

statistic with which he was called upon to deal, and each had special qualifications in particular branches of statistic.

2. **Organisation of the Bureau.**—Through the Foreign Office of the British Government the Commonwealth Statistician was placed in direct communication with the chiefs of statistical and similar departments throughout the world, and foreign Governments were asked—(a) to furnish their statistical publications, including such back numbers as could be spared; and (b) to enter into a general arrangement for exchange of publications. It would be impossible to speak too highly of the generous response which has been made to this request, a request to which a young country like Australia can make adequate return only in the somewhat distant future. Owing to this generous response the Library of the Bureau is now excellently furnished in respect of foreign publications: it possesses those of almost every country in the world. The necessary professional library and material equipment was also obtained, and the professional activity of the Bureau commenced by endeavouring to secure a higher degree of uniformity and accuracy in Australasian Statistic. This will again be referred to hereinafter.

3. **The Technical Library of the Bureau.**—Although the more purely technical portion of the Library of the Bureau has not reached normal requirements, the Commonwealth Government has made it possible to create a well-selected nucleus of works of reference, treatises on the technique of statistics in the several leading languages, dictionaries of languages, works on special branches of statistic, economics, finance and statecraft, actuarial and similar matters. The library has also been equipped with tolerably complete sets of the leading British and foreign journals of Statistical and Actuarial Science, and with necessary works on higher mathematics.

§ 8. The Statistical Conference of 1906.

1. **Personnel, etc., of Conference.**—A Conference of Statisticians was convened for the end of November, and actually met on the 30th of that month and the succeeding days till 8th December, inclusive. All the States were represented, as also New Zealand. The following was the personnel of the Conference:—

<i>Commonwealth of Australia</i>	...	G. H. KNIBBS, F.S.S., F.R.A.S., etc., Commonwealth Statistician, President of the Conference.
<i>New South Wales</i>	H. C. L. ANDERSON, M.A., Director of Intelligence Department and Bureau of Statistics.
<i>Victoria</i>	E. T. DRAKE, Government Statist.
<i>Queensland</i>	THORNHILL WEEDON, F.S.S., Government Statistician and Registrar-General.
<i>South Australia</i>	L. H. SHOLL, I.S.O., Chief Under-Secretary and Government Statistician.
<i>Western Australia</i>	C. H. WICKENS, A.I.A., late Actuary and Compiler, Government Statistician's Office, Perth, W.A.
<i>Tasmania</i>	R. M. JOHNSTON, F.S.S., I.S.O., etc., Government Statistician and Registrar-General.
<i>New Zealand</i>	E. J. VON DADELSZEN, Registrar-General and Government Statistician.

Before the Conference actually met, however, an exhaustive but rapid examination of the whole range of Australian Statistic was made by the Commonwealth Statistician, and over 150 forms for unifying statistical returns were prepared. On opening, an address was given pointing out the main object of the Conference, and in what way the Statistics of Australia could be fundamentally improved. Uniformity as regards method, matter, and time of collection was essential. The desirableness of giving some indication of the address is obvious, and, as it discloses the policy of the Bureau, necessary for public information in the wider sense.

2. **Abridged Extracts from Commonwealth Statistician's Address.**—The Conference met for the following specific purposes, viz.:—

- (i.) To determine, (a) the means by which uniformity in the statistical categories of the Australian State Bureaux, and an equal degree of accuracy in each could be secured; and (b) the methods of so collecting statistical information as to insure, with uniform categories and equally accurate aggregates, the greatest possible uniformity in the significance of statistical results.
- (ii.) To definitely fix the localities to which the various statistical aggregates shall apply.
- (iii.) To decide upon, (a) the best practical means of collecting statistical information regarding primary and secondary production and industry in all its bearings; (b) the best method of forming estimates of the quantity and value of production generally, and (c) the means of obtaining exact statistics relating to all matters of finance and economics generally.
- (iv.) To secure greater precision in each branch of vital statistics, and in statistics relating to social condition.
- (v.) To insure accuracy in estimating the fluctuation of population in the Australian States, and to secure a uniform practice in regard thereto.
- (vi.) To consider the means of obtaining accurate records of Interstate Trade.
- (vii.) To adopt a complete set of forms required for the collection of statistical data.
- (viii.) And to consider all other matters which may be necessary for giving full effect to the programme outlined.

The imperative necessity for uniformity, method, and order and date of compilation was referred to in the following terms:—

“It must be evident that statistical uniformity is an essential in regard to statistical data sought by the Commonwealth. In this there can be no *via media*.” . . . “At the present time no definite order of sequence has been adopted by all the States in issuing the various chapters of their Statistical Registers. Indeed, a State does not always pursue the same order in its successive issues. While this does not much matter from a purely State point of view, its persistence would strike at the very foundation of that principle of uniformity which must necessarily be the basis of Commonwealth statistical policy. If the Federal statistical aggregates are to be issued within a reasonable time, a definite order in the preparation of each branch of statistics’ must be followed . . . “The fundamental question for the consideration of the Conference is not the academic one, ‘whether it be possible to elaborate a set of ideally perfect forms,’ but the practical one, ‘whether the information can be collected through the various State Bureaux in accordance with the forms adopted,’ and in order that the proper advantage should be derived from the unification of statistical method throughout Australasia, it is necessary that the response of each State to the demand for statistical information should be co-extensive.

After paying a tribute to the excellent work done by the police as “enumerators with special qualifications,” and pointing out that in largely requisitioning their services, we are simply following the lead of advanced countries, reference was made to the need for greater attention to the localisation of statistical aggregates, in the following terms:—

“Every one who has closely studied statistics will recognise that to make statistical information precise, and to make it adequately informative, it will be necessary to do two things, viz.:—(a) Localise the collection of statistics so that they will refer to definite corresponding areas, and (b) So determine the boundaries of such areas that they shall be coterminous and fixed. Speaking generally, it may be said that, at the present time, the territorial divisions for different purposes pay little regard to each other; there has been no adequate attempt to so divide the Australian States that the larger divisions for any one purpose shall be coterminous with boundaries fixed for other purposes. In other words, the regional divisions for different purposes often have in general no definite relation to each other, nor do they embrace a whole number of smaller divisions with coterminous boundaries.”

It was pointed out as eminently desirable that, before the Census of 1911, the matter should be resolved. The various territorial sub-divisions existing are as follows:—

VARIOUS TYPES OF AREAS INTO WHICH THE STATES ARE DIVIDED.

Agricultural Areas and Districts	Municipalities
Boards of Advice Areas	Parishes and Hundreds
Board of Works Districts	Petty Sessions Districts
Boroughs	Police Districts
Circuits	Ports, Harbour Areas
Cities	Post Delivery Districts
Counties	Public Health Districts
Electoral (Commonwealth) Divisions and possibly Sub-Divisions, Polling Areas, etc.	Quarter Sessions Districts
Electoral (State) Districts, Provinces, Divisions, Sub-Divisions, etc.	Registration (Births, Deaths, and Marriages) Districts
Harbour Trust Areas	Road Districts
Irrigation Areas	School Board Districts
Land Boards and Survey Districts	Shires
Land Districts	States
Land Divisions	Stock Districts
Local Government Areas	Telegraph (Lineman's Sections)
Magisterial Districts	Telephone (Exchange) Areas
Meteorological Zones or Units	Towns
Mining Districts (various)	Vermin Destruction Districts
	Water Supply Areas.

It was urged that in order that "no ordinary statistical question regarding the distribution of the population, of its qualified voters, of its agricultural, commercial, industrial, mining, pastoral, or viticultural activities should remain unsusceptible of immediate and accurate answer," in order that all "specific forms of primary industry may be discussed in relation to means of communication," and in order that all questions relating to "the extent of our various natural resources, of deforestation and natural and artificial reforestation, of the probable consequences of water conservation and irrigation, and in fact any project for developing our territory, should be susceptible of analysis," it is necessary to definitively localise statistical aggregates.

Regarding simultaneity in the order of supply of information, the following was suggested, viz.:—

SUGGESTED ORDER IN WHICH INFORMATION SHALL BE SUPPLIED.

(i.) Population	(xiii.) Railways and Tramways
(ii.) Vital Statistics	(xiv.) Public Finance
(iii.) Education	(xv.) Private Finance (excl. Savings Banks)—
(iv.) Mining Industry	Building and Investment Societies
(v.) Law and Crime	Co-operative Societies
(vi.) Forestry and Fisheries	Companies
(vii.) Land Settlement	Industrial and Trade Unions
(viii.) Agriculture	Friendly Societies
(ix.) Pastoral Industry (including Dairy- ing)	Probates
(x.) Manufactories	(xvi.) Local Government
(xi.) Wages	(xvii.) Hospitals and Charities.
(xii.) Savings Banks	

In regard to Statistics of Trade and Customs, it was said that "an endeavour has been made to take account of the principles of classification agreed upon at the Hobart Conference of Statisticians in 1902. This classification has, however, not been generally followed by the State Bureaux, nor has it been possible to strictly adhere to it

now. Some advance towards the adoption of a better classification than a merely alphabetical one has, however, been made, as the following outline will shew. It aims at collecting commodities in large groups of analogous character."

CATEGORIES OF ITEMS IN TRADE AND CUSTOMS STATISTICS.

Class No.	Class No.
(i.) Foodstuffs of Animal Origin, but excluding Living Animals	(xiv.) Metals, partly manufactured
(ii.) Foodstuffs of Vegetable Origin	(xv.) Metals (manufactured), including Machinery
(iii.) Beverages (non-alcoholic) and Substances used in making	(xvi.) Specie
(iv.) Spirits and Alcoholic Liquors, including Spirits for Industrial Purposes, and Pharmaceutical Preparations dutiable as Spirits	(xvii.) Leather and Manufactures of Leather, and substitutes therefor; also Indiarubber and India-rubber Manufactures
(v.) Tobacco and preparations thereof	(xxiii.) Wood and Wicker, raw and manufactured
(vi.) Live Animals	(xix.) Earthenware, Cements, China, Glass, and Stoneware
(vii.) Animal Substances (mainly unmanufactured) not Foodstuffs	(xx.) Paper and Stationery
(viii.) Vegetable Substances and Fibres	(xxi.) Jewellery, Timepieces, and Fancy Goods
(ix.) Apparel, Textiles, and Manufactured Fibres	(xxii.) Optical, Surgical, and Scientific Instruments
(x.) Oils, Fats, and Waxes	(xxiii.) Drugs, Chemicals, and Fertilizers
(xi.) Paints and Varnishes	(xxiv.) Miscellaneous
(xii.) Stones and Minerals used industrially	(xxv.) Excise.
(xiii.) Metals (unmanufactured) and Ores	

The value of a complete record of Interstate Trade in Australia was urged, and of treating shipping statistics in such a manner as to disclose the significance of the traffic, and of the various ports of call or destination.

The question of the Census was dealt with, but will be referred to elsewhere, viz., in dealing with the question of population.

3. Resume of the Conference Resolutions.—The details of the resolutions are rather of technical than general interest. The following indication of their main features will therefore be adequate for ordinary reference. The several provisions or requirements mentioned hereunder were unanimously affirmed as desirable:—

- (i.) In the interests alike of each State and the Commonwealth the collection and compilation of statistical information by the State Statistical Bureaux should be co-extensive, and, within the limits indicated by the adopted forms, uniform in respect of method and order and date of compilation; and each State Bureau should be equipped so as to make it possible to respond to this demand.
- (ii.) Excepting in the case of information confidentially collected, or compilation confidentially made for the State or Commonwealth Governments, the whole of the statistical information in each Statistical Bureau should be immediately available to the Commonwealth or State Statisticians.
- (iii.) In order to secure uniformity in the compilation and interpretation of statistical data, a complete scheme of instructions should be drafted by the Commonwealth Statistician for general adoption.
- (iv.) The classification of the International Institute of Statistics should be adopted.^{1,2}
- (v.) A quinquennial enumeration of population is necessary owing to the rapid movement of population in Australia.
- (vi.) A monthly record of Interstate Trade should be furnished.

1. The Commonwealth Statistician was asked to translate the necessary nosological classification, which he has since done.

- (vii.) Statistics of production should be so published as never to disclose the operations of individual establishments, and, in general, in order to engender the necessary confidence in the minds of informants as to the strictly impersonal nature of statistical inquiries, and so secure readiness to furnish accurate information, the customary statistical practice of maintaining absolute secrecy should, under no circumstances, be departed from.
- (viii.) Statistical publications of the Commonwealth and States should be of uniform sizes, and uniform as to order of matter.
- (ix.) Trade Statistics should be published for each calendar year in accordance with the categories referred to (Sub-section 2) hereinbefore, and in statistics of export the State of origin should be shewn.
- (x.) All questions of mathematical method, mode of determining means, etc., shall be decided for all States by the Commonwealth Statistician.

Effect is gradually being given to these resolutions as opportunity offers; the Statistics of Trade and Customs, however, for 1906 have been published as heretofore under the alphabetical arrangement, in response to the urgent request of the Trade and Customs Department.

§ 9. Sources of Information.

1. State Statistical Bureaux.—The State Statistical Bureaux are now endeavouring, under the authority of the Census and Statistics Act, to collect and arrange all information under a common method and according to uniform categories. The State Bureaux will, therefore, have a double function, viz., they will collect—(a) for their immediate requirements as States, and (b) as integral parts of the Commonwealth. The collections are made—(i.) by the police, (ii.) by special collectors, (iii.) by direct demand for returns, and (iv.) by compilation from official departmental reports.

2. Commonwealth and State Departments.—All statistical compilations of Commonwealth and State Departments are forwarded as soon as published, and occasionally in manuscript prior to publication, to the "Commonwealth Bureau of Census and Statistics," for the purpose of facilitating official statistical compilation on behalf of the Commonwealth.

3. Scientific and Technical Experts.—The services of scientific and technical experts are requisitioned where necessary, so that the whole of the information published under the auspices of the Commonwealth will be as authoritative and accurate as it is possible to make it.

4. Direct Inquiry by Commonwealth Bureau.—Where necessary, direct demands for information will be made by the Commonwealth Bureau itself, in order to comply with the scope of statistical information authorised by the Act. These demands must, according to this Act, be complied with, but the conditions under which the demands will be made will, wherever possible, be such as to minimise the labour of responding thereto. Absolute secrecy as to the results of individual responses will also always be maintained, and the information collected by the Bureau be used *exclusively* for statistical purposes.