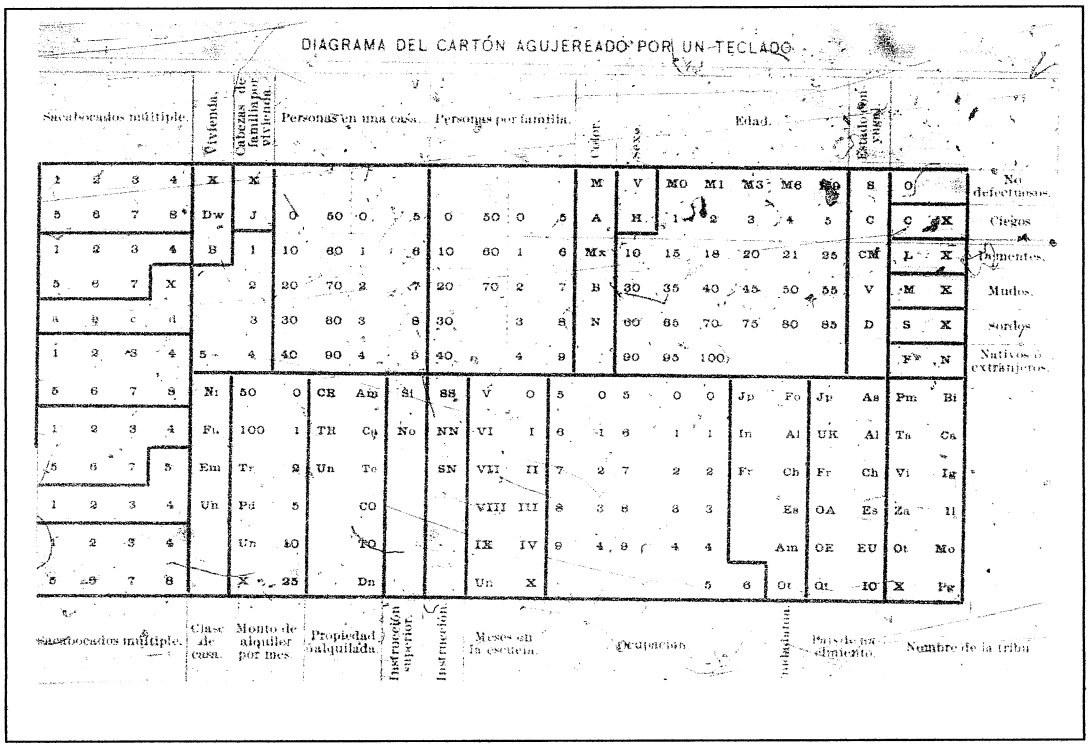

Fig. 4.1. Punch card for the 1903 Philippines Census.

The occupation section is fourth from the right on the lower half of the card.

M. Anderson (Conk 1981) notes that the U.S. code sheet listed three-quarters of occupations, while clerks checked the remainder individually from the respective Schedules and then coded them. I assume punching clerks carried out the Philippines operation similarly.

There were three parts to the occupation field on the card, read from right to left (see Fig.4.1). Numbered from 0 to 6, the first part might have indicated economic sectors: 0 – no gainful employment, 1 to 5 – the sectors, 6 – undesignated occupation. Alternatively, it perhaps coded the occupations by sex, as in part two of the 1900 U.S. card. The purpose of parts two and three on the Philippines card, each numbered 0 to 9, is equally obscure, although we can assume that at least one part indicated specific occupations or their combinations.

Although Anderson (M. Anderson 1992; Conk 1981) argues that even in 1900 the U.S. coding system had a sex bias built in, I suspect the Philippines method veered more towards an economic or industrial bias[9]. The three parts on the punch card perhaps represented simply, economic sector (part i), male and female occupations (parts ii and iii). While 38[10] of the 135 listed occupations in the Philippines had no recorded female representatives, women were reported in other occupations where U.S. officials might not have tolerated them if Anderson's argument were accepted. That these women were included might indicate, on the one hand, a lack of checking and verification. On the other, it might signify that clerks were not instructed to remove women from such occupations, or were instructed not to remove them, and to that extent, a sex bias perhaps was not so obvious in the Philippines coding. These occupations included blacksmith, builder (contratistor), carpenter, clergy, dentist, drayman, hotel and guest-house owner, lithographer, mechanic, physician and surgeon, rail and tram employee, sawyer, and tinsmith. The problem will remain unsolved until historians research the archives for details of the coding and punching.

It is difficult to be anything other than indecisive about the coding procedure for classification given the paucity of resources available and the previous lack of research into the 1903 Philippines Census. Two aspects are clear, however. Management of the classification scheme and process was potentially comprehensive, from the probable, original decision to concentrate on an industrial-economic scheme, to the early reduction of occupations from enumerators' returns and to the detail of the process. Linked to that probability, it seems likely that Census staff had opportunities

to interfere in the regulation and ordering of the data. That they might have done so has contributed to the uncertainty about the extent of regulation and such considerations point to possible distortion of the occupation statistics. Second, because it is not possible to clarify the occupation coding (the sectoral placement) from the classification procedure, other evidence may provide a better guide to understanding the scheme. The remainder of the chapter therefore examines information in the published record of occupations.

2. Operation of the classification scheme.

Census Tables 53 to 58, the first section of the 1903 Census occupation data, give only unexplained sector information including by province. It is possible to place many occupations within each sector with reasonable sureness (the obvious agricultural, manufacturing and trade descriptions) and to suggest the designation of others with reference to U.S. examples. It is very difficult, however, to be certain of all occupation places in each sector. The 1903 Report does not include such a listing, in contrast to 1939 and later Censuses, and in Tables 59 and 60, the occupations are listed alphabetically (by the equivalent English language titles), not under sector headings[1'].
Nor can we calculate the classifications easily from Census data. Note that in the following paragraphs, use of Census data as an aid in pointing out the classification scheme's flaws is not intended to reflect an unqualified acceptance of the data. Questions raised by the inquiry suggest quite the reverse. Much of the following information comes from occupations in which men predominated, but the bias in placement similarly affected occupations in which women participated. Last, I use the original occupation terms and have not converted them into inclusive language.

Occupations that we can place confidently included some that significantly affected the sectoral distribution of 1903, but which statisticians transferred to other sectors in 1939. The 1903 Manufacturing and Mechanical sector, for example, encompassed fishermen, divers, miners, woodcutters and probably hunters[12].
Fishermen alone comprised 46 per cent of purported male manufacturing workers in 1903 and were close to three times in number the next largest group, carpenters. The 1939 Census listed the fishing industry including divers as a separate sector. Unless the

fishing industry is taken into account, the extent of the increase in men's manufacturing by 1939 may be underestimated.

Next, the Census Tables used two terms, tintoreros and *tiñadores* y *limpiadores,* to describe the one industry and its occupations, cloth dyeing and cleaners, which can be confused with other occupations in another economic sector. While dry-cleaners and laundry workers are always classified as Domestic and Personal Service, in 1903 dyers and cleaners referred to the female dominated (1M:5.3F) Pangasinan and Ilocos Sur indigo dye industry[13], recorded under Manufacturing. Manila's steam laundry workers[14] were apparently included either as lavanderos (washermen/women) or as Others in Domestic Service in 1903. By 1939, a classification under Domestic Service catered for the mechanised laundries and another for dry-cleaners and dyers combined, but there were just 2 females in the latter group in Pangasinan and none in Ilocos Sur[15]. Dry-cleaning and dyeing shops had become male dominated (2.1M:1F) by 1939.

Additionally included in Domestic and Personal Service were nurses and midwives (see page 91), interpreters[16], public service occupations of police and firemen (but why not prison wardens?[17]), and watchmen-guards, as well as stevedores, dockers and longshoremen (*cargadores*)[18]. The Census Bureau reclassified each of these occupations in 1939. Police, firemen and watchmen, for example, made up 5 per cent of the male sector total in 1903, but in 1939 they were classified as Public Service (Not Elsewhere Classified), a separate sector. The 1903 Domestic Service sector in particular illustrates the inexact conceptualisation of the service sectors at the time.

Unskilled Labourers.

Undoubtedly, of greatest hidden influence on the recorded economic distribution of occupations was the classification of 384,400 men and women as Labourers, *Unspecified* in the Domestic and Personal Service sector. Thought not to be productive in the sense noted on page 74, Census statisticians instead classed these workers as service providers. The labourers were often employed on a daily basis as casual labour. They found work in road construction, at ports or with other transport facilities, on fishing boats, in manufacturing industries including as building labourers, in the commercial sector and with private households. The designation of unspecified

labourer was not only obscurely classified, but also poorly defined. Cummings, writing in 1904 on the Twelfth U.S. Census, accused the Census Office of indefiniteness and ambiguity in the enumerators' instructions concerning labourers. Further, he charged the Office with failing in its duty to distinguish and precisely define this category and others, leaving it to enumerators to make a decision (Cummings 1904)[19]. Without evidence to the contrary, I assume that the instructions and method in the Philippines case were similar.

With the benefit of hindsight, it is easy to criticise Census Office indecisiveness over definitional issues. Even if officials had demarcated unskilled labour, employment in the Philippines did not always facilitate such identification or classification. Clark's (1905, pp. 822-823) observations on employment in small businesses perhaps best illustrates the difiiculty:

> "It is exceedingly difficult to secure reliable information as to wages, hours, and general conditions of employment in the small mechanical trades followed in the cities and supplying the daily wants of the community, such as tailoring, boot and slipper making and food preparation...The conditions of work are not well defined. No general standard of wages or hours of labor prevails. Many employees board with the employers. The younger employees, helpers, and apprentices are often engaged under the "criado" system, a form of domestic peonage...Profit sharing and piecework at fixed rates, or under some form of share payment are common. Workmen under this system are employed irregularly. Trades and occupations within the same trade are not differentiated, and workmen are not classified according to skill into the well-defined ranks of masters, journeymen, helpers and apprentices. Industrial service is much like domestic service and is often confused with the latter. A statistical picture of these conditions would be as unreliable as an algebraic formula for the weather".

The comments portray Clark's origins fiom an industrial society with well-organised trades and are perhaps an inappropriate judgement to that extent. Nevertheless, they indicate the difficulty enumerators might have had in separating unskilled labour fiom domestic service or from manufacturing or other occupations, for women as well as

men. Chapter 7 examines some implications of this in relation to the representation of household help.

TABLE 4A

PROPORTIONS OF TOTAL MALE GAINFUL EMPLOYMENT SPECIFIED PROVINCES, PHILIPPINES 1903

	Total Employment	Dom. Service Yo (1	Unspecif. Labour % (2)	Unspec. Lab. as % of Dom. Service (3)	Trade & Transport %	Manufactg. Mechan'l %	Agric. %
Philippines	**2012593**	**21.4**	**17.0**	**79.6**	**7.5**	**12.1**	**57.3**
Antique	31642	52.3	48.4	92.5	2.8	6.8	37.0
Ambos Camar.	67305	48.1	43.3	90.0	6.5	13.5	30.3
Capiz	55543	44.2	38.8	87.9	3.2	14.3	37.4
Sorsogon	34141	43.7	39.9	91.2	6.2	9.5	39.2
Albay	66671	42.1	38.1	90.5	5.0	5.9	45.7
Bataan	13025	38.4	35.0	91.3	3.6	35.2	21.3
Bulacan	64966	37.2	34.1	91.7	5.6	16.7	39.2
Manila	103703	34.8	21.0	60.3	39.6	20.4	2.5
Negros Or.	51212	29.9	26.4	88.4	3.1	6.8	59.5
Rizal	48879	29.1	22.4	76.7	11.0	34.1	24.4
Iloilo	116357	29.0	23.8	81.9	9.5	14.5	45.9
Marinduque	13110	27.7	25.3	91.5	2.5	6.3	61.8
Batangas	75872	12.0	8.6	72.0	6.7	8.4	72.2
Surigao	27228	11.6	8.5	72.7	2.1	5.4	79.7
Leyte	106175	11.3	7.7	68.2	6.0	7.1	74.6
Samar	75638	10.9	7.5	68.5	3.5	6.2	78.7
Nueva Ecija	38516	10.6	6.5	61.2	3.9	6.4	77.9
Bohol	64789	8.9	7.4	84.0	8.8	12.4	69.8
Pampanga	66087	8.3	3.1	37.9	9.7	27.9	52.8
Isabela	23149	6.0	2.2	35.8	4.2	2.8	85.4
Pangasinan	108965	3.9	0.6	15.2	3.9	11.8	79.0
Ilocos Norte	476261	3.6	1.8	48.9	1.7	4.9	88.6

Source: Calculated from 1903 Census, Volume 2, Tables 53 and 60

How did the classification of unspecified labourers as Domestic Service affect the proportions of gainfully employed in each other sector? First, it is necessary to understand the effect of the classification on the proportions of gainfully employed in the Domestic Service sector. Men constituted 89.3 per cent (343,293) of unspecified labourers. The labourers made up four-fifths of male Domestic Service sector workers (slightly more than one in every six gainfully employed men), while women labourers were 29.2 per cent of female Domestic Service. Table 4A shows the proportion of male gainful employment[20] as Domestic and Personal Service, for those provinces with more than 25 per cent, and 12 per cent or less in the sector, ranked from highest to lowest. The unspecified labour component of total employment and its share of Domestic and Personal Service are also shown. The last three columns give the proportions of male gainful employment in the other major sectors.

As would be expected, where male unspecified labourers formed a large part, from one-third to one-half of the province's recorded gainful employment for men (Col. 2), their contribution to the Domestic Service sector was high (Col. 3), and Domestic Service accounted for over 35 per cent of the total employment (Col. 1). This was apparent in Bicol, on Panay, and in Bulacan and Bataan. At the other extreme, the reverse appeared to occur, particularly in specific northern Luzon provinces. By contrast, that Domestic Service or its share of total employment was not dependent on unspecified labour can be seen in this Table in Manila, Rizal and Bohol. It is clear from the data that the male unspecified labourers' distribution both in Domestic Service and across the provinces was variable.

Only speculation is possible about the classification's influence on the structure and size of other economic sectors. An estimate, for example, that 20 per cent of unspecified male labourers were manufacturing labour and 20 per cent trade and transportation labour, would have moved approximately 137,310 men out of the Domestic Service sector. For want of any other guide, 20 per cent is comparable to the proportions of all 1939 Census identified "Labourers and Others" found in those sectors. Certainly, the data do not preclude the possibility that 3 to 3.5 per cent of workers were transferred from each sector to Domestic Service. As Table 4A shows, there appeared to be little pattern among the provincial proportions of unspecified labour/Domestic Service, Trade-Transport and Manufacturing. A flat increase in these latter sectors does appear possible, although the distribution of such an increase would have varied from province to province and between the two sectors. Such a transfer would have altered the non-agricultural distribution of male occupations to one of greater uniformity among the sectors overall. It also would have affected the male-female division of labour reported by the Census. If these possibilities are accepted, then they illustrate a likely and noteworthy effect of the management of the data.

Table 4A, however, reveals a further possibility. Unspecified labourers might have come from the Agricultural sector in some provinces, as well as from Trade, Transport and Manufacturing. The data tend to show an inverse pattern between the farming sector and unspecified labour, so that provinces, as in northern Panay, Ambos Camarines and Sorsogon for example, with low proportions in farming had the highest proportions of unspecified labourers. It appears possible that some of these labourers more correctly were farm workers. In Isabela, Pangasinan and Ilocos Norte at the

opposite end of the range, perhaps enumerators counted some day labourers as agricultural labour. Yet, the Table does not indicate any causal direction of the possible inconsistency[21], and again, local enumeration and defining practices would need to be investigated.

The UN (1960), in Appendix D of their report on Philippine labour problems, made substantial corrections to these Domestic Service and Agriculture data. Surveying the industrial composition of the Philippines labour force, the authors argued that even after adjustments to the total population, the male proportion engaged in Agriculture and related activities for 1903 was lower than indicated by later censuses. The survey also observed that the sex ratio for Domestic Service showed an unusual imbalance. In an earlier footnote, the report commented: "It is possible that some of the males assigned to this group in 1903 should have properly been classified in agriculture" (Footnote **3,** p. 18). The correction made in the Appendix transferred "a sufficient number" of males from Domestic Service to Agriculture to make the sex ratio in Domestic Service for 1903 the same as the average of the ratios obtained from 1939 and 1948 (p. 59). Although the calculations were not shown, if that ratio were 1M:1.13F, then they moved approximately 307,000 males out of the Domestic and Personal Service sector to the Agriculture sector[22]. That represents a significant proportion of the male Domestic Service sector. The UN calculations made no allowance for the transfer of labourers to other sectors, and they were based on an assumption that there was very little change in the industrial structure of occupations (that is, by economic sector) over time.

It is impossible, therefore, to judge the effect of the male unspecified labour classification on other sectors with any sense of confidence. Four provinces illustrate the complexities of any possible association among unspecified labour and all other sectors - Bataan, Negros Oriental, Marinduque and Parnpanga. They also point to a problem of possible ambiguity and lack of definition in the enumerators' instructions leading to misunderstanding and possible misrecording. Furthermore, the 41,106 female unspecified labourers remain largely a group of unknown identification and any similar, speculative redistribution of the women to other sectors would be of little value (for further discussion, see Chapter 7, household help occupations). While supposition about the numerical redistribution of unspecified labourers away from Domestic and Personal Service may be intriguing, it is conjecture until research into

the enumerators' returns reveals more detail. If for no other reason than the labourers' obscurity, however, we ought to be wary of using the recorded 1903 distribution of economic sector data for longitudinal comparison. An example from Eviota (1992) illustrates the potential peril.

Her hypothesis is that the feminisation of Domestic and Personal Service (''services work") by 1948 reflected a movement of women into low-paying household help occupations – cooks, amahs, washerwomen, paid housekeepers/butlers, maids and servants (referred to as domestic and personal services by Eviota). She declares the women replaced men who left for other service work. She cites the figures: ''In 1903, 14 per cent of female workers were in services and of this 68 per cent were in domestic and personal services; the corresponding proportion for males was 21 per cent and 12 per cent... By 1948, 23 per cent of women workers were in services, and of this 94 per cent worked as household help while the corresponding proportions for men were 9 and 37 per cent'' (p. 68). The cited proportions first tend to contradict her statement that men moved out of the household help category to ''other services'', but I suggest that Eviota has misinterpreted the 1903 Domestic Service sector data. Those data, grossly distorted by the unspecified labour, stevedore and public service occupations, were misleading. Given the skewness, it was possible that the proportion of men in the Domestic Service sector fell at a slower rate from a lower level than the given data indicate. As well, the proportions of Domestic and Personal Service women in household help, while higher than those of men in 1903 and 1939, in all probability did not increase at the rate shown by Census data, instead being consistently high. Perhaps Eviota has based her argument on a false premise, but the example reinforces the need for care.

Other sectors.

Compared with Domestic Service, the Agriculture sector was relatively straightforward to uncover. It included just three occupation classifications, each one with combined occupations – farmer and farm labourer, florist and market gardener, and pastoralist-herdsman. Comparison of Census Tables 53 and 59 supports this. Both Tables recorded 1,163,777 men and 90,286 women in agriculture, indicating that no other occupation category (such as woodcutter) might have been included in the sector

total. The occupation account did not distinguish owners, managers, labourers, or occupations by the product grown[23]. Most likely, farmer, farm labourer and unspecified labourer were not clearly defined and counting them probably depended on local enumeration practices and responses. How did officials and enumerators differentiate between harvesting and the primary processing or transport by manual labour of farm products, for example? This affected the distinction between farm labourer and unskilled labourer and therefore the bias of the occupation census. Anomalies also arose over which family members were to be counted as a farm labourer (see Chapter 5). One other point is worth noting here. Officials were uncharacteristically scrupulous in publishing provincial (Census Table 60) farmer and farm labourer statistics. Just 6 men and 1 woman were missing from the combined occupations, out of a purported 1.25 million farm workers. Such precision perhaps supports the notion that the authorities were more interested in the extent and distribution of productive labour compared with the supporting services. Conversely, the lack of a clear boundary between the farm and unspecified labourers might appear to contradict that claim.

Next, I turn to the general problem of uncovering the occupational make-up of other sectors. The hidden placement of other occupations is not so easily discovered, partly because of hazy defining and classification of individual occupations, and partly because the individual examples had much less influence on sector totals than did the unspecified labour classification. Further Census Bureau decisions in relation to the presentation of data, while highlighting the scheme's apparent obscurity, also exacerbated the difficulty of detection. Their actions concealed knowledge from readers and in some cases, directly distorted the published data, although this cannot always be verified from Census information. Because the Professional Service sector was relatively small in extent, it provides a less complicated example of the problems and I start with that sector, drawing from Census Tables 53, 59 and 60 in Volume 2.

Authors of the 1903 Census recorded 25,637 Professional Service workers, of whom 23,358 were males and 2,279, females (Census Table 53). By using the 1939 Census list of occupations as a guide, I began with the preliminary classification in Table 4B. Statistics for each occupation from Census Table 59 for 1903 were added, as well as the sector totals from Table 53 as a check. It was obvious immediately from comparison of the female totals that this preliminary classification was incorrect. The

Philippines classifications did not necessarily mirror U.S. practice, but it seems likely, so I referred to the few 1900 U.S. Census sources available. Abbott (1910), in Appendix E, listed the occupations of the 1900 Twelfth U.S. Census under sector headings, although her list was occasionally at variance with the enumerators' instructions (see U.S. Bureau of the Census 1979)[24]. She included photographers under Manufacturing[25], bankers and brokers in Trade, and sextons-vergers (*sacristanes*) along with janitors and undertakers in Domestic and Personal Service. That these religious assistants were considered domestic or personal service providers suggests that perhaps acolytes were similarly thought to belong in Domestic Service, although their classification cannot be confirmed either way[26]. Nuns probably remained in the Professional sector, along with clergy. It was impossible to check the acolytes and nuns because the U.S. sources made no mention of them and provincial distributions for the Philippines did not list them.

TABLE 4B
PRELIMINARY PROFESSIONAL SERVICE SECTOR
PHILIPPINES 1903

Occupation	Total	Male	Female
Acolytes (Relig.Assistants)	205	205	...
Actors	128	63	65
Architects	41	41	...
Artists	560	475	85
Bankers & Brokers	343	223	120
Clergy	1153	1149	4
Dentist	38	37	1
Designers, Draftsmen	138	138	...
Engineers & Surveyors	108	108	...
Journalists	93	91	2
Lawyers	862	862	...
Literary & Scientific persons	50	50	...
Musicians	8661	8564	97
Notaries	79	79	...
Nuns	81	...	81
Photographers	276	272	4
Physicians & Surgeons	1604	1568	36
Prison Wardens	176	176	...
Sextons, Vergers *(Sacristanes)*	2459	2457	2
Theatre Owners	100	93	7
Teachers	5362	3494	1868
Veterinary Surgeons	37	37	...
Total	22554	20182	2372
TABLE 53 TOTAL	25637	23358	2279

Source: 1903 Census of the Philippines, Volume 2, Tables 53 and 59

Furthermore, according to Abbott, Professional Service included government officials (5,917 men, **33** women). After musician, this is potentially the second largest

occupation in the sector, providing a possible 23.2 per cent of the total (male and female), although just 1.5 per cent of women. Comparison of the sector over time would need to consider two aspects, the proportional occupation distribution within the sector, and the alternative location of government employees. But the 1903 classification of government employees is not clear. Did it include public service clerks, some of whom were heads of departments, or were they combined with other clerks (dependientes) from offices, commerce and manufacturing? The U.S. instructions under the sub-heading of "Professional Pursuits", Paragraph 180, (U.S. Bureau of the Census 1979, p. 36) urged enumerators to distinguish between the two. Verification of this puzzle requires archival research. Last, Abbott lists electricians under Professional Service. Did statisticians consider the occupation a government profession, or an engineering classification? What were the criteria for defining and classifying occupations? The U.S. enumerators' instructions mention "electric-light man" only in Trade-Transport[27].

Hence, by excluding bankers and brokers, photographers and sextons-vergers, but retaining acolytes and nuns and including government officials and electricians (81 men), it was possible to account for all but 130 professional men. The classification appeared feasible. A check against the Manila data in Census Table 60 using this provisional classification did not refute it, enabling identification in the capital of 2,691 professional males out of a designated 2,827, and 446 out of 481 professional women. (That leaves the questions, who were the extra 35 Manila women, and why did the authorities not identify them and the other 136 men by occupation?) All other provinces (Census Table 60) had five or fewer professional occupations listed (government official, lawyer, musician, doctor or teacher), so could provide little help. The apparent likelihood of this suggested sectoral placement does not mean it is correct, but it provides some direction for some of the occupations. It might also suggest that regulation and ordering of the service sector statistics tended to be haphazard consequent upon the weak conceptualisation of those sectors.

Similar exercises to make the Trade-Transport and Manufacturing sector classifications more transparent reinforced the same questions. First, how did Census staff define various occupations? M. Anderson (Conk 1978) discusses the different criteria that applied to Manufacturing sector occupations, but there were no clear guidelines. The Bureau itself advised that before 1910, "there is little information

available on the exact definitions used for several occupational categories'' (U.S. Bureau of the Census, 1961, p. 69). Second, what factors influenced the sector placement of particular occupations? Were ''engineers and firemen'', for example, classified in Trade-Transport (a service) if they worked on trains and in Manufacturing if they worked on fixed engines (as millwrights, toolmakers, die-setters, etcetera) as happened in the U.S., or were they classified in just one sector in the Philippines? If that were the case, (the Tables listed them as the one occupation), why did officials choose that particular sector over the other one? While unknown problems of accuracy and reliability of the enumeration, coding and punching processes underlie any such questions, the foundation of the classification scheme's obscurity was conceptual confusion.

Following consideration of the obstacles so far noted, I attempt in Appendix 1 to place in each economic sector all occupations in which women worked. The classification is provisional, dependent upon further research into the sector placement of men's occupations. As well, the Appendix suggests partial solutions to data problems that arise from the incomplete publication of inforrnation, which I now consider.

Omissions in the published data.

Decisions made by Census authorities about the quantity and type of inforrnation published hinder attempts to clarify all sectors except Agriculture. The complete omission of 25 occupations from the provincial accounts in Census Table 60, and the decision to list others only partially, illustrated the regulation of the occupation accounts and formed another dimension of the statistical management. To consider the first problem, Table 4C lists the occupations omitted by statisticians from the provincial distribution in Census Table 60.

The sum total of workers (3,400[28]) from the omitted occupations was very low and not one of the occupations on its own affected the organisation of the Census data. I have already noted the uncertain placement of some, for example, religious assistants (acolyte) and undertaker. Others, such as hostler[29] and soap maker might be more easily located, but what of a locksmith, who perhaps was a salesman, manufacturer and service provider all in one? On what basis did Census staff classify this and similar

occupations? And why did officials choose to ignore or suppress these occupations in the published provincial listings in Census Table 60? The common factor appears to be a low number of members (less than 245 each, except for wet nurses), yet 17 other occupations with equally low numbers were recorded in at least one province[30]. Was it only because there were insufficient numbers to represent an industry, or was it perhaps because these occupations did not fit easily into the productive sector? From the list, only three occupations (lime-burner, soap maker and woodworker) would appear to comply with that criterion, while the others might have been considered as supporting production. Furthermore, in the written report in Volume 2 of the Census, the table on page 122 listed gambler, beggar, prostitute and prisoner as occupations, all of which were eliminated from any further information''. Gambling, in 1939 at least, was regarded as a legitimate occupation, included under Other Recreational Pursuits, Professional Service. Where did the statisticians hide prostitutes and gamblers in the 1903 count?

TABLE 4C
OCCUPATIONS OMITTED FROM TABLE 60,1903

Acolyte	Lighthouse keeper	Saloon Keeper
Architect	Lime-burner	Soap Maker
Contractor-builder	Literary & Scientific Person	Theatre, Circus Owner
Conductor	Locksmith	Telegraph/phone repairman
Dentist	Dressmaker-Milliner *(Modista)*	Woodworker *(Ebanista)*
Hostler	Notary	Undertaker
Hotel-Guest House Owner	Nun	Veterinary Surgeon
Mail carrier	Wet Nurse	Weigher
	Prison Warden	

The occupation modista epitomises these difficulties. Of the 110 women so enumerated in the 1903 Census (Table 59), 103 were Filipino including mestizas. The first problem stems from the Census definition of the occupation. Although the Spanish term is translated today as fashion designer or dressmaker, officials in 1903 placed the classification in the alphabetical list between miller and miner. ''Milliner'' was most unclear, especially in the United States and perhaps in the Spanish world, as the occupation was undergoing change[32]. Were the women shopkeepers making and selling fashion hats and bonnets (perhaps less likely in the Spanish influenced Philippines), or were they designing, cutting, sewing and selling complete outfits, including perhaps *pañuelas*? (see Figure 7.4 in Chapter 7). (This was an age, it should be remembered, before high quality or expensive, ready-made clothing became

available.) Confusingly, the Manila Directory recorded one G. de Abida Dominga, Dressmaker and Milliner, at 161 Misericordia, Sta. Cruz (Cordero-Fernando and Ricio 1978). We can be certain, nevertheless, that the classification did not refer to local salacot and blocked hat manufacture (see Chapter 7). It seems clear that the modistas were retail traders and perhaps that influenced U.S. officials to define them as milliners, following the term's historical origin. On the other hand, the title might only indicate Census officials' awareness of the U.S. situation, rather than their knowledge of circumstances in the Philippines.

Then, the second problem emerged. How were the women to be classified? Statisticians apparently nullified any service (trade) criterion by probably classing the Filipino women as producers under Manufacturing. That is an assumption only, however, because omission of the occupation from Census Table 60 removed any chance of later checking[33]. Moreover, as with all the 1903 occupation terms that more accurately described an industry, we know not how many of the women were traders or proprietors, or how many were designers, cutters or other employees in those establishments. Any positive Census evidence of who the modistas were and where they lived and worked vanished when officials omitted the classification from the provincial lists. Finally, as if to emphasise the earlier interference, the 1939 Census hid dressmakers again by combining them with embroiderers (see Chapter 7 for further discussion).

Partial listing occurred in two ways, when the officials listed occupations in just one or two provinces and when they combined occupations. Again, the effect of both was to hide information about the full range of occupations undertaken by the population in any particular province. As well, where combinations were recorded, the arrangement perhaps exaggerated the extent of the encompassing occupation. Both actions disclosed the authorities' capacity to control and perhaps to distort given information. One possible interpretation of such management is that Census staff perhaps mistrusted the returns from the provinces for various reasons. They might have allowed some omissions owing to known enumerator or punching error, for example, but it is unlikely that they excluded so much data from the provincial distribution for that reason alone. For one thing, they compiled provincial and national totals from the same returns. In this case, I suspect that the decision to omit information was not made for any over-riding general reason (except perhaps space

and cost-savings), but instead at an individual occupation level, as the following examples illustrate.

TABLE 4D
OCCUPATIONS LISTED ONCE ONLY IN TABLE 60,1903

Book-keeper	Manila	Interpreter	Manila
Actor	Manila	Janitor, Caretaker	Manila
Artist	Manila	Journalist	Manila
Bookbinder	Manila	Lithographer	Manila
Carriage maker	Manila	Manufacturer, unspecified.	Manila
Clergy	Manila	Miller	Bulacan
Compositor	Manila	Oil Manufacturer	Laguna
Boilermaker-Coppersmith	Cavite	Photographer	Manila
Designer, Draftsman	Manila	Porter	Manila
Drayman	Cotabato	Printer	Manila
Electrician	Manila	Sail maker	Cavite
Engineer & Surveyor	Manila	Stenographer (Shorthand)	Manila
Fireman	Manila	Telegraphist, Telephonist	Manila
Hunter	Nueva Ecija	Watchman, Guard	Manila

Of the 28 occupations listed only once in the provincial distribution, 22 were recorded in Manila as shown in Table 4D. Census Table 60, the detailed listing of individual occupations by province, identified only one quarter of the workers in the janitor and watchmen occupations[34]. The published data for clergy, however, provided the most remarkable example of this partial listing and possible distortion. Census Table 60 recognised 365 clergy, all males and all in Manila, of whom 320 were white. Census Table 59, on the other hand, reported 1,153 clergy including four women, with an approximate ratio of three Filipinos to two whites. In which provinces were the missing priests, the majority of whom were Filipino, and why were they omitted? In particular, where were the one Filipino and three white women clerics? How rigorously did officials apply their occupation boundaries and how did that affect the data? Census authors made note of the difficulties encountered in ordering and recording the various clergy because of enumerators' descriptions (1903 Census, Vol. 2, p. 121). They affirmed the decision to accede to local enumeration responses, but that did not justify concealing two-thirds of the clergy in the provincial distributions. By manipulating the published data in such a way, the authorities seriously misrepresented the occupation in both distribution and ethnicity, and created an opportunity for readers to misinterpret the data.

Regulation of the various nursing categories provided an example of how combinations of occupations might modify the published data. In 1903, nursing was probably classified under Domestic and Personal Service in the Philippines[35]. Table 59

recognised three separate groups of people: 808 wet nurses, 2,354 midwives (88 males, 2,266 females)[36] and 331 regular or trained nurses[37] and untrained "practical" nurses (182 males, 149 females). Female practical nurses worked chiefly in homes as children's nurses and nursemaids, while male regular nurses worked mainly in hospitals (Heiser 1964). The first trained, female Filipino nurses graduated only in 1909 from the Presbyterian Missionary Hospital in Iloilo (Gleeck 1976). Census Table 60, however, listed "regular nurses and midwives" (Enfermeros y parteros) as the single nursing classification, reporting 206 males and 2,667 females in the provincial distribution. Clearly, some of the wet nurses were included in the female total as well as the untrained practical nurses, but what proportions of each were enumerated in this way? Conversely, how many female practical nurses or midwives were unrecorded? Unless research is conducted into the enumerators' Schedules and local responses, those questions will remain unanswered. Yet, the combined recording in the provincial distribution misreported the occupation's sex ratio and altered its perceived composition, by effectively inflating the number of female regular nurses and midwives and diminishing the male representation. Furthermore, there was an inexplicable regional variation in presenting the occupation. Not a single nurse, male or female, was reported in the Ilocos region or the Cagayan valley, for example (see Appendix 1, Table G). As with clergy, misinterpretation of the published data had become possible.

Tentative conclusions.

A summary and some preliminary conclusions about the description of occupations presented in the 1903 Census account are now appropriate. First, "occupations", as used in the 1903 Census, described the extent of industries instead of giving an indication of skills, social standing, workers' participation in the production process or a description of the labour force. To that end, workers were considered either productive or supporting production and in all likelihood, their occupations were similarly categorised. To support that division, Census officials reduced the range of occupations from which they constructed the statistics, most often by consolidating occupations into an industry. As well, related but similarly generalised occupations were combined to represent an industry. Excluded from the manufacturing industries,

however, and from the transport and trade sectors, were unskilled labourers, as the Bureau classed the occupation a supportive service. By portraying industries, the officials concealed information about skill levels (that is, occupation structure), as well as about social issues such as segregation, status and mobility.

Second, the Bureau did not uniformly publish provincial details of the occupations. Numbers of listed occupations varied from 16 in Mindoro and Masbate to 57 in Pampanga, but from just 4 to 15 in frontier provinces. With 75 listed occupations, Manila stood out prominently from that provincial pattern. Excluding the frontier zone, officials recorded only 9 of the 135 listed occupations in every province[38]. The distribution either omitted or reported in just one province more than one-third of all listed occupations. In addition, from the national list of three nursing (health and care) occupations, officials probably included an unknown number of women from one occupation when they melded the other two occupations into a single classification. Of course, not all occupations would be found in each province, but some peculiar omissions occurred for which there were no obvious reasons. It is unlikely enumeration or punching errors caused such extensive elimination of occupations. Perhaps the Bureau decided to publish only limited information to be consistent with their overall purpose, or perhaps it was for cost-saving reasons. But the decision to restrict the data resulted in highly probable misrepresentation of the range and distribution of many occupations, and in the division of labour, sex ratio and ethnicity in some cases. It is debatable whether the Bureau intended those results, however, or whether they were an unwitting consequence of Bureau decisions. Research into the enumerators' Schedules in particular might reveal information that is more accurate.

Third, the occupation classification scheme used by the Census Bureau was obscure and it has not been possible to unravel that fully. Only tentative placement of individual occupations in each of the five economic sectors is possible in many cases. It is not possible to locate all occupations. It is likely that the Bureau placed occupations in accordance with U.S. practice with minor variations. To an unknown extent, Census officials apparently manipulated occupations recorded for men and women to fit in with the classification scheme. The unexplained sector allocation of occupations may lead to misinterpretation in a study of longitudinal change, a possibility to which two factors have contributed. One, the Domestic and Personal

Service location of unskilled labourers probably affected the bias amongst all sectors except perhaps Professional Service. This was so for men and to an unknown but perhaps lesser degree for women, although it is difficult to estimate the extent of the influence in either case. Two, the sector location of some significant occupations changed over time. Particular occupations such as fisherman, government official and unspecified labourer were probably located in perhaps inappropriate sectors in 1903 and were numerically large enough to modify those sectoral occupation proportions. The Bureau transferred the occupations to other sectors in 1939. Potential sectoral change may therefore be over or under-estimated unless those occupations are recognised.

Some conclusions relevant to a study of changing distribution of occupations are also possible. Published sector data of 1903 if used alone have dubious utility unless accompanied by extensive explanation and manipulation, which may in turn lead to further misrepresentation. The industrial-economic bias inherent in the occupation data was misleading and it is easy to misinterpret the accounts. Second, individual occupations given in Table 60 for 1903 are a minimum indication of the range of occupations within each province, and may form insufficient evidence of the occupation distribution across provinces. Apparent regional and provincial variations might or might not have existed. In order that we may make a better-informed judgement about distribution patterns, it is necessary to cull and compare information from the sector distribution, the national list of individual occupations and the provincial distribution. Nevertheless, even that may not be sufficient to provide definite knowledge. Last, the 1903 occupation categories were less precise than might be expected and differences in occupation definitions and boundaries over time need to be considered.

This research has not cleared the 1903 Philippines classification scheme of its obscurity. Many questions will remain unanswered until scholars search archival resources. Instructions to supervisors and enumerators, the completed Schedules, and Census Bureau coding-punching practice as well as their publishing decisions, need to be scrutinised before a better understanding and positive conclusions may be reached. Yet, as Marxist theory did, current post-structural theory would condemn an attempt to elucidate the classification system used in an historical census as a perpetuation of the power relationships exercised in conducting that census. On the contrary, by

examining how the U.S. Census authorities succeeded in obscuring information about occupations, the people who worked in them and where those people lived, it is possible to point to previously hidden diversity and potential problems. That does not deny the authority of the Census Office, but instead indicates areas for further research and a need for caution.

3. Statistical management.

I began this chapter with the proposition that U.S. Census officials perhaps regulated the 1903 Philippines occupation record sufficiently enough to distort the data. It was based on the premise that those officials managed the colony's account according to the logic, design and practice of the metropolitan classification scheme. An understanding that conceptual confusion, bias, omissions and misrepresentation characterised the U.S. enumeration supported the proposition. The notion of Census management is not new, but it was untested for the 1903 Philippines occupation account. Two objectives were clear: to inquire into the form and degree of management of the Philippines occupation record, and to investigate the likelihood of data distortion. The document's text provided limited explanation of the obscure classification procedure and little evidence of direct Bureau regulation. Only supposition drawn from the American experience was possible. It therefore became expedient to uncover the sector placement of occupations in the Philippines from tabulated and other evidence in order that the scheme's obscurity and the management of the process might be understood.

Two aspects of that management are relevant. First, the classification scheme was at least as obscure in the Philippines as in the United States. Margo Anderson (Conk 1978) attributed the obscurity to poor conceptualisation, which might be considered as part of the control and administration of the scheme. To what extent does the evidence from the Philippines support her argument? What other factors might have contributed to the scheme's obscurity in the Philippines? Second, was the actual implementation of the scheme managed extensively, implying breadth, flexibility and perhaps loose or erratic control, or was it intensively managed, with constant monitoring, rigidity, a sharp focus and interference? What connection was there between the poor conceptualisation and the nature of the management?

Evidence from the Philippines amply supports Margo Anderson's contention that the classification scheme's obscurity was a consequence of poor conceptualisation[39]. Official reasoning about the division of occupations into five economic-industrial sectors was unbalanced and inadequate. A concentration on the perceived productive industries showed when officials classified occupations (for example, woodcutter, photographer) in the Manufacturing and Mechanical sector, irrespective of extractive, sales or service components in those occupations. Scant consideration given to the service sectors appears to reinforce the significance of the industrial intent. Incomplete thinking about the services included an imperfect recognition of the difference between domestic/personal service and service to all other sectors, particularly in unskilled labour, or between professional and clerical occupations, for example. When Census authorities failed to express the criteria for sectoral classification, or the definitions of each occupation, they further demonstrated deficiencies in conceptualisation. Last, the omissions and partial listings in the published data were not causes of the scheme's obscurity, but contributed to the perception of it in effect. As in the U.S. account of occupations, Census authorities in the Philippines produced an obscure organisation of occupations because of their insufficient and uneven consideration of the classification scheme.

An obscure classification scheme does not necessarily imply inadequate or loose management of the occupation account, however. On the contrary, a defective classification scheme may require tight control by officials and it should be asked if a more transparent scheme would need more or less regulation. That the Census Bureau regulated the enumeration, tabulation and publishing processes of the occupation account is unequivocal. I have argued that the industrial focus of the scheme was immediate, apparent and adhered to by the Bureau. Comments in the Census text support that view and the occupation question on the enumerators' Schedule points to it. Tabular evidence also suggests that there was particular control of the so-called productive occupations. Bureau officials appeared to be consistent and not contradict their classification criteria. An interim assessment that officials managed the process intensively, constantly monitoring and manipulating the data, is therefore possible.

There is, however, reason to suppose that control of the process was not as rigid or as purposeful as the last sentence implies. Haphazard regulation of the service sectors appeared likely. Statisticians seemed to be less systematic when they tabulated

those sectors and individual occupations. Second, it was apparent that authorities did not rigorously apply set boundaries for all occupations. It is not always clear however, if that looseness were a consequence of inadequate conceptualisation, lax supervision of the enumeration, local interpretations of occupation descriptions, or later Census staff intervention. The distinction between farm labourer and unskilled labourer was perhaps vague, and there may be archival evidence to suggest the authorities accepted local enumeration practice on this boundary and for other occupations. On the other hand, nursing perhaps indicated statistical intervention over the three relevant occupation classifications. It is clear officials controlled the published data in the provincial tables, but only conjecture is possible that they did that to reinforce the industrial focus. No direct evidence supports the view. This regulation instead might have been to reduce the cost of publication or for other unknown reasons. On balance, it is fair to conclude that regulation of the occupation account through the classification scheme was close and deliberate, although it tended to be erratic in the service sectors and flexible enough to concur with local responses. Distortion of the data was a most likely consequence of this form and extent of the account's management.

The only instance of distortion verifiable from the data, nevertheless, concerned the interprovincial distribution of individual occupations. Sufficient examples of omission from the distribution in Census Table 60 support that statement. It is possible to know at a national scale precisely which occupations and what proportions of individual occupations were missing from the overall provincial distribution. On the other hand, it is impossible to verify from the Census data the likely misrepresentation, through omission, of the occupational range within individual provinces. We cannot tell with certainty what occupations were missing from which provinces, so that this form of distortion remains an assumption pending investigation. In addition, Bureau staff might have misrepresented individual occupations by combination and consolidation, but the Tables give insufficient information to enable testing of that either.

Similarly, other forms of distortion are likely but unproven. The Bureau established an economic-industrial bias in the data, which most likely distorted sector totals. Effectively, the placement of unskilled labourer in the Domestic Service sector reduced the proportional distribution amongst other sectors. Against that, and perhaps to a lesser extent, the inclusion of any occupation with a productive component in

Manufacturing increased the proportion in that sector. Further, the odd placement of particular occupations affected the proportional distribution within Professional Service, Domestic Service and Manufacturing sectors. Each of these actions might have also altered the record of the sexual division of labour amongst and within sectors. These probable effects suggest data distortion, but the tabulated information disallows testing. Given that Census information was authorised and restricted by the Bureau, it is not surprising that distortion is difficult to substantiate from the statistics alone. Moreover, this chapter has not investigated misrepresentation that might have occurred through enumeration, recording or punching errors, or gender bias, which remain conjectural until there is archival research.

Last, it might be considered that the distortion was dependent upon the purpose of the statistics, rather than upon the nature of their management. Perhaps it was inevitable that if the classification scheme were to fulfil the aim imposed by the Bureau, there would be regulation and distortion. This implies that the manipulation was pre-determined and functional. I would argue, however, that this simplifies the association linking the character of raw occupation information, the purpose of the statistics, regulation of the classification scheme and any consequent misrepresentation. The purpose of the occupation account did not necessarily determine the nature of the management of the account. Raw occupation information with an indefinite number of variables had to be regulated to assure data consistency and commensurability, regardless of the specific purpose, and perhaps can be regarded as a first cause of misrepresentation. Other factors impinged on the type and degree of management. These included the adequacy of the classification scheme, the capability and experience of enumerators and census staff, constraints of personnel, technology, time or cost, or various biases introduced by the statisticians or officials. Each of these elements of the account's management might have contributed to possible data distortion. The authorities' aim for the occupation account, therefore, might have influenced the direction distortion took, but did not necessarily determine its reality or its degree and extent.

There is no question that the processes of classifying occupations in the Philippines were controlled and regulated, from conceptualisation of the classification scheme through enumeration and tabulation to publication. It was most likely that the probable distortion created by Bureau officials was a consequence of the managed

nature of this part of the occupation account. This interpretation is possible, even though the investigation could not confirm the fact of overall distortion or estimate the degree of misrepresentation in a majority of specific instances. While the closely managed publication did result in one instance of data interference, other distortion was unverifiable. Regulation of this aspect of the occupation statistics was, however, in all likelihood of sufficient magnitude and extent to affect the record of the economic structure of occupations, both nationally and provincially. Such distortion might affect any perceived change over time. Nevertheless, the judgement does not mean the statistics cannot be used any further. The next chapter considers the second dimension of occupation statistics that might also be regulated and directed, that of gainful labour.

---

1 M. Anderson (1988, 1992, 1994); Conk (1978, 1981).

2 Between 1900, the year of the 12th U.S. Census and the 1903 Philippines Census, the Census Office became permanent and changed its name to the Bureau of the Census (see Chapter 2). The 1903 Philippines Census came under the control of both the Office and the Bureau, and I have used the titles interchangeably.

3 On the question of the "industrial" versus "occupational" classification, see Conk (1978), and for the English Census, Armstrong (1972).

4 This was in contrast to English Census authorities' interest in social issues including the changing pattern of occupational segregation (Hakim 1980, 1994), rather than in national industrial growth (Higgs 1989), but see M. Anderson (1988) for the evolving focus of U.S. officials. For a discussion of the origin and development of occupational data in the United States, see M. Anderson (1994).

5 *"...los números* ***expresados eran evidentemente*** *demasiado pequeños* ***para que pudiesen representar debidamente la industria."*** (1903 Census Vol. 2, p. 121)

6 Clark (1905) noted that in the factories he visited, men processed the best quality tobacco for the high-grade cigars, more familiar in shape to Western markets than the Filipino variant rolled by women.

7 The 1939 Census, Vol. 2, p. 477, for example, listed 18 operations for weaving, although many were mill operations. To what extent there was a sexual or technical division of labour in the preparation of raw materials, and in spinning and weaving (including the construction and maintenance of the simple looms) is not clear. The 1903 Census does not disclose exactly what occupations or operations constituted spinning and weaving.

8 "For each occupation, three holes were made according to (as?) the number allocated to the occupation (was?) fixed in the corresponding classification of occupations".

9 This does not deny that the occupation process had a built in gender bias. The separation of men and women's occupations indicates the classifying system had an inherent gender basis.

[10] Occupations with no recorded female representatives:

Acolyte	Fireman	Seaman
Architect	Hostler, Livery keeper	Ship's Carpenter
Bookkeeper	House roofer (nipa)	Stonecutter
Brick maker/mason	Hunter	Tailor
Coach/carriage builder	Ironworker	Tanner
Carriage driver	Lawyer	Telegraph/phone repair -man
Constabulary & Police	Postal carrier	Telegraphist/Telephonist
Boilermaker/Coppersmith	Lighthouse keeper	Woodworker
Diver	Literary & Scientific person	Undertaker
Draftsman	Locksmith	Veterinarian
Electrician	Machinist	Watchman,Guard
Engineers & Firemen	Notary	
Engineers & Surveyors	Prison warden	

[11] This followed U.S. practice. The 1900 U.S. Census superintendent noted that there had been no previous fixed classification, attributed partly to the lack of a permanent Census Office, and partly to the fact that many in the population had more than one occupation (Davies 1980). Davies further suggests that it was a reflection of the emphasis on economic growth and development, an interest in the country rather than in the person (see also Conk 1978).

[12] The most likely justification, I suspect, for these occupations being included in Manufacturing was that all involved producing some form of goods from a primary material. In the 1900 12th U.S. Census, woodcutters were classified under Agricultural Pursuits, and hunters and trappers under Domestic and Personal Service (Abbott 1910, Appendix E). It is possible that if undertakers were classed as Trade and Transportation in the Philippines rather than Domestic and Personal Service, then hunters were included in Domestic Service rather than in Manufacturing, but this is not clear. Certainly, woodcutters were not designated as Agriculture in the Philippines – the national sectoral figure and each provincial total for Agriculture leave no room for the occupation. Both occupations (woodcutters, and hunters and trappers) were moved to a separate sector of Forestry and Hunting in the 1939 Philippines Census.

[13] Production of indigo dye was not restricted to those two provinces (McLennan 1980), but they were the only provinces for which the occupation was recorded. Sawyer (1900), for example, noted declining Ilocano cultivation of indigo because of decreasing demand, which he attributed to dissatisfaction with natural dyes because of adulteration and substitution by chemical dyes. The occupation description is peculiar. It probably did not refer to production of the dye, but instead covered the process of dyeing and washing regionally produced textiles. McLennan notes that in 1902, Pangasinan exported 500 pots of liquid indigo to Manila and nearby provinces: why were there no dyers and cleaners recorded in Manila, or was the product trans-shipped from there to other markets, such as Iloilo? The Philippine Commission of Independence (1923) listed Mangaldan, Pangasinan, as the town that specialised in dyeing.

[14] There was just one steam laundry in 1903, owned and operated by an American in Manila to cater for the Army, hotels, etc. This establishment, taken over in 1908, added commercial dyeing to its services in 1927 (Gleeck 1975).

[15] Information about the dyeing industry is sparse. Indigo, the local natural product, despite its purported high quality, had progressively been replaced by imported chemical dyes (Bureau of Education 1913), but that does not explain the apparent demise of the processing industry. Perhaps the increased quantities of imported cloth affected the industry. Of the dry-cleaners and dyers in 1939, 38 per cent were located in Manila.

[16] This occupation is not listed in the classification scheme for the United States for 1900, in either Abbott (1910) or the enumerators' instructions. Nor is it listed in the detailed list of occupations for the economically active population, 1900 to 1950, Series D 123-572, pp. 75-78, given in U.S. Bureau of the Census (1961) or the Abstract of the Fifteenth Census, 1930, in which alterations in classifications between 1920 and 1930 were explained in detail (U.S. Bureau of the Census 1933). As well, the Cuban Census of 1899 does not include it among the 101 occupations listed (U.S. War Dept. 1900). I am reasonably sure the classification was included in Domestic and Personal Service in the 1903 Philippines scheme, partly because the numbers fit in that sector at both national and provincial level, and partly because I suspect interpreters were probably regarded as "personal assistants". Chamberlin (1913) noted that young women teachers acted as court interpreters. The classification was excluded from the 1939 Census. Water suppliers (aguadores), another 1903 Philippines occupation not listed elsewhere in the 1900s or the 1939 Census, were most probably counted in Trade and Transportation.

[17] Perhaps the distinction was made because a prison warden in the United States might be a prison governor, compared with the older British term for a prison guard, a warder. The number of wardens enumerated in the Philippines (176) therefore is surprising, and might have included the guards. In 1939, the classification was

clarified and then combined as "Officials and employees of charitable and penal institutions", in Professional Services, and included 101 women.

[18] The Domestic and Personal Service classification of Labourers (not specified) in the 1900 U.S. scheme included Elevator tenders, Labourers (coal yard), Labourers (general), Longshoremen, and Stevedores (Abbott 1910, Appendix E). This was in contrast to the 1900 enumerators' instructions, where Paragraph 203, Pursuits of Trade and Transportation, stated: "Return a ***boatman, coachman, pilot, longshoreman, stevedore,*** or ***sailor*** (on a steam or sailing vessel) according to his distinctive occupation" (U.S. Bureau of the Census 1979, p. 36). See Note 24 for comment on this apparent disagreement. 1939 saw Filipino stevedores classified as part of Water Transportation, Transport and Communications.

[19] Margo Anderson (Conk 1978) comments that this lack of precision was recognised as early as 1870 by the Census Office, and resulted not from carelessness or error, but from the realisation that what was being counted was itself ill-defined and undergoing rapid change.

[20] I have used "Gainful Employment" as the base for this exercise, rather than total male population over 10 years of age, as there is little evidence to suggest the male figures are conspicuously inaccurate, in contrast to those for women.

[21] See Katz (1972) for a discussion of problems concerning equivalency of occupational titles.

[22] The authors did not distinguish possible provincial variations in these calculations.

[23] It seems likely that agriculture narrowly meant the cultivation of only non-specific crops (including abaca) and animal husbandry, and excluded the harvesting or management of endemic plants such as indigo, bamboo, palms other than coconut (eg. buri, nipa, rattan, betel, sago palm), pandanus, sedges and grasses, and other forest products.

[24] There has been no acknowledgement in later sources of Abbott's listing, which suggests the possibility that it may not be correct or authoritatively established. However, it provides a guide, and despite its non-recognition, helps to explain some of the anomalies which otherwise cannot be understood.

[25] Gannett also listed this classification under Manufacturing in his Statistical Atlas for the 1900 12th U.S. Census (U.S. Bureau of the Census 1903).

[26] The separation of professional and personal service in the U.S. was made in 1890, but criteria for determining the professional sector were not clear (Conk 1978; Davies 1980).

[27] Pursuits of Trade And Transportation, Paragraph 204: "A ***telegraph operator, telephone operator, telegraph lineman, telephone lineman, electric-light man,*** etc., should be reported according to the nature of the work performed" (U.S. Bureau of the Census 1979, p. 36).

[28] Recorded in Table 59: 2,267 men and 1,133 women, and of the latter, 999 were ***modistas*** (110), nuns (81), or wet nurses (808).

[29] This description in the Philippines is ambiguous. The American term, hostler, can describe different work, perhaps reflecting occupational change over time. First, it signified as in British use a stableman at an inn, but the U.S. term also covers a person in charge of vehicles or machines, especially railway engines when they are not in use. I assume the description in the Philippines applied to stablemen.

[30] The occupations included:

Actor	Engineer & Surveyor	Oil Manufacturer
Bookbinder	Interpreter	Palm (Buri) Worker
Compositor	Ironworker	Sail-maker
Designer-Draftsman	Journalist	Stenographer (Shorthand writer)
Drayman	Lithographer	Telegraphist, Telephonist
Electrician	Miller	

Census Table 59 recorded 2,380 persons employed in these occupations, 2,089 males and 291 females, but only 1,336 males and 171 females were identified in Table 60.

[31] See Hakim (1980) for comment on the legitimacy and acceptability of occupations.

[32] The term, milliner, according to the Concise Oxford Dictionary, originally meant a vendor of goods from Milan, ie. an importer and retailer, and it provides an illustration of the changes that have occurred within a designated occupation over time. The present-day skilled craft of millinery (i.e. fashion hat making) developed

probably in the 19th Century, but by the end of that period, the meaning was still not clear and there might have been different changes at different rates in different parts of the world. Confusingly, the Oxford still describes a modiste as "a milliner; a dressmaker".

The 1903 Philippines Census provided no evidence as to the precise meaning of the term (milliner) as used by the U.S. authorities, or of the occupation. Similarly, the Pronouncing Gazetteer (U.S. War Dept. 1902) was not clear. It distinguished 3 millinery establishments in Manila (that employed all females described as mistresses, apprentices and work women), from 7 hat factories and the one hat and parasol establishment. Were the milliners hat makers in today's sense (compared with the local hat makers), or were they dressmakers? The following is an attempt to draw some tentative inference about what the occupation involved in the Philippines at the time.

In the early1800s, a Spanish dictionary explained a milliner as "Modista, la persona que *vende ó hace* cosas *de* moda para *señoras"* (sells or makes fashion goods) (Neuman and Baretti's Dictionary, Volume 2, 1823). The modista was still a retailer, but perhaps a specialist manufacturer as well by then, and was clearly a woman. The dictionary made no mention of the craft requiring formal training or apprenticeship, however. Furthermore, there was no entry in the dictionary for dressmaker, which would appear to indicate that modista had become the relevant term for such makers of fashion outfits that perhaps included mantillas and gloves. Seamstress (costurera), on the other hand, was the term given to a woman whose occupation was to sew linen (ropa blanca), which included household linen as well as shirts and other clothes woven from flax or hemp. I have not had access to a later 19th Century Spanish manual to compare meanings. I am inclined to think, therefore, that by 1903 in the Philippines, the woman described as modista/milliner was a dressmaker possibly with her own shop. **A** maker and seller of women's fashion items, she would create a culturally appropriate ensemble, which might or might not have included a head covering. The probable dress-making emphasis of the occupation is supported by today's translation of the term from Spanish, while the equivalent of milliner (hat maker) is now *sombrerero/a.* Agoncilla (1978) noted that Quiapo district in Manila was known for its dressmakers at the time. Last, Clark (1905, pp. 900-904) registered dressmaker in his listings of paid occupations, but had no entry for milliner. See Chapter 7 for further distinctions between dressmaker and seamstress.

It was also possible, but appears less likely that in the Philippines, changes consistent with U.S developments had occurred. There, in the New England region at least, some specialisation into two discrete crafts had grown out of the same beginnings. Gamber (1992) surveys the "milliners" of Boston censuses in the latter half of the 19th Century, and finds that each of dress-making and bonnet/hat-making was characterised by apprenticeship training (in the workshop, not at home), an occupation hierarchy and proprietorship, in contrast to the seamstress occupation. Ambitious young women or their parents saw the crafts as respectable, creative and offering entrepreneurial opportunities. Gamber indicates that most of the milliners' small businesses concentrated on either hat/bonnet-making or dressmaking. Seamstresses without the designing, cutting, sewing, blocking and finishing skills, or the commerce skills, worked at home or in workshops including tailoring establishments, as employees rather than as proprietors. Abbott and Breckenridge (1906, p. 32) called the use of the term milliner in the U.S. Census "very curious", because of the lack of detail as to its definition. By 1910, the U.S. Census had separated the category into "dressmakers and seamstresses (not working in factories)" and "milliners and millinery dealers" (U.S. Bureau of Census 1933), which only partly cleared the confusion, but simultaneously added a different layer of bureaucratic fog.

I tend to think therefore, that in the Philippines, given the Spanish connection, the term milliner used by U.S. Census authorities perhaps did not reflect the multiple craft basis or fashion hat making of its American counterpart. If that were so, it leaves the question, why were the women not enumerated as dressmakers and listed in the Philippines Census in the appropriate alphabetical position?

[33] The Census Office placed milliners under Manufacturing in the 1900 12th U.S Census (U.S. Bureau of the Census 1903). Gannett, in his report on Philippine occupations, linked the two occupations, costureras and rnodistas, when describing various proportions of the workforce (1903 Census, Vol. 2, p. 124). It seems unlikely that he would tie together two occupations from different industrial sectors. The question then is, where were the women recorded in Table 60 if they were not shown under the individual occupation?

Without the provincial details, it is impossible to determine the statistical location of the women with certainty. However, the following Census data suggest the modistas were included in Other Occupations in Table 60, rather than being combined and hidden within one of the possible alternative occupations which were certainly classed as Manufacturing.

Specific occupations, Females, Philippines Census, 1903.

	Table 59	Table 60	Difference
Hatmakers	11993	11961	32
Embroiderers	6928	6675	253
Seamstresses	65278	65273	5
Modista	110	----	110
TOTAL	84309	83909	400

[34] Of 366 *Conserjes* (caretakers, porters, janitors) including 1 woman enumerated and recorded in Census Table 59, just 92 males were recorded in Table 60, all in Manila. Similarly, Table 60 recorded only 80 of the 301 watchmen and guards enumerated in Table 59.

[35] Davies (1980) investigates the earlier U.S. and British Census classification of nurses as domestic servants. It was possible that trained nurses were classified in the Philippines as Professional Service, as in the U.S. 1900 Census, but I suspect this was not so. The category was listed in Table 60 as a single entity, there is no indication of how a division might have been made in the Philippines, and the numbers would not fit in the tentative Professional Service sector allocation. They do fit in any examination of Domestic Service numbers, both nationally and for individual provinces (see Appendix 1 Table G). See also Note 37.

[36] Camagay (1995) describes midwives at the end of Spanish rule as being divided into 2 groups: untrained, unlicensed traditional midwives, called *hilots* in the Tagolog vernacular, made up of parteras, comadronas and matronas, and second, the licensed *matronas* titulares who had trained at the school for midwives established in 1879 as part of the School of Medicine and Pharmacy, University of Santo Tomas. By 1895, 8 *matronas* titulares were based in Manila and suburbs, and one each in Albay, Bataan, Batangas, Bulacan, Camarines Sur, Cagayan, Cavite, Ilocos Norte, Ilocos Sur, Isabela, Pampanga, Pangasinan, Nueva Ecija, Nueva Vizcaya, and Zambales. A campaign against the *hilots* little diminished their domination of local women. Camagay notes that licensed midwives did not stay long in the occupation.

[37] The trained nurse classification was found to be a way of distancing those who called themselves nurses from the residual class of domestic servants (Bradley 1989; Davies 1980). The 1900 Twelfth U.S. Census transferred trained nurses into the Professional sector, although for many years, there remained ambiguity and confusion over defining the occupation. As in the Philippines, and with other occupations, there appeared to be strain between official definitions and local enumeration responses. Davies suggests this might not necessarily have illustrated the emergence of modern ideas of occupational expertise or knowledge in the beginning.

A preparatory course for women nurses began at the Manila Normal School some time in the early 1900s. It was later transferred to and expanded under the Philippine Nurses' Training School established in conjunction with the Philippine General Hospital (opened in 1910), but using facilities at a number of hospitals. The course was open to men and women on an equal basis (Worcester 1914). Worcester (Vol. 2, p. 529) commented that "training of young women began sooner, and thus far has resulted more satisfactorily, than has that of young men, although many of the latter are now making good progress". Worcester included a photograph (Volume 1, p. 176) of 7 young women who were apparently the first class to graduate from the government training school, although he did not date the illustration.

[38] The occupations were: carpenter, constabulary and police, cook, farmer and farm labourer, unspecified labourer, washerman/woman (lavandero), merchant, seamstress, and domestic servant (criado).

[39] Here I agree with Anderson (1992) that the idea an account of occupations could establish the extent of industrialisation and the socio-economic condition of society formed a weak base to the scheme, but that decision was purely a political, domestic one. Even if in relation to U.S. circumstances the rationalisation of that decision was imperfect, it was a different matter from the actual management of the classification scheme in the Philippines, and beyond the focus of this paragraph.