J. W. NIXON

A HISTORY OF THE INTERNATIONAL STATISTICAL INSTITUTE

1885–1960

FOREWORD

Only a very few among the numerous international organizations that are at present in existence can, as the International Statistical Institute, look back upon a history of as long as seventy-five years.

International co-operation of statisticians indeed is one of the oldest forms of organized contact between scientific workers beyond national borders. This exceptional situation is even more emphasized when taking into account that the International Statistical Institute had already been preceded by the International Congresses. In his opening address to the first International Statistical Congress, held in Brussels in 1853, Adolphe Quetelet remarked: ". . . . Chacun de vous sans doute a été frappé du défaut d'unité qu'on rencontre en général dans les documents statistiques des différents pays, et de l'impossibilité où l'on est, presque à chaque instant, d'établir des comparaisons entre eux . . .".
In these words was explained why in those early days it was exactly statisticians who desired to extend their activities on an international scale, and at the same time the main task for the International Statistical Congress, and for the International Statistical Institute, was defined. The removal of this "défaut" has been the primary aim of our Institute during its first sixty years of existence.

Times have changed since those beginnings of international statistical co-operation. New organizations, now also on a governmental level, have arisen, in particular after the Second World War, and have assumed responsibilities in fields where our Institute has done pioneer work. But this has not marked the end of the Institute's contribution to the development of statistics. On the contrary, the post-war period has proved the words expressed by Mr. Stuart A. Rice at the 25th Session in Washington, 1947: "The existence of these official agencies increases the importance of informal association and communication among the statisticians of the world consorting together as professional men of science". Like a phoenix, the Institute has presented itself in a renewed shape with new aims and new programmes. When looking

back upon the Institute's history one must feel proud on what has been achieved, and on what is still being achieved, often with limited resources.

Thanks are due to Mr. J. W. Nixon for having recorded the developments of our Institute on the occasion of its 75th anniversary. He has not restricted his task to a review of the scientific achievements of the Institute but has, often in great detail, also described the organizational and administrative changes that have occurred in our society. I am confident that the members of the International Statistical Institute will appreciate this addition to the literature on the history of the Institute which was started bij Friedrich Zahn in his "50 années de l'Institut International de Statistique" published when the 50th birthday of the Institute was celebrated.

Marcello Boldrini,

President of the
International Statistical
Institute

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PREFACE

When in 1957 I was informed by the Secretary General of the Institute that it was intended to issue a volume commemorating the first 75 years of the International Statistical Institute and was asked if I would write it, I pointed out that there were several members of the Institute who had played a much larger part than I had in the affairs of the Institute and were more qualified to undertake the task, and that the volume commemorating 50 years of the Institute had been written by the President in office of the Institute. It was only after much hesitation, and consultation with the two past Presidents that I decided to compile the volume, provided I had the full collaboration of the staff and officers of the Institute. The task has been longer and more arduous than I expected, due in part to the great number of documents to be consulted and it is hoped that the members of the Institute will find the volume as interesting to read as I found it to write.

Although the greater part of the period has been covered by the Institute's jubilee volume (*), it was considered desirable for several reasons to cover the early period again. First, although the jubilee volume proved of great value, I found it necessary in many instances to go back to the original sources and while avoiding repetition of some details, to give some facts on the history and development of the Institute not mentioned in this volume; secondly, few of the members who received this jubilee volume are now with us, the great majority of the present members (nearly 90%) having been elected since 1934, and are probably not familiar with its early history; thirdly, in order that the extent of, and the reasons for the great changes in the aims and constitution of the Institute which occurred after 1947 may be better appreciated.

(*) This volume "50 années de l'Institut International de Statistique" by President Zahn was issued in March 1934 and thus covered somewhat over 48 years, ending in effect practically with the 21st session at Mexico D.F. in September 1933. It was issued in 1934 instead of 1935 so as to be available at the 22nd session of the Institute in London held simultaneously with the celebration of the centenary of the Royal Statistical Society, which had invited the Institute to hold its meeting on this occasion in London.

During the whole of the period covered by the jubilee volume, the aims of the Institute, as expressed in article 1 of its statutes remained unchanged (except for a small change made in 1887) and the task of the author of the jubilee volume could be limited to showing how the Institute had fulfilled these aims. The constitution and organization of the Institute though frequently modified had also remained fundamentally the same. In 1947 however drastic changes in the aims, the constitution and the organization of the Institute were proposed and came into force in 1948. Whereas in 1934 the account of the scientific activity of the Institute could be limited almost entirely to an account of its various sessions as published in its Bulletins, it has been necessary in this volume to deal separately with its important extra-sessional scientific activities.

Part I gives an account of the history and organization of the Institute from its foundation to the 25th session (Washington 1947) which proved a turning point in the history of the Institute; Part II continues this account from 1947 to the present time; Part III describes the scientific work and achievements of the Institute in the whole period, but as a full account of the papers presented at the first 21 sessions is given in the jubilee volume, it was considered sufficient to give only a brief account of these contributions, special attention being given however to important activities and those of a pioneer character, many of which have had a permanent effect on the collection, classification and comparability of the statistics compiled by different countries; Part IV gives in summary form, the principal changes in the development of the Institute especially in the last 12 years, some general conclusions on these new developments and on the changes in the character of the Institute membership. As the new constitution has been in force for less than twelve years, and certain of its new provisions have not yet been fully applied, and as most of its membership has been recruited only in the last ten years it is perhaps too early to arrive at any definite conclusions on the new régime. It can, however be said with confidence that the hopes of those responsible for drawing up the new constitution of the Institute have been largely fulfilled and that the activities of the new generation of members at recent sessions have shown that the future of the Institute is bright, that the Institute has kept pace with the rapid development of statistical methods in nearly all departments of knowledge and has provided a world-embracing forum for the meeting of statisticians of all kinds.

My thanks are specially due to the Secretary General of the Institute and to the Director of the Permanent Office for their assistance and advice. The latter in particular has furnished numerous documents, and compiled the statistical tables in the appendix. Messrs. Campion, Stuart Rice and Loveday have also read certain parts of the manuscript for the periods in which they were specially interested and I am indebted to them for suggestions and some corrections.

Geneva, April 1960. J. W. Nixon

PART I. THE DEVELOPMENT OF THE INSTITUTE 1885-1946

A. The Beginnings of International Cooperation in Statistics.

It was apparently not until the middle of the nineteenth century that the idea first arose of organized contacts between the statisticians of different countries although instances of informal contacts occurred earlier. The first half of the nineteenth century had been a period of rapid industrial development in Europe and public interest began to be aroused in questions relating to the conditions of the people. In this period and particularly in the years 1830-1850 statistical offices were set up in many countries and national statistical societies were founded e.g. in Saxony in 1831, in England (in Manchester in 1833 and in London in 1834), in Boston in 1839, and in Dublin in 1847. "Statistics", as its name implies, was then considered to relate chiefly to "matters of State" (1) and the purpose of the Statistical Society of London were stated in 1834 to be

> "the procuring, arranging and publishing 'Facts calculated to illustrate the Conditions and Prospects of Society'." (2)

The need for the principal States to get together and exchange their knowledge and experience was felt in England where on the initiative of Prince Albert (the consort of Queen Victoria) the Great (or Universal) Exhibition was held in London in 1851.

At this Exhibition there was a visitor, Adolphe Quetelet, the distinguished Belgian mathematician and astronomer, and it was on his initiative that, after consultation with the many foreign delegates present at the Exhibition, it was decided to hold an international statistical congress, and the Central Statistical Commission of Belgium called such a congress for September 1853 in Brussels. In December 1860 Babbage (one of the founders of the Statistical Society of London, later the Royal Statistical Society) in a letter to Farr,

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(1) Statisticians were in fact often called statists, and in 1884, the Statistical Society of London recommended for its Jubilee Session that the views of "foreign statists" should be ascertained (Jubilee Volume of the Statistical Society, London 1885 p. viii.).

(2) Annals of the Royal Statistical Society 1834-1934. p. 22. London. The Royal Statistical Society 1934.

the distinguished statistician and President of the Society in 1871-3, relates the part played by Quetelet:

> "At length, the conviction of the importance of the value of Statistical Science becoming widely extended in other countries, M. Quetelet saw that a fit time had arrived for summoning a European Congress. The results of such meetings are invaluable to all sciences but more particularly to statistics in which names have to be defined, signs to be invented, methods of observation to be compared and rendered uniform; thus enhancing the value of all future observations by making them more comparable as well as more expeditiously collected." (3)

Quetelet, in opening the Congress, was optimistic.

> "Le Congrès" he said "si je ne me trompe, commencera pour elle, une ère nouvelle. La statistique entre dans la même phase que plusieurs autres sciences, ses soeurs ainées, qui ont apprécié comme elle, le besoin d'adopter une langue commune et d'introduire de l'unité et de l'ensemble dans leur recherches. Puissions-nous accomplir avec succès, notre noble mission, et servir, nous aussi, la cause de la Science et celle de l'humanité." (4)

The agenda covered not only the principal branches of statistics (demographic, economic and social) but also the question of statistical organisation. It was proposed that a central statistical commission be set up in each country; these commissions in turn to be attached to an international congress charged with establishing comparability between statistics published by different countries. The Congress was thus primarily one dealing with administrative and official statistics. It was confined to official delegates of whom 153 attended representing 26 countries.

A series of other sessions of the Congress followed. Paris 1855 (with 311 participants), Vienna 1857 (542), London 1860 (586), Berlin 1863 (477),

(3) Quoted by Campion: International Statistics (Journal of the Royal Statistical Society Vol. CXII Part II 1949 p. 107). *Adolphe Quetelet* (1797-1874), it may be added, was not only the originator of the International Statistical Congress but, in the words of Mouat, one of the originators of the London Statistical Society. In his History of the Statistical Society of London (Jubilee volume, op. cit. p. 14) he states:

> "This Society (the London Society) originated on a suggestion of the illustrious M. Quetelet eminent as a mathematician an astronomer and a statistician."

He was in Cambridge in 1833 at the meeting of the British Association for the Advancement of Science, at which a Statistical Section was formed, but a more permanent body was considered necessary. The story can be read in the "Annals of the Royal Statistical Society 1834-1934" London 1934, pp. 4-9. As Neumann-Spallart (see pp. 13 et seq.) may be considered as the father of the International Statistical Institute, Quetelet may be considered as a grandfather.

(4) Bulletin de la Commission Centrale de Statistique (de la Belgique). Tome VI. 1853.

Florence 1867 (751), The Hague 1869 (488), St. Petersburg 1872 (488) and Budapest 1876 (442). (5)

At the 2nd session in Paris (1855) special attention was devoted to the subject of centralization of official statistics and a resolution was passed to the effect that in every State a Central Statistical Commission, or similar institution, be established, – a subject on the desirability and funtions of which even now, statisticians differ – and special attention was paid to the subject of statistics of large towns, a subject that became a fruitful subject for the International Statistical Institute in later years. At the 3rd session in Vienna (1857), the necessity of a closer participation of the "departmental element" as opposed to the increasing "lay element", and to those taking no official part in the proceedings, was emphasized. Need for better preparation of the sessions was beginning to be felt and a special organising committee of official representatives was set up to prepare for a future session of the Congress.

The 4th session in London (1860) was held under the Presidency of Prince Albert and is notable for his address which was described as "full of excellent reasoning" and "it was admitted by all that none of the addresses, by princes or ministers equalled that of the Prince". (6) He hailed Quetelet as the man who had introduced him to higher mathematics and shown him how they applied to social phenomena and stated that

> "these International Congresses pave the way to an agreement among different Governments and Nations to follow up these common inquiries, in a common spirit, by a common method for a common end."

The Council of the Statistical Society expressed

> "the high gratification of becoming personally acquainted with foreign men of Science and the belief that the Congress had been highly beneficial in leading the English public to form more just notions of the utility and importance of sound methods of Statistical inquiry than have hitherto been generally entertained." (7)

(5) Various accounts have been written of these Congresses. One of the most complete is that given by Neumann-Spallart in his paper read to the Statistical Society in 1885 "Resumé of the results of International Congresses" Jubilee Volume, op cit. pp. 284-311. Another account is given by Zahn: 50 années de l'Institut International de Statistique 1934, pp. 1-5. Some further details are given in Campion's paper to the Royal Statistical Society in 1949 op. cit. pp. 106-108, and in Willcox's paper on "Development of International Statistics" in the Millbank Memorial Fund Quarterly Vol. 27 No. 2, 1949, republished in a slightly revised from in "Sprouts from a Winter Garden 1947-1954" (privately printed 1955). In view of these only the important developments are given in this chapter.

(6) Journal of the Statistical Society of London 1860, and Annals, op. cit. p. 85.

(7) Annals, op. cit. p. 85. Another view of this Congress was expressed by Disraeli (Lord

This 4th session marked the high-water mark of this Congress. At the 5th in Berlin (1863) although important resolutions were passed on the amplification of official statistics, doubts began to be expressed as to the future of the Congress generally, particularly by the German statisticians, and Dr. Engel, the Director of the Prussian Statistical Office proposed a plan for a permanent organisation in order to place the Congress on a solid basis. Unfortunately the proposal was referred to an extra-ordinary special committee for report and it shared the fate of many similar proposals. In the words of Neumann Spallart "Le renvoi des travaux à une session ultérieure, c'est le rejet adouci, mitigé." ([8])

At the 6th session in Florence (1867), the defects of organisation shown at previous sessions became more apparent. Time was wasted on long speeches and many resolutions had to be adopted without full discussion. The number of participants was 751.

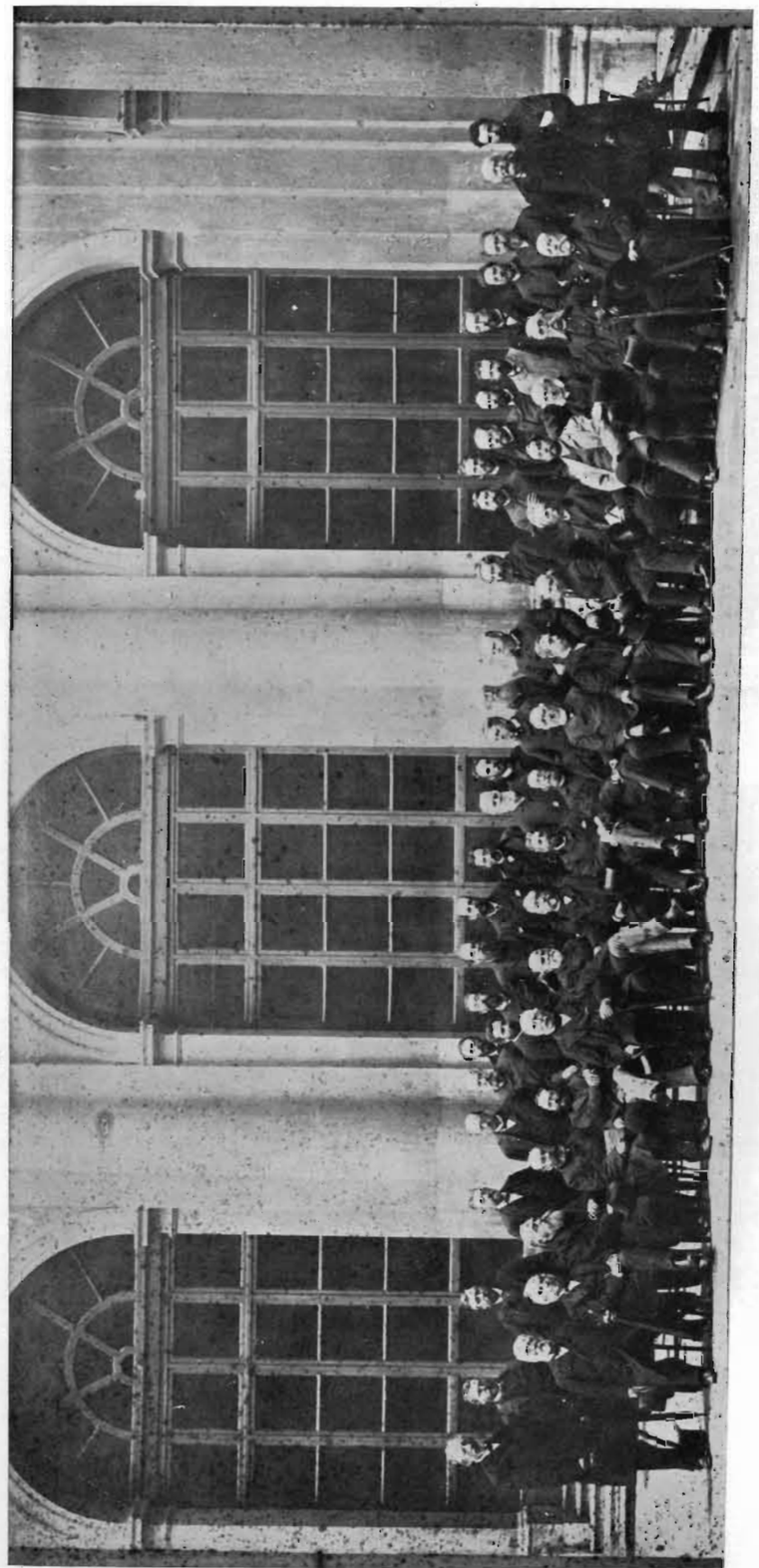
At the 7th session at The Hague (1869), some definite progress was made in the field of international statistics. It was decided to publish a volume of comparative international statistics. A valuable collection of population statistics had been prepared by Quetelet and Heuschling and published at the expense of the Belgian Government. It was proposed to divide the work – called "La Statistique Internationale de l'Europe" – amongst the most important European States. The field of statistics was divided into twentyfour chapters and allotted to the different countries, but at the next session in St. Petersburg (1872), little progress had been made and a permanent commission of official delegates was set up to supervise the preparation of international statistics and to prepare programmes for future meetings. The Commission held meetings in Vienna (1873), Stockholm (1874), Budapest (1876) – the latter meeting being held at the same time as the 9th session of the Congress – and Paris (1878) where the Permanent Commission proposed that it should become

> "an international organ to serve as a medium of communication between the members," that "Governments should inform the President of their decisions on the

Beaconsfield) in a letter quoted in "Mary Anne Disraeli" by James Sykes where speaking of a reception at Lady Palmerston's he says:

> "Her crowded salons were fuller even than usual for she had invited all the deputies of the Statistical Congress, a body of men who, for their hideousness, the ladies declare, were never equalled. I confess myself to a strange gathering of men with bald heads and all wearing spectacles. You associate these traits often with leaning and profundity but when one sees 100 bald heads and 100 pairs of spectacles, the illusion, or the effect, is impaired." (Annals, op. cit. pp. 85-86).

([8]) Statistical Society, Jubilee Volume, p. 294.

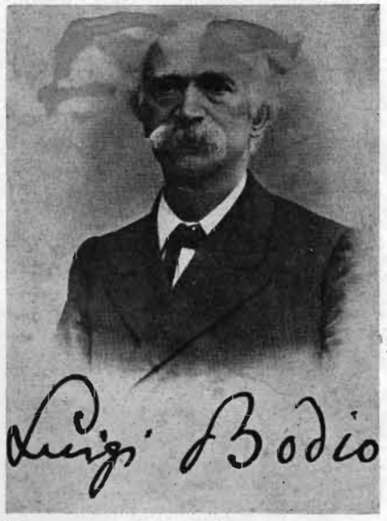


The First Session of the International Statistical Institute
Rome, 12-16 April 1887

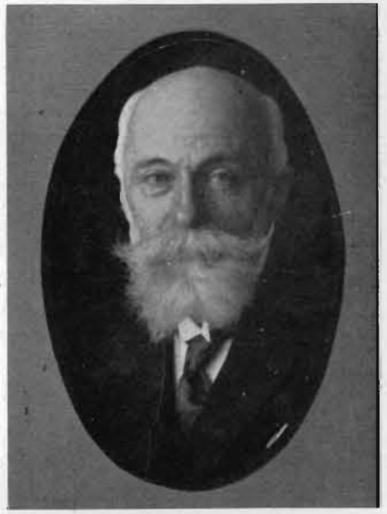
(*Standing, left to right*): Kummer (Switzerland), Milliet (Switzerland), Favero (Italy), Scharling (Denmark), Inama-Sternegg (Austria), Wagner (Germany), Pantaleoni (Italy), Bertillon (France), Ferraris (Italy), Craigie (England), Ibañez (Spain), Cheysson (France), Mouat (England), Meltzl (Hungary), Laspeyres (Germany), Palgrave (England), Hasse (Germany), Lexis (Germany), Liegeard (France), Sombart (Austria), De-Foville (France), Schoener, Raseri (Italy), Vacher (France), Da Fions, Körösi (Hungary), Geertruyen, Mühling.
(*Seated, left to right*): Loua (France), Levi (England), Gad (Denmark), Troïnitsky (Russia), Jung Stilling (Russia), Brock (Norway), Engel (Germany), Bateman (England), Martin (England), Neumann-Spallart (Austria), Rawson (England), Levasseur (France), Bodio (Italy), Keleti (Hungary), Mayr (Germany), Yvernès (France), Dodge (U.S.A.), Wirth (Austria).

II. *Sir Rawson W. Rawson*
President, 1885-1899
Honorary President, 1899

III. *Karl von Inama-Sternegg*
President, 1899-1908



IV. *Luigi Bodio*
President, 1909-1920



V. *Albert Delatour*
President, 1923-1931
Honorary President, 1931-1938

resolutions of the Congresses and that the Commission should abide by the decision of the majority of the Government as to the manner in which effect should be given to the decisions arrived at by the Commission." (9)

The outcome can best be expressed by quoting Neumann-Spallart:

> "The majority of the representatives of Statistical Bureaux had recommended to their respective Governments, the approval of these prepositions, but some, and particularly the representatives of the Statistical Bureaux of the German Empire reserved to themselves absolute freedom of action as to the acceptance or otherwise of the decisions arrived at, at the Paris Commission. When the invitation to the sitting of the Permanent Commission at Rome, fixed for 1879 was made public, well-known German Statisticians were opposed to the acceptance of the invitation, as well as to the projected tenth Congress in 1880. This opposition was not without effect as the session was indefinitely postponed; the president sent in his resignation and it was resolved that it would be advisable to adjourn future meetings to a more fitting time for the consideration of international labours." (10)

Some further details however, are given in the Allgemeine Zeitung (Vienna) of 14 June 1885 – some 10 days before the above remarks of Neumann-Spallart were made – which places the responsibility for the break down of the Permanent Commission on Bismarck. (11)
Although the Congress and its Permanent Commission came to an untimely

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(9) Statistical Society, Jubilee Volume, p. 300.

(10) Statistical Society, Jubilee Volume, p. 301. The following letter of Keleti in Sep. 1879 to the members of the Permanent Commission is revealing: –

> "All the German States have refused to be represented on the Permanent Commission; Switzerland has followed this example; representatives of Spain and Sweden have sent excuses; regarding England and Russia I am not even yet in a position to know whether they will be officially represented or not.... Under these circumstances, I have at last decided to postpone the session.... Tired of the futility of my efforts, disheartened by the small results attained after such harmonious meetings at Paris, I have decided to give up my position at President." (Annales de Démographie, 3me année, 1879 pp. 305-6; original in French).

(11) "Als dieser Congress im Jahre 1876 den Beschluss fasste, dass eine ständige Internationale Statistische Commission eingesetzt werde, welche in Paris ihren bleibenden Sitz haben solle, da protestierte Bismarck gegen diesen Beschluss und verbot audrücklich den Statistikern Preussens, sich an diesem Congress noch fernerhin zu betheiligen. In Folge dessen nahmen auch die andern deutschen Staaten nicht mehr an diesem Congress theil, welcher seither, wenn auch formell noch weiter bestehend, keine Thätigkeit mehr entwickelte." In another passage the writer states that the object of the London meeting is "Nicht so sehr um die neue Errichtung einer solchen Commission, sondern um die Reactivirung einer Institution welche früher bereits durch viele Jahre existiert und nur in Folge eines zwischen Frankreich und Preussen ausgebrochenen Conflictes sich aufgelöst hatte." (quoted in Jubilee Volume, p. 343).

end, they had an important effect on the practice and science of statistics, as that term was understood in the nineteenth century.

> "They had a vitalizing effect and resulted in great progress in the development of official statistics in the European countries. Even today the speeches of Quetelet, Farr, Newmarch, Engel, Keleti and others at these meetings are well worth study." (12)

Neumann-Spallart enumerates under eleven headings, a few of the most important of the results. (13) The faults however have been equally notable and Zahn gives also a well-considered account of them:

> "Les fondateurs avaient visé trop haut. L'ambition du Congrès le portait à vouloir résoudre trop rapidement des problèmes trop difficiles. Il voulait améliorer la statistique.... dans un but d'unification internationale sans tenir compte des particularités administratives, financières et culturelles des divers pays.... Il se heurta à l'impuissance des délégués qui ne pouvaient garantir l'acceptation de ces décisions par les gouvernements." (14)

Since this was written, another account of the difficulties has been given by Campion. In his paper on International Statistics read to the Royal Statistical Society in 1949, already quoted, he gives the following additional reasons for the breakdown of the Congress:

1) "There were none of the mechanical aids which now exist to facilitate discussion at international meetings – such as simultaneous interpretation, quick reproduction of documents and telephone and telegraph communications. Those attending the congresses had to rely on being able to express themselves in French, or in the language of the country where the congress was being held. At many meetings the discussions could not be followed by many of those attending the congress.
2) "The congresses were arranged for too short a period and too many subjects were covered. The result was that the discussions were often diffuse and too many recommendations were adopted hastily and without adequate consideration.
3) "So many people attended the congresses and many of them were not professionally interested in statistical matters. (15) The status of the persons to be invited to the congresses was never satisfactorily settled, some of them were officials sent by their governments and it was not always clear whether they were speaking on behalf of their governments or in a personal capacity. In addition there were representatives of learned societies. The status of those attending the Congresses became important when the Permanent Commission sought later to enforce on the participating countries the recommendations passed at the congresses.
4) "The early congresses suffered from not having a continuous organization to prevent duplication of discussion between congresses. The fact that the Permanent Commission when elected, went too far in assuming powers itself to enforce its decisions did not prove that a continuing organization was not needed.

(12) Campion, op. cit. p. 108.

(13) Bulletin de l'I. I. S. Vol. 1. 1886 pp. 6 and 7. As these are given by Zahn, op. cit. pp. 4/5 they are not repeated here.

(14) Zahn: op. cit. p. 3.

(15) Willcox throws further light on this aspect when he writes:
"A majority of those who attended came from the city in which the congress was held.... and were attracted by unprofessional motives. Thus the announcement in Vienna that the members would be given by the Emperor a free Sunday excursion induced hundreds of Viennese to enroll as members of the congress.... Each meeting was unduly influenced by the public or professional opinion of the country or city where it met and from which two-thirds or more of the visiting members came, that these changes in membership prevented continuity, that the relation of the congresses to the statistical offices of the various governments was quasi-official and in other words, the congresses and permanent commission were drawn into politics and finally that the permanent Commission kept out those economists and statists however competent, who did not cooperate in producing the "Statistique Internationale de l'Europe" (Journal of the American Statistical Association, September 1924. "The Relation of the United States to International Statistics").
Newmarch described the meetings as "international picnics" (Journal of the Statistical Society. Vol. XL 1877. p. 554).

It was not long however before the distinguished European statisticians who had collaborated during the previous 25 years, felt the need for further meetings. "An attempt to assemble the Permanent Commission in London later on, failed". (16) An opportunity however arose for a gathering of statisticians of different countries on the occasion of the 25th anniversary meeting of the Société de Statistique de Paris and the 50th anniversary meeting of the Statistical Society of London, both held in June 1885. The results are given below.

B. The Birth of the Institute.

The Statistical Society of London decided to celebrate in 1884 the Jubilee of its foundation in 1834, that "the form of the Celebration be a Congress" and that among the subjects for discussion should be included "a proposal to establish an International Statistical Society". The celebration had however to be postponed owing to the death of the Duke of Albany until 1885 and its scope was then defined as

> "the object of the conference (this term being substituted for that of "congress") will more particularly be.... to consider what has been achieved by the International Statistical Congresses or by other means in the direction of uniformity of statistics and by what measures that object may be further promoted, and to consider the possibility of establishing an International Statistical Association." (17)

(16) Mouat: History of the Statistical Society of London (Jubilee Volume, op. cit. p. 43).

(17) Jubilee Volume, op. cit. pp. VIII and and IX.

Invitations were sent, through the Foreign Office, to Her Majesty's representatives in about 30 countries and Professor von Neumann-Spallart of Austria was invited to submit a paper entitled "Resumé of the Results of the International Statistical Congresses and Sketch of Proposed Plan of an International Statistical Association". The conference was held, immediately after the celebration of the 25th anniversary of the Société de Statistique de Paris where the subject was broached, in June 1885 and twelve States were represented. Germany however still did not accept invitations to attend international statistical conferences. ([18])

After describing the valuable work of the International Statistical Congress and its Permanent Commission and the causes of their abandonment as described in the preceding chapter, Neumann-Spallart gave his views on the three forms which an International Statistical Association might take. These might be briefly described as official, semi-official and free. ([19]) He advocated the third form and it is interesting to quote his exact words:

> "The third form of organization partakes more of the nature of a *free association*, divested of any official character, but which would endeavour to establish a base for the uniformity of official statistics. At first sight, it might appear that this free Association would be wanting in weight and authority owing to the absence of official cohesion. There can be no question however that its decisions would carry considerable weight owing to the great personal influence of the members of which it would be composed and to their valuable labours. I am inclined to the opinion that with a view to infusing strength and vigour into the Association, it would be well that the members composing it should be recruited from among the heads of Statistical Commissions, Bureaux or Societies and from the distinguished representatives of scientific bodies and others possessing special qualification, drawn from the various European States.... According to my idea, the Society should consist of eighty members and eighty associates, with an unlimited number of honorary members, for such an Institution as is contemplated would be able to find room for all who were really qualified to take part in its proceedings. ([20])

He appended to his report "Provisional Rules and Regulations of the International Statistical Institute", the latter of which gave his proposed distri-

([18]) The account of the foundation of the International Statistical Institute given in Zahn, op. cit. pp. 6-11, is drawn almost entirely from the "Jubilee Volume of the Statistical Society, London, 1885" and the "Bulletin, Vol. 1, Part 1, (Rome) 1886". In view of this full account of the origin of the Institute, it is not considered necessary to repeat it here. Emphasis is laid rather on some additional aspects, omitted in Zahn's account, the reason for which will appear when the changes in the Institute after 1947 are discussed.

([19]) See Zahn, op. cit. pp. 8 and 9 for a full account of these three types.

([20]) Jubilee Volume, op. cit. pp. 305-6.

bution of the 80 members and 80 associates (in fact 81) among the different countries.

In the discussion which followed, the general outlines of Neumann-Spallart's proposals were approved. Some delegates expressed doubts as to the relation between the proposed Institute and the governments, and a poposal was actually made by a British participant (Levi) that

> "in order to secure practical results, this meeting invites the Statistical Society of London to ascertain from the different Governments how far they would lend their support to such an Institute and communicate their opinion thereon to the leading statisticians, summoning if they think proper another meeting to consider the question." ([21])

Many speakers however urged that the Institute should be set up at once and the proposal was withdrawn.

The second doubt expressed by members concerned the distribution of membership. The number allotted to each country in Neumann-Spallart's proposal is given in the table in appendix II. Another British participant (Palgrave) called attention to the fact that

> "Greece was limited to one member while Italy had eight, and all the English colonies were omitted altogether. How could they accept a proposition of that kind?"

The Spanish participant observed that

> "Spain with its 7 millions of inhabitants in Europe, and its 25 millions of inhabitants in the colonies, had the same representation as Greece, Bulgaria, the Argentine Republic (which was once a province of Spain), Turkey and Servia."

Finally, the following resolution proposed by Mouat an ex-secretary of the Statistical Society was adopted unanimously:

> "That this meeting accepts in principle the proposal for an International Statistical Association as formulated by Professor von Neumann-Spallart, but is of opinion that such an association should be dissociated from the limitation of its members and associates to a fixed number of persons belonging to each nation (so as to remove the objections of Greece, Spain and other countries) and that a special International Organizing Committee to work out the provisional details be appointed by this meeting." ([22])

The only other matter of interest in this discussion for the history of the Institute was the proposal of Inama-Sternegg, President of the Imperial and

([21]) Jubilee Volume, op. cit. p. 315.

([22]) Jubilee Volume, op. cit. p. 313. The words in brackets are omitted in the text of this resolution as given in the Bulletin Vol. 1. Part I p. 13.

Royal Statistical Commission of Austria-Hungary. He pointed out that, under the proposals of Neumann-Spallart

> "it will never be possible for the Institute either to proceed to the practical performance of enumerations and other collections of statistics, or to effect the execution of its own resolutions and the fulfilment of its own wishes by its own unaided strength.... Only by a conference of exclusively official statistics *(sic) beyond a free institute* does it seem possible that the scientific and the official statistics should unite to complete one another, instead of interfering and troubling each other in their separate endeavours."

He therefore moved an "order of the day" which stated that

> "in order to secure practical progress and results, it will be necessary that the proposed Institute should have the support of Governments. It is therefore desirable that Governments should, by means of diplomatic action, make arrangements for periodical conferences of official delegates.... for the purpose of working out and elaborating propositions for attaining uniformity, to be recommended to their respective Governments." (23)

Here we have an echo of the discussions at the meetings of the International Statistical Congress and the Permanent Commission, already referred to in the previous chapter. Neumann-Spallart's proposal was merely to "call the attention of the Governments to the various problems capable of solution by statistical observation". The feeling of the meeting was that Inama-Sternegg's proposal was an independent one and did not contradict the original proposal. This was tacitly agreed to, for "by an unintentional omission on the part of the President, the resolution was not put to the meeting, but the opinion of the majority may be gathered from their recorded remarks." (24)

(23) Jubilee Volume, op. cit. p. 312.

(24) Jubilee Volume, op. cit. p. 320. Even the clear indications of Neumann-Spallart as to the organisation of the Institute as a "free association divested of any official character" and the objectives of the Institute as set out in article 1 of its rules, did not satisfy two of the persons nominated as members in London but not present viz – the Director of the Imperial Statistical Office of Germany (Becker) and the Director of the Royal Prussian Statistical Bureau (Blenck), who in a joint letter addressed to the president (Rawson) expressed doubt as to whether they should accept membership of the Institute. They feared that it would endeavour to exercise a decisive influence on official statistics and that a conflict might arise between their official functions and their duties as members. The President was able to assure them on these points and they accepted membership. As the reply of the President sums in a masterly way his view of the functions of the new body, an extract is given:

> "The Association is purely a private and scientific body. It is altogether different from the International Statistical Congresses or their successor, the Permanent Commission. It has no official character. It seeks to exercise no official authority or influence, though it is not without hope that its labours will be useful in furnishing information and suggestions to Governments as well as to the Statisticians of the world. It seeks the cooperation of the chief statistical authorities in the several countries because they are the most competent to aid it with their experience and advice, the most likely to take an interest in its proceedings, and the most certain to ensure respect for the results of its deliberations. It is not without hope that these results may, by their merits, obtain the attention of Governments and may often lead to the adoption of methods, which will promote the advancement of statistical knowledge with or without an increase in the uniformity of national statistics. But it is not its purpose to make this uniformity the special object of its labours, nor has it any intention of attempting to impose its views either upon Governments or upon its own members – – – – – To sum up I may say that while the direct object of the Congresses and the Permanent Commission was to influence Governments, that of the International Statistical Institute is to acquire and perfect statistical knowledge and to furnish information which may be useful to those Governments who may pay attention to its proceedings." (Bulletin. 1886 Vol. 1. Part I p. 33).

(25) See next page.

Time has shown that Inama-Sternegg was right, that "calling the attention of governments" while useful was not sufficient and that only official or diplomatic conferences confined to persons delegated by their governments can effectively "introduce uniformity in the methods of compiling statistical returns" (Article 1 of the original rules).

The "special International Organising Committee", referred to in the resolution quoted above, met immediately, and drew up revised "Rules and Regulations". The only important changes were the elimination of the "partition of members among the different States mentioned" in the original draft and the increase in the maximum numbers of members and associates from 80 to 100. The Committee also drew up a list of 20 members and 2 honorary members, who, being present at the meeting, accepted nomination; and a list of 37 members and 22 honorary members who, in their absence were nominated and invited to become members. (25)

The rules as adopted were considered as provisional to be "revised and definitely settled during the next sitting of the Institute" (article XVII). In order that they may be compared with the definitive statutes, the two are given side by side in Appendix I.

This account of the origin of the Institute is now chiefly of historical interest but for those who wish to appreciate the changes which have taken place in its organization and aims, especially since 1947, a note is given in Appendix II which summarizes the view held by the founders of the Institute on its purpose and structure, and explains the origin of its title. These, together with the views of Neumann-Spallart and others in the preceding pages and

the original rules given in Appendix I, enable some interesting comparisons to be made with the present position, 75 years later.
It only remains, to conclude this account of the foundation of the Institute, to add that the "constituent meeting" of the Institute was held in London immediately after the meeting of the Statistical Society; the President of the Statistical Society (Rawson) was elected first President of the Institute; Levasseur and Neumann-Spallart were elected Vice-Presidents; Bodio Secretary General; and Holland-Martin, Treasurer. ([26]) Further honorary members were appointed and members and associates elected, bringing the total to 156. It was decided to accept the invitation of the Italian government to hold the first session in Rome or another Italian town "à la fin de l'automne 1886, à moins d'obstacles imprévus". There was in fact an "obstacle imprévu", an outbreak of cholera, and the session was postponed to 1887.

C. The Organization of the Institute.

The first session of the Institute was held in Rome in 1887, on the invitation of the Italian Government, and from 1887 to 1913, a session was held every two years in accordance with the statutes. ([27]) Prior to the first session, the officers of the Institute had completed the list of provisional members and associates and the Rome session opened with a total of 69 ordinary members, 37 honorary members and 48 associates. In a brilliant address, delivered in French, the President (Rawson) affirmed the free scientific character of the Institute and his final appeal to the members was:

> "je réclame en toute confiance pour l'Institut International, l'unanimité de votre concours généreux, la pleine tolérance pour toutes les opinions et l'unité des efforts pour placer cet Institut sur une base assurée et pour le porter à la hauteur des attributions.... que ses fondateurs ont ambitionnées pour lui." ([28]).

Statutes. The provisional statutes drawn up in London were revised at this session and certain of the, if not anomalies, at least peculiarities, referred to in Appendix II, were removed. In the first place, the group "associates", difficultly distinguishable from members, was suppressed. As the number of

([25]) According to the Bulletin. Vol. 1 p. 29, 1886 there were also appointed 27 associates but these are not mentioned in the Jubilee Volume. The total was thus 108, but was, in effect, 106 owing to the death or withdrawal of two members (see details by country in Appendix II).
([26]) For full names, titles, nationality and other details of these persons, see Appendix III.
([27]) See Appendix VII, for list of sessions, attandance, etc.
([28]) Bulletin, op. cit. Vol. II. Part I p. 43.

associates was not to exceed the number of members (maximum 100) the officers proposed that the maximum number of members should be 200.
This was opposed however by Say (France) on the ground that "les Sociétés savantes ne doivent pas être trop nombreuses si elles veulent conserver leur caractère scientifique"; his point of view carried the day, and the number of members was fixed against the advice of the officers at a maximum of 150.
The suppression of associates was in part compensated by the introduction of a new group, that of "invités". A new article was added

> "permettant aux personnes chargées de service de Statistique de prendre part aux travaux de l'Institut avec voix déliberative ([29]) dans toutes les questions exceptées celles qui concernent l'administration intérieure et les élections."

In practice most of these "invités" were nationals of the country in which the sessions were held.
The rule about honorary members remained unchanged; their numbers were still unlimited.
The vague and unsatisfactory provisions concerning elections of members in the provisional statutes, referred to in appendix II, were now put on a more satisfactory basis. Each candidate was to have five sponsors, and a majority of three-quarters of the votes was necessary for election.
The only other important amendment was in the objects of the Institute. One of these read:

> "by inviting the attention of Governments to the various problems capable of solution by statistical observation, and by applying for information on those subjects which have not hitherto been adequately subjected to statistical treatment." (See Appendix I, article I (2)).

In spite of the formal declaration of the president (see his reply to the letter of the Directors of the German and Prussian Statistical Offices p. 14), certain members did not feel happy about this wording. Here we have again an echo of the troubles which disturbed and finally broke up the International Statistical Congress and its Permanent Commission. It was decided, on the proposal of the Bureau that the last half of the above sentence should be omitted

([29]) In 1903 (Berlin) the word "déliberative" was, on the proposal of the officers, altered to "consultative". No explanation is given in the proceedings of the reason for, or significance of this change. The "invités" continued apparently to have the same rôle as before.

"afin de mieux exprimer que la responsabilité des chefs de bureau de Statistique ne se trouve engagé en rien par les décisions de l'Institut. Celui-ci tout en ayant des rélations avec la statistique officielle et en comptant beaucoup sur la bienveillance des Gouvernements doit conserver son caractère de Société privée, dépourvue de toute sanction officielle." ([30])

This object was therefore limited to "en appelant, par des voeux, l'attention des Gouvernements sur les questions à résoudre par l'observation statistique". ([31])

It was not until the Session of 1901 (Budapest) apparently that any action was taken in furtherance of this object. A proposal was made by Nicolai (Belgium)

"à faire connaître officiellement à tous les Etats les voeux émis dans chaque session de l'Institut International de Statistique afin que ces voeux soient communiqués par le Gouvernement de ces Etats à chaque administration, office ou bureau compétent." ([32])

The record states that "il est pris acte de cette proposition", and it was duly carried out in future. This proposal may seem to stretch rather far the conception of the Institute as an "association scientifique libre" ou "une académie scientifique indépendante" and might be interpreted as the beginning of an attempt to put pressure on governments, and, in fact this article in the statutes was used some years later as an argument for greatly enlarging the relations of the Institute with official bodies.

Other minor changes were made as will be seen from Appendix I in which the text of the revised Statutes is given along with the provisional rules for comparison.

The system of elections instituted in the modified statutes of 1887 proved unsatisfactory. Up to 1900 the maximum number of members (150) had never been reached, although the number of candidates always exceded the number of vacancies. After discussions and changes over many years a system was adopted at the session in London, (1905) which involved a second and a third vote if the first (and the second) vote did not fill all the vacancies (all votes to require a two-thrids majority). Even this system did not ensure that all vacancies were filled.

([30]) Bulletin Vol. II Part I p. 25.

([31]) Although the provisional statutes were drawn up in English, the revised statutes were drawn up only in French, and remained so till 1948, when an official English version of the new statutes became statutory.

([32]) Bulletin op. cit. Vol. XIII, 1901. Part I, p. 116.

In 1901 Bertillon proposed that, statistics having considerably developed since the 150 maximum was fixed, it was desirable to increase the membership, but there was some opposition. He proposed 200 which was accepted. ([33])

At the Vienna session (1913) concern was again expressed at the failure of the election procedure to provide the Institute with sufficient new blood. At the elections of November 1911 out of 25 candidates, not one received the necessary two-thirds majority. ([34]) It was therefore proposed that for the "second election" the majority required should be 50% instead of two-thirds. This amended procedure did in fact result in a greater proportion of candidates being elected and it remained in force until 1948.

At the Paris session (1909), attention was called to another anomaly: there was no limit in the statutes to the number of honorary members, and such members need not have been previous titular (i.e. ordinary) members. It was agreed that the number of honorary members should not exceed ten per cent of the number of titular members and not more than one fifth of them should be from any one country.

The limitation of membership was still jealously guarded and it was not until 1934 (London), that the members agreed to increase the titular membership to 225, of whom not more than 25 (instead of one fifth) may be from any one State. Honorary membership was on the other hand changed from one tenth of titular membership to a maximum of 25. The officers however still proposed to retain the provision that honorary members need not have been previously titular members but on the proposal of Nixon (U.K.) who recalled that in fact one non-member had been elected as honorary member who, in his view had little claim to be a statistician and would, probably not have secured election as titular member, the rule was made that only present or former titular members could be nominated for the post of honorary member. ([35])

The number of members and their distribution by countries is given by Zahn in his "50 années", for each of the sessions from 1887-1933; figures for 1938 (as well as those for 1948 and 1958 referred to later) given in statistical

([33]) Bulletin op. cit. Vol. XIII 1901, p. 31.

([34]) Bulletin op. cit. Vol. XX. Part I, p. 133.

([35]) The only other important changes in the statutes in 1934 were the increase in the number of vice-presidents to four; the change of "hommes" to "personnes" in the article on membership in order to remove the implication that only men could be members (no woman however was elected until 1948); and that the President should submit a report of the work of the Institute at each session.

Appendix VII, and the table given later (p. 124) show that the number of members has always remained below the statutory limits. The unwillingness of the members of the Institute to increase the statutory maximum membership substantially has always been one of the characteristics of the Institute, and the consistent failure to increase the membership up to the maximum allowable by the statutes has been due in large part probably to the election procedure.

Sessions of the Institute. Sessions of the Institute were held every two years up to the outbreak of war in 1914. The tradition of the Institute has been to change the place of meeting for each session. This has the advantage not only of enabling the statisticians of the country chosen, to attend the meetings of the Institute and to meet their colleagues from other countries, but also for the visiting members of the Institute to become acquainted with the statistical development of the host country and to appreciate the possibilities of international statistical standardization. The choice of meeting-place has fortunately not been difficult, since at each session, a request has usually been received from some country inviting the Institute to hold the next session in its capital. ([36]) In a few cases, more than one invitation was received. It became a tradition of the Institute, starting with the precedent of the Italian Government at the first session in Rome (1887) that the inviting government should appoint an organizing committee of its own nationals to make the necessary arrangements for the holding of the session, to arrange accommodation for the participants, to provide the necessary assembly halls, offices and secretarial staff. The officers of the Institute were thus relieved of many tasks which are the lot of organizers of other international gatherings and were able to confine themselves principally to the preparation and organization of the scientific work of the Institute. The expenses of holding these Sessions also fell largely on the inviting country, as well as the preparation and publication of the "Bulletin" of the session, containing the proceedings and the papers submitted.

The date and place of all the sessions held by the Institute, together with the numbers of members and non-members participating in the session are given in Appendix VII. For the period covered by this part of the History, the

([36]) In all cases but two, these invitations emanated from the Government of the inviting country. The exceptions were Chicago (1893) and London (1934) when the invitations came from the American Statistical Association and the Royal Statistical Society respectively. In all cases but one (Chicago) the session was held in the capital of the inviting country.

numbers of members participating varied considerably, due partly to the fact that the place of meeting of some sessions was situated a long way from the country of residence of the majority of members (eg. Chicago 1893, Tokyo 1930, and Mexico 1933) who, unless they were official delegates, had usually to pay their own expenses. For a number of such sessions, the inviting governments granted or obtained special financial facilities for members, other than their nationals, to attend. The average number of members attending the 24 pre-war sessions (1887-1938) out of a total membership increasing from about 156 at the beginning to about 200 at the end of the period was about 62. The largest attendances were at Berlin (1903), Paris (1909) and Vienna (1913) at each of which 80 members (or about 50%) participated.

The spontaneous invitations and the generosity of governments, the welcome accorded to the visiting members, and the arrangements made for them to become acquainted with the country are all a witness to the high regard in which the Institute was held.

Another feature is the large number of non-members who, as invited persons, participated in the work of the sessions. The statutes provided that "les personnes chargées d'un service de Statistique, dans le cas où elles ne seraient pas membres de l'Institut, pourront être invitées par le Bureau à prendre part à la session" but perusal of the list of invited persons shows that this was not always adhered to; not all were "personnes chargées d'un service de statistique". The inviting government or its organizing committee could also propose persons as "invités". At most sessions, as will be seen from the table of Appendix VII, the members of the Institute were in a minority.

As invited members could fully participate in the debates on scientific matters and submit papers for discussion, it might be thought that some of the sessions could hardly be described as sessions of "the Institute", in the sense of meetings for its members, and there might be a danger that a situation would arise similar to that which arose at the sessions of the International Statistical Congress when the large participation of non-members was one of the causes of dissatisfaction. Such a situation however did not arise in this period. The Institute although chary of admitting new members, welcomed the participation of non-members; it welcomed collaboration with other statisticians and considered their desire to participate in its work as a tribute to the Institute as a serious scientific international forum. ([37])

([37]) After the second world war, however, when the number of invited persons very considerably increased, some concern was expressed about their privileges (see p. 63).

The last pre-war session of the Institute was held in Prague in September 1938 but owing to the tense political situation which arose at that time, it was abandoned after two days, without having being able to carry out the usual administrative functions.

D. The Foundation of the Permanent Office of the Institute.

Until 1913, the work of the Institute was confined to the preparation and holding of biennial sessions. The officers, and in particular the Secretary-General, received no renumeration for their services. The Institute had no permanent headquarters or permanent staff; its temporary seat was at the town of residence of the Secretary-General while the financial administration was in London. The original statutes of the Institute, (art. XIV) provided however, that "l'Institut publiera un Annuaire de Statistique internationale". This had, up to 1913, never been carried out, due among other reasons to lack of money and staff. One of the principal tasks of the Permanent Commission of the International Statistical Congress at its meeting in 1879 was to arrange for such "Annuaires" of which the first volumes had already been prepared under the title "Statistique Internationale de l'Europe".

This scheme collapsed, but from time to time, the question of the Institute's carrying out its duties under the statutes was raised at the biennial sessions. The jubilee volume gives a full account of the development of the proposals for the publication of compilations of international statistics from the first suggestion in 1860 by Quetelet to its realization by the Institute in 1916. Levasseur had compiled in 1886 a "Statistique de la superficie et de la population des contrées de la Terre" which was published by the Institute in its first Bulletins ([38]), and in 1899, the Institute decided to ask Levasseur and Bodio, to bring this up to date. Many other studies of the population of the world were undertaken in this period, ([39]) but apart from demographic statistics, little has been done in the form of international compilation, in spite of article XIV of the statutes which provided for quarterly, annual and other publications.

In the early years of the 20th century however, various international bodies had been set up which were interested in international statistics; in particular, the International Labour Office at Bâle (1901), the International Institute of Agriculture (1905), the International Health office (1907) and the International Bureau of Commercial Statistics (1912). The need for some permanent office

([38]) Bulletin op. cit. Vol. II, Part 2 pp. 163-242, 1889.

([39]) See Zahn, op. cit. pp. 68-69 for an account of these.

to collect and coordinate international statistics became increasingly felt and the first practical proposal was made at the Paris session in 1909 by the president of the Imperial German Statistical Office, (Borght), who had previously circulated his proposals to the national statistical offices and obtained a majority of favourable replies. He proposed an International Statistical Office, independant of the Institute, founded and financed by Governments with a permanent headquarters and staff. Although this office was to have no power to interfere with the independence of a country, it was his hope that it would be possible to publish, monthly and annually, international statistical reports, – a task which a national government could not do unaided. This proposal differed considerably from the proposals of the Permanent Commission of 1878, in not infringing national sovereignty, but in its proposal that the office should be entirely independent of the International Statistical Institute, it seems to retain an echo of the fears expressed by Borght's predecessor in 1886 when he hesitated to join the Institute, namely that officials responsible for the collection and compilation of national statistics somewhat recent recommendations on these matters being made by a body containing "outside" statisticians.

The proposal, though its reception was lukewarm, was referred to a special committee which reported to the next session at the Hague in 1911. This committee was considerably divided and no less than six different proposals were submitted to the session, varying from a completely independent office, financed by governments, to no office at all. ([40]) In the last case, "the inter-"national statistics to be published would be methodically distributed among "the services, or among members of the Institute, who would agree to under-"take the tasks and who had the necessary competence." Cragie (U.K. Treasurer) was the principal protagonist of the "status quo". He feared that the setting-up of a permanent statistical office under the Institute would limit the independence of the Institute, that the work was already being done by various international bodies and certain governments. Cadoux (France) described the original proposal of Borght as "avant-coureur du suicide de notre Institut". ([41])

March (France) the rapporteur for the Commission at the following session maintained however that the

"Institut ne saurait demeurer une institution exclusivement académique alors que le

([40]) Bulletin Vol. XIX. Part I pp. 14/15. These six proposals are also given in Zahn. op. cit. p. 34.

([41]) Bulletin op. cit. Vol. XIX. Part I p. 142.

mouvement des idées et des transactions fait naître des besoins de plus en plus pressants d'informations statistiques." (42)

Millet (Switzerland), on the other hand, defended the cause of an autonomous office, working under a convention established by international law and insisted that the Institute should be maintained as a purely academic institution. The proposals of March and of the majority of the Commission were finally accepted at the Hague session in 1911, when it was decided that a Permanent Office should be created under the authority of the Institute for the purpose of publishing the "Annuaire de Statistique Internationale" referred to in the Statutes, of maintaining a library, of keeping the Institute's archives, and of preparing the programmes of the Institute's sessions. The special committee was asked to prepare a detailed plan for the next session.

The scheme was finally adopted at the session of 1913 (Vienna) and the Office had the four following objects:

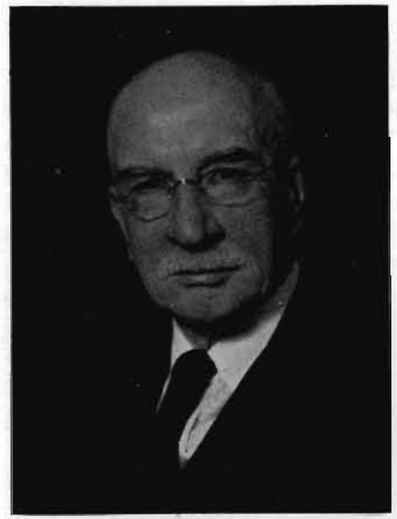
1. De réunir, d'examiner et de conserver dans sa bibliothèque et ses archives, les documents statistiques des différents Etats et des Offices internationaux. Il en extraira les données qui se prêtent aux comparaisons internationales notamment ce qui est relatif à la démographie.
2. De faciliter par une action permanente l'unification des méthodes, des questionnaires, des procédés de dépouillement, des modes de publication, de façon que les résultats soient le mieux possible comparables.
3. De publier aussitôt que possible un annuaire international, un bulletin périodique, et s'il y a lieu, d'autres ouvrages, dans lesquels, à côté de tableux statistiques on trouvera une bibliographie ainsi que des notices relatives aux progrès et innovations réalisés dans certains pays et qu'il serait utile de faire connaître en détail à tous les pays.
4. D'aider le Bureau de l'Institut International de Statistique à préparer le programme de la session.

This ambitious programme – it is recorded here in full *pour mémoire* since, as will be seen later, most of it has now been suppressed – required financial support far beyond the meagre resources of the Institute, limited as they were largely to members' dues. It was therefore decided (by article 5) to obtain contributions from "Etats et collectivités". It was also decided that the Secretary General should be the Director of the Permanent Office, and the seat of the office should be at the Hague, where the Secretary General was resident. The finances of the Permanent Office were to be kept separate from

(42) Bulletin op. cit. Vol. XX. Part 2, p. 6.

VI. *Friedrich Zahn*
President, 1931-1936
Honorary President, 1936-1946

VII. *Armand Julin*
President, 1936-1947
Honorary President, 1947-1953



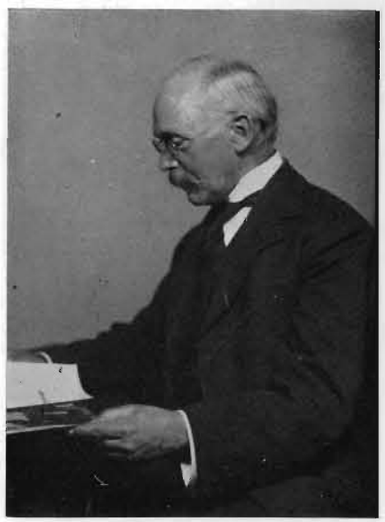
VIII. *Walter F. Willcox*
President, 1947
Honorary President, 1947

IX. *Stuart A. Rice*
President, 1947-1953
Honorary President, 1953

X. *Georges Darmois*
President, 1953-1960

XI. *Marcello Boldrini*
President, 1960

XII. *Henri Willem Methorst*
Honorary President, 1947-1955



XIII. *Sir Arthur L. Bowley*
Honorary President, 1949-1957

those of the Institute and were independent of the Treasurer. The draft rules also provided for a Comité de Surveillance consisting of one representative of States contributing at least fl. 5000, (or two representatives if the contribution was at least fl. 10000) but this article was not adopted (no reason for its rejection is given in the minutes of the session).

The decision to fix the seat of the office at the Hague was not made without reservations by some members. Millet had hoped that his own country Switzerland, would be the seat of the office on the strength of a resolution adopted at the Berne session in 1895. ([43]) and stated that the Swiss Government offered financial support, but in the meantime the Secretary General, who was also Director of the Central Statistical Office of the Netherlands had obtained promises of support from the Netherlands Government, the city of the Hague, and other Dutch bodies and its seat was fixed "au siège de l'Institut International de Statistique". Some members feared that this might mean that the seat would change as the seat of the Institute (which had not hitherto had a fixed headquarters) changed, but in fact, the seat of the Permanent Office and of the Institute, remained, fortunately, at the Hague ever since.

Development of the Permanent Office. The support given to the Office by "Etats et collectivités" was generous. In the first annual financial report of the Permanent Office, the amount received was about 17000 florins of which about half was from official sources and half from private sources (both mostly Dutch) and the Office was able to proceed with the tasks assigned to it. Unfortunately for the Institute in one sense, fortunately in another, the European war broke out in the following year. The normal work of the Institute was interrupted until 1923, and contact with many members and statistical offices rendered impossible or difficult, but the Secretary General, as Director of the Permanent Office in a neutral country, was thus able to give much of his time to the duties of his new office, and the results were the production of some of the most valuable publications of the Institute. In spite of the war, government contributions increased and during these years about 16 governments and one municipality contributed financially; by 1917, receipts had increased to 21000 florins.

As provided for in the rules of the Office, effort was concentrated on demography and between 1916 and 1921 five volumes were issued of the "Annuaire International de Statistique", and volumes on other subjects later (see Part III for an account of these). In 1920, the Permanent Office began the publication

([43]) Bulletin op. cit. Vol. IX. Part 2, pp. lxxxviii and 23. 1895.

of a Bulletin Mensuel (de Statistique) and in 1922, the publication of its series entitled "Aperçu de la Démographie des divers pays du monde". In 1933 the Bulletin Mensuel was suppressed and gave place to the "Revue de l'Institut International de Statistique" which still exist. A fuller account of the work of the Permanent Office is reserved for Part III of this volume.

Although the publications of the Permanent Office had, especially on demographic questions, been a great success, there was a feeling among certain members in 1925 that, in view of the great development in this field by inter-governmental organizations created after the Permanent Office had been set up in 1913, some change might be desirable, and a resolution, moved by Willcox, was adopted, that the officers should present a report at the next session on the question of whether "in view of the changes since 1913, any changes in the rules of the Permanent Office are desirable and if so, which". A similar resolution with "since 1885", instead of "since 1913" was adopted in respect of the Institute itself. At the following session the officers reported that the members of the Institute had been consulted but that only 54 out of 163 had troubled to reply and only 13 suggested changes. It referred the matter, nevertheless, to a special committee which reported that, in spite of the existence of similar publications, the publication of an "Annuaire de Statistique" should continue annually, as well as a monthly bulletin. It did not however give any suggestion as to the scope of such an Annuaire and, presumably for financial reasons, the only Annuaires issued in the immediately following years were the "Aperçus de la démographie des divers pays du monde" issued in 1925, 1927, 1929 and 1931, and a final volume covering the years 1929–1936. A series of volumes on the "Statistics of large towns" was however issued in the years 1927–1939, thanks to the collaboration and financial assistance of interested bodies.

The question came up again at the Warsaw session (1929) when Willcox stated that much of the friction between the Institute and other bodies has been over the fields of the Permanent Office and the newer organizations and he thought that the Permanent Office should limit its field to demography. A commission – Chairman, Jahn (Norway) – was appointed in 1931 to consider the revision of the statutes in response to a petition signed by 42 members. It reported that 88 (or 50 %) of the members either did not reply or wanted no changes. Its proposals were discussed at the next ordinary session (London 1934) and a revision of the statutes of the Institute was adopted. The officers also proposed a revision of the rules of the Permanent Office. On the question of whether this Office should continue the publication of statistical yearbooks etc., which some members had now considered to be

unnecessary, the officers of the Institute reported

> "qu'il n'y a pas lieu d'introduire des modifications importantes, malgré le fait que depuis la fondation de l'Office Permanent en 1913, la position de l'Institut et, avec elle, la tâche de l'Office Permanent a changé d'aspect, tant par suite de l'activité croissante à recueiller des données statistiques dans tous les domaines de l'économie nationale, que par la fondation de la Société des Nations et du Bureau International du Travail avec leurs organisations permanentes de statistiques." (44)

It proposed that all reference to an "Annuaire International" in article 1 par. 3 (see p 24 above) be suppressed and in its place be substituted the words "de publier les ouvrages dont l'Assemblée Générale ou le Bureau ont chargé l'Office Permanent". This was adopted and at the same time the function of publishing an "Annuaire de Statistique Internationale" was struck out of Article XIV of the Institute's statutes. There thus disappeared a phrase which ever since the days of the sessions of the International Statistical Congress had caused trouble. The statutes of the Institute which in 1885 had provided for the publication of such an Annuaire had never defined its scope and the Institute had never itself attempted to compile one, until the Permanent Office was created in 1913. The Permanent Office however did introduce "des modifications importantes" in spite of the views of the officers and published no more volumes in the series "Annuaire International de Statistique" other than the volume in preparation for the years 1929–1936, published in 1939. It concentrated its attention largely on the new "Revue de l'Institut", and on "Les statistiques internationales des grandes villes", a field not covered by any of the new international statistical organizations. Although the officers were reluctant to admit it and endeavoured to maintain the rôle of the Institute and its Permanent Office as compilers and publishers of international statistics, many members, and probably some of the officers in their hearts, realised that these functions of the Permanent Office could not long be efficiently maintained against the growing competition of the official international statistical bodies.

E. The First Crisis and its Surmounting.

The war of 1914–1918 dealt a severe blow to the Institute as to many other international organizations but thanks to the creation of the Permanent Office in 1913, the Institute continued to function as such at its seat in the

(44) Bulletin op. cit. Vol. XXVIII p. 66. 1934. The first International Statistical Year Book of the League of Nations, it may be added, had appeared in 1927 and the first Year Book of labour statistics of the International Labour Office in 1933 as an appendix to the "International Labour Office Year Book 1932".

Hague. No biennial sessions or elections of members or officers were possible and the Secretary-General, Director of the Permanent Office was able to keep in touch with only a few of the members, but the work of publishing volumes of the Annuaire International de Statistique continued. The number of members fell from 204 in 1913 to about 150 in 1919 and of these nearly 90 % were Europeans. The division of Europe into two hostile camps resulted in a similar division among the members and officers of the Institute. One of the vice-presidents (Mayr) was a national of the Central European powers, while the president, (Bodio) the other vice-president (Delatour) and the treasurer (Rew) were nationals of the victorious powers. National sentiments were strong and there was even some talk of disbanding the Institute.

A new factor arose, opportunely, in the creation of a new international body – the League of Nations – one of the first tasks of which was to convene a conference on International Cooperation in Statistics which met in London in August 1919. Its object was to discuss "the relations of the League with "other international institutions, and also, in general, the way in which the "League could profitably assist the development of international cooperation "in statistics". The Secretary General (Methorst), the Treasurer (Rew U.K.) Bateman (former Treasurer, U.K.) and Baines (U.K.) represented the Institute. The Conference made certain "suggestions... not having the character of binding decisions". Among these were the suggestions that a Central Advisory Council on Statistics was desirable; that there should be a separation of the main classes of statistics which should be entrusted to different bodies or institutions and "that these bodies should be... for the time being, in the case of Demographic Statistics, the Permanent Bureau of the International Institute, at the Hague". ([45])

When the Council of the League was set up one of its first acts was to appoint an International Statistical Commission which met at Paris in October 1920. At this Commission, the Institute was represented by Delatour (Vice-President), and Methorst (Secretary General); Bodio (President) was appointed Chairman (but in his capacity as Secretary General of the Italian Statistical Office) and March as rapporteur. This commission recommended unanimously that

> "the League of Nations should institute an International Commission on statistics to advise on all technical statistical questions, to assist the League to utilise to the utmost possible extent, the work already carried out by international statistical organizations and to assist those bodies by its advice to the limit of their respective spheres."

([45]) League of Nations, Conference on International Cooperation in Statistics. August 1919. London 1919. p. 39.

It also adopted, but by a majority only, proposals that the International Commission

> "would in each case whenever possible, apply to international institutions or offices concerned with the production of the said statistics, the said institutions to retain their autonomy";
> "the International Commission should be supplied with two copies of the statistics produced, one of which should be transmitted to the International Statistical Institute, in order to enable that Institute to formulate suggestions from a scientific point of view and with regard to the standardisation of methods"; and finally that
> "the expenses for statistics supplied at the special request of the Commission, by the Institute or International Offices should be defrayed by the League of Nations." ([46])

The representatives of the Institute had strongly urged that, as an independent body, entirely free of political influences, it was in a unique position to "offer the guarantees of competence, independence, and impartiality" on statistical matters and they induced the majority of the Commission to propose for it a special status as adviser on all "statistics produced" and even for it to recover its expenses incurred in this capacity.

Had these proposals been adopted by the League of Nations the history of the Institute would have been very different. A minority on the Commission however vigorously opposed them, viz Coats (Canada), Flux (U.K.), Jacquart (Belgium) and Meeker (I.L.O.). Their point of view harks back to that maintained by some statisticians at the time of the International Statistical Congress and its Permanent Commission the rejection of which was largely responsible for their breakdown. However impartial scientific and non-political, statistical advisers may be considered to be, the persons responsible for the compilation of official statistics often resent the advice of persons not responsible for their compilation.

The minority report was signed by Coats, Flux and Meeker, and two of these together with Jacquart, expressed also their personal views. Coats (Dominion Statistician, Canada) stated:

> "The argument, that the I.S.I. as a scientific body is superior to political influences seems not to realize that any policy laid down for official statistics is still dependent for practical results upon acceptance by governments and that it is impossible in the final analysis to remove official statistics from official discussion and control. The Institute can safeguard this point most effectively as a purely scientific and non-executive body."

([46]) League of Nations: Document A. 10 1921 E.F. S. 74.

Jacquart (Institute of Commercial Statistics) was stronger:

> "Article 3 imposes upon official statistical organizations.... the obligation of transmitting through the Commission to the I.S.I. (an entirely private establishment) a copy of the statistics which they will be asked to furnish to the League of Nations. This is to enable the Institute to offer criticism and suggest changes in the methods employed in official statistics.... But for a private institution to possess the control proposed – of an official, general and obligatory character – over the methods employed by statistical organizations is, at best, an unusual arrangement. It is doubtful whether such an arrangement is compatible with the moral authority and the dignity of the national statistical bureaux."

Meeker (International Labour Office) was even more emphatic:

> "I cannot let pass without comment, the peculiar position of the Advisory Council and the position of authority provided for the I.S.I. I am convinced that no private organization however free from political motives can ever be effective in bringing about a standardisation and unification in gathering and compiling statistics.... I do not think it is at all possible to put into effect the resolution recommending that the I.S.I. be made a sort of Statistical Czar to which statistics must be referred for approval and from which criticisms and recommendations to the International Labour Office, the Economic Section and to Governments would emanate." ([47])

It must be remembered that the 3 officers of the Institute on the Commission (Bodio, Delatour and Methorst) in putting forward their proposals, were acting entirely "on their own". Members of the Institute and the remaining officers had not been consulted, nor was it practicable in the circumstances of the time to consult them.

The Council of the League of Nations decided to circulate the proposals of the Commission to its Member States, and again, an important minority was opposed to the majority report. The proposal that the Institute should become an independent, technical and advisory body to the League of Nations on statistical questions was rejected by the assembly of the League in September 1931. No international commission on statistics was set up. Other means of collaboration however soon presented themselves.

Looking back over the period of forty years since these proposals were made, it is easy to be "wise after the event". When we consider the enormous development in the field of international statistical cooperation and consultation brought about by the League of Nations, (Secretariat and International Labour Office) and by their successors, the United Nations and its specialised agencies, with their ample resources in money and manpower, it now appears foolish and impracticable to think that the I.S.I. a private body, could become advisory to, and financially dependent on, an official body, or that "its

([47]) League of Nations, op. cit. p. 24.

suggestions from a scientific point of view" on the standardization of statistics compiled by other competent bodies, would be welcomed by these bodies and by official statisticians even if it had, which it then had not, prompt and efficient means of carrying out these functions. It must be remembered moreover that, at that time, 1920, the Institute was almost moribund. It had held no session since 1913 and saw no immediate prospect of calling another. The war and the political tensions following it had rendered meetings of the Bureau and of the members impossible; membership had been drastically reduced with no immediate prospect of holding elections. The Permanent Office of the Institute set up in 1913 had only recently proved its worth in its valuable statistical yearbooks. There seemed to the President, the Vice-President and the Secretary General, Director of the Permanent Office no other way of saving the Institute as a scientific body than that of attaching it to, or having itself recognised by, the new international bodies set up by the victorious nations of the war. The present writer attended the International Statistical Commission of 1920 and was struck by the dominating personalities of Delatour and March ([48]), and by their devotion to the Institute. By their eloquence and pleading, they convinced a majority of their colleagues of the wisdom and even the practicability of their views, and of the high scientific authority, impartiality and independence which the Institute had acquired. While the new inter-governmental organizations however were willing to collaborate with the Institute, they were unwilling to grant it any special privileges or authority as the commission of 1920 had suggested.

A new way however, opened in 1922 when the Genoa Conference (not a League of Nations Conference, though it requested the League to take action on its recommendations) made a recommendation concerning the uniformity of compilation of economic statistics. The Economic Committee of the League of Nations which considered the reports of the Genoa Conference called the attention of the League Council to the work of the Institute and after negotiations with one of the vice-presidents and the Secretary General of the Institute, a mixed committee of four members of the Economic Committee of the League and four members of the Institute was set up to prepare a programme of the subjects to be studied. This committee met in London in December 1922 under the chairmanship of Llewellyn Smith and drew up a programme covering the three subjects of statistics of international trade, statistics of production, and index numbers of prices and of economic conditions. A Preparatory Committee was then set up (which formed commissions

([48]) Bodio, the Chairman, and President of the Institute, was showing signs of decline, and he died at the age of 80, a few days after the meeting closed.

d'études) of 14 members, of whom Methorst for the Institute, and Loveday for the Economic Committee, functioned as Secretaries. Four reports were ready by June 1923 and the officers of the Institute decided that a favorable moment had arrived for reviving the sessions of the Institute. ([49]) As the Institute had accepted in 1913 an invitation to hold its next session in Brussels in 1915, it was decided by the officers to hold the forthcoming session in that city in October 1923. ([50])

These reports were fully discussed at this session, and at the following session in Rome (1925) four more reports from the Preparatory Committee were on the agenda and three further reports at the Cairo session (1927). The reports and discussions were transmitted to the League of Nations which after further examination sent them to member governments. In due course, these recommendations formed the basis of discussion at an International Conference on Economic Statistics in November 1928 called by the Council of the League from which emerged the International Convention on Economic Statistics, now adhered to by most of the chief industrial countries of the world. The Preparatory Committee came to an end and a new Committee of Statistical Experts appointed by the League was set up, on which the Institute was not represented.

The Institute was justly proud of the part it had played in bringing out this result – a fulfilment of the aims of the Institute (article I) – and at the opening of the Conference the President (Rappard) sent to Delatour, who had now become President of the Institute (which was not to its disappointment invited to the Conference) a telegram, in which he

> "rendered homage to the great value of the scientific work carried out by the International Statistical Institute, work which had formed the basis of the proposals now being submitted to the delegates of 42 countries." ([51])

and the Final Act of the Conference contains the following appreciation:

([49]) To quote the President:

> "La fin d'hostilités n'ayant pas rétabli l'atmosphère nécessaire à la tenue d'assises comme celles de l'Institut, on juge préférable d'attendre des temps meilleurs ou une occasion favorable. Cette occasion surgit lorsque le Conseil de la Société des Nations fit appel à la collaboration de l'Institut pour étudier la possibilité d'uniformiser les méthodes employées généralement pour l'établissement des statistiques économiques. En présence de ce fait nouveau d'une importance capitale, le Bureau décida de fixer la XVme session au 1er octobre à Bruxelles." (Bulletin I.I.S. Vol. XXI 1923, p. 7).

([50]) It is interesting to note that the session was held in the Palais des Académies and in the same room as that in which Quetelet presided the first meeting of the International Statistical Congress of 1853.

([51]) Bulletin op. cit. Vol. XXIV, Part 1, p. 42.

> "The Conference recommends that in view of its desire to place on record its high appreciation of the value of the work accomplished by the International Institute of Statistics, account should always be taken in the future of the scientific work and technical views of the competent international organizations." ([52])

The Institute in 1925 considered that similar collaboration with the International Labour Office, created in 1920 as part of the League of Nations would also be welcome. This office had called in 1923 and 1925, conferences of official labour statisticians which had adopted not only reports but resolutions on the methods of compiling statistics in certain branches of labour statistics (wages, cost of living etc.). These resolutions had been sent by the International Labour Office to its member governments with the request that governments take them into consideration in compiling their statistics. The Office however agreed to the suggestion of the Institute to follow the example of the Economic Committee of the League and submit them to "mixed committees" of members of the Institute and members appointed by the International Labour Office. The reports of these mixed committees which consisted of valuable comments on these resolutions were put on the agenda of the Rome session (1925). Some members however suggested amendments to the resolutions adopted by these official conferences of labour statisticians; but others, Hilton in particular, pointed out that the Institute could make, and the International Labour Office would welcome, any comments, criticisms or suggestions on these resolutions, (attention was called to the particularly valuable comments on the resolutions on wage statistics in the report of Huber), but it was not within the authority or dignity of the Institute to modify resolutions taken by another independent body. Julin (Belgium) maintained however that "les droits de l'Institut sont absolus." The matter was referred to the Bureau which decided that the Institute had

> "toute liberté pour apporter aux textes qui lui sont présentés les modifications ou adjonctions qu'elle juge opportunes." ([53])

The resolutions as amended were then adopted, and in due course, transmitted to governments in accordance with art. 1 of the statutes. The result was that governments had two sets of resolutions before them on the same subject which differed (not fundamentally and not in many points), but which were nevertheless not identical. This was unfortunate as it led to a certain amout of heart-probing – as shown by the numerous articles written

([52]) League of Nations: International Conference on Economic Statistics 1928. C 167, M 64, 1929. p. 38.

([53]) Bulletin I.I.S. Vol. XXII Part 1, p. 120.

([54]) See list in Zahn, op. cit. p. 53.

by members at this time on the rôle of the Institute ([54]) – and to the abandonment by the International Labour Office of future collaboration of this kind with the International Statistical Institute. Other forms of collaboration however, were successful, in particular with the International Institute of Intellectual Cooperation on "La Statistique Intellectuelle".

Although this new activity of the Institute, of collaboration with other international and governmental bodies had been on the whole successful, and had in fact been necessitated by the precarious situation of the Institute after the war and the appearance of new international statistical bodies, it was not welcomed by all of the members of the Institute. Some felt that the Institute was no longer "master of its agenda" since subjects were placed on the sessional programme which had been decided by, or in collaboration, with other bodies. There was also the feeling among some members that the presentation to sessions of the Institute of the reports and recommendations of mixed committees, and preparatory committees was rather that of a "fait accompli", and it would be difficult or even impossible for members (who had moreover not in many cases been able to give them serious study) to modify them. ([55])

After the session of 1927 however, the Institute returned to its normal rôle and the sessions of 1929 to 1938 were devoted, in addition to administrative business (particularly at the 1934 session when the statutes were considerably revised) to considering scientific communications or reports of its committees. Another crisis however developed at the 1938 session which closed prematurely on the second day. This proved to be the beginning of a critical period which did not end till nine years later. The Institute continued its preparations for the next session and the Permanent Office continued its publications, in particular the *Revue*. An account of the period after 1939 is given in the following part of this History, but before passing to it, this Part is completed by notes on the officers of the Institute and on its finances during this pre-war period.

F. The Officers of the Institute.

The complete list of officers of the Institute since its foundation is given in summary form below. In this section of the History however only the period up to the last elections before 1947 (i.e. in 1936) is considered, the period from 1947 onwards being dealt with in Part II of this volume.

([55]) For an interesting synthesis of the views of certain members on these questions, see the articles in the Journal de la Société Hongroise de Statistique VIme. année 1928 No. 1 by Thirring "Idées sur l'Institut International de Statistique"; and VIIme. année 1929 No. 1 by Jacquart "La Haye ou Genève". Problèmes actuels de l'Institut International de Statistique "

Officers of the International Statistical Institute since its foundation ([1])

Period	President	Vice-Presidents ([2])				Secretary General	Treasurer
1885—1889	Rawson	Levasseur	Neumann-Spallart	—	—	Bodio	Martin
1889—1893	"	"	Lexis	—	—	"	"
1893—1897	"	"	"	Walker	—	"	"
1897—1899	"	"	"	Troïnitsky	—	"	Bateman
1899—1905	Inama-Sternegg	"	"	"	—	"	"
1905—1907	"	"	"	"	—	Craigie	"
1907—1909	"	"	"	"	—	Verrijn-Stuart	"
1909—1911	Bodio	"	Mayr	"	—	Methorst	Craigie
1911—1913	"	de Foville	"	"	—	"	"
1913—1923	"	Delatour	Meyer	Sauveur	—	"	Rew
1923—1927	Delatour	Willcox	Mataja	"	—	"	"
1927—1929	"	"	Zahn	"	—	"	"
1929—1931	"	"	"	Julin	—	"	Bowley
1931—1934	Zahn	"	Huber	"	—	"	"
1934—1936	"	"	"	"	Savorgnan	"	Stamp
1936—1947	Julin	"	"	Wagemann	"	"	"
1947(8-18/9)	Willcox	Cohn	Mahalanobis	de Sztrem	Ruefff	Tinbergen	Bowley
1947—1949	Rice	Jahn	"	"	"	"	"
1949—1951	"	"	"	"	"	"	Allen
1951—1953	"	Teixeira de Freitas	"	Geary	"	Idenburg	"
1953—1955	Darmois	"	Boldrini	"	Marshall	"	"
1955—1957	"	(Kingston)	"	"	"	"	Cox
1957—1960	"	Morita	"	Wold	"	Goudswaard	"
1960	Boldrini	"	Fréchet	"	"	"	"

([1]) For full names, titles, nationality and other details see Appendix III.
([2]) Died during their period of office: Neumann-Spallart (19-4-88); Walker (5-1-1897); Martin (20-3-1897); Inama-Sternegg (28-11-08); Levasseur (10-7-1911); de Foville (14-5-1913); Meyer (4-6-14); Bodio (2-11-1920); Rew (7-4-1929); Stamp (16-4-1941); Huber (29-4-1947); de Freitas (22-2-1956); Darmois (3-1-1960).
([3]) Number of vice-presidents increased to three in 1893 and to four in 1934.

The officers consisted of a president, vice-president, a secretary-general and a treasurer. The original statutes provided for two vice-presidents; the number was increased to three in 1893 and to four in 1934, in view of the increase in membership. Of the six presidents in this period, the first five have been fully honoured in the work of Zahn; the sixth (Julin) who was president from 1936 to 1947 will be honoured in Appendix III of this volume.

The office of President of the Institute is no sinecure. Not only is he the chief officer of the "Bureau" which is charged with the administration of the Institute and the programme of the session but he also presides at each of the sessions and in this capacity he does not merely give the usual speeches of protocol, welcome and thanks, but directs the debates and discussions on both technical and administrative matters. It is therefore a post demanding not only tact and energy but conversance with the subjects dealt with. The Institute has been fortunate in having as presidents, persons who possessed these qualities. The Secretary General has had functions of almost equal importance, and, since 1913, when he became also Director of the Permanent Office, his duties and responsibilities were greatly increased. The first president (Rawsow) held office for 16 years, and the first secretary general (Bodio) for 20 years, and then served 12 years as president.

The officers were – like the membership – predominantly European and until 1923, the only non-European to hold office was a U.S.A. member (Walker) who was vice-president from September 1893 to January 1897. In 1923, another non-European was elected vice-president (Willcox U.S.A.) and remained so for 24 years. ([56])

There has been a tendency to elect as officers, persons who have rendered eminent service to statistics in the past. The result has been that while the Institute has benefited by their wisdom and experience, it has the disadvantage that a number died during their period of office or did not seek re-election because of advanced age. ([57]) The record in service as an officer is Methorst who held the post of Secretary General for 36 years. To the zeal and devotion of these officers the Institute largely owes the position of authority and respect which it acquired throughout the statistical world.

G. Financial Resources.

A few words should be added as to the means of financing the activities of

([56]) In 1947, this remarkable man, born in 1861, became President for 10 days during the duration of the Washington Conference (see Part II).

([57]) As will be seen from the table (footnote 2) nearly half of the officers elected in the first 40 years died during their period of office.

the Institute in this period. The only resources of the Institute at the outset were the annual contribution or life compositions of its members. The former were fixed at £ 1 or 20 marks or 25 francs and the latter at ten times the annual subscription. For the first financial report (2 years 1885–1887) the Institute's total income was £ 158, but expenses were only £ 60 as most services were given free and a substantial "profit" was made. Income slowly increased as the membership increased, and the annual surpluses were invested; receipts from sale of publications also swelled the credit side as well as some small gifts or legacies. The only expenses of importance were for printing the Bulletin, containing the proceedings of the biennial sessions, and even these expenses were in most cases wholly or partially defrayed by the countries in which the session was held. The officers of the Institute received no renumeration for their services, and by 1938, the Institute had accumulated a reserve fund of £ 3000. of which £ 2367 was invested in British Government stock.

It was a tradition of the Institute that the Treasurer should be a British subject, usually the treasurer or an officer of the Royal Statistical Society. This tradition was maintained for 70 years when an American member (Cox U.S.A.) was appointed treasurer.

The finances of the Permanent Office, set up in 1913, were entirely distinct from those of the Institute and were under the control of the Director of this office. At the outset, contributions were invited, from governments and other interested bodies. The first years income was about 17000 florins, made up of contributions from the Italian and Dutch governments, the municipality of the Hague, and other Dutch donors. Accommodation for the staff was provided free of cost by the Dutch Government. The income increased to about 21000 florins in 1917 and 27000 florins in 1923 (in this year the Carnegie Corporation contributed 5000 dollars). During these years over 20 governments (not all of them annually) contributed to the fund of the Permanent Office. By 1929, the income had reached some 62000 florins and included a substantial sum from investments, as well as 9000 florins from certain municipalities, used for the publications on statistics of large towns. The principal expenses were the salaries paid to the Director of the Office and the staff he employed, and the printing of the publications of the Permanent Office (chiefly the Annuaire Statistique Demographique). ([58])

That the Institute in this period was able on such slender financial resources

([58]) In 1948, the accounts of the Permanent Office were amalgamated with those of the Institute, as explained later.

to supervise the issue of some 30 volumes comprising 70 "livraisons" of its transactions, and to carry out its numerous administrative and other functions are due to the devotion of the officers, in particular of the Secretary General, and to the benevolence and cooperation of governments which invited it to hold its sessions in their country and contributed towards the expenses of the session and of printing the proceedings and that the Permanent Office with an income which averaged 20–30000 florins a year could issue a long series of valuable statistical yearbooks, is a tribute to the Director and his staff of collaborators in the Hague.

PART II. THE REORGANIZATION OF THE INSTITUTE AFTER THE WAR AND ITS SUBSEQUENT DEVELOPMENT (1947-1960)

A. Introduction.

The outbreak of the second World War in 1939, like that of the first World War, created a crisis in the affairs of the Institute, but whereas the first crisis was overcome in due course and the Institute then continued to function, more or less on the same lines as before and under the same statutes, the second led to fundamental changes in the organization, constitution and aims of the Institute. The story of the Institute before the outbreak of war is given in Part I, and in the jubilee volume of the Institute, but no connected account however has been available hitherto of later events.

The Prague session of the Institute in September 1938 closed, it will be remembered, prematurely on the second day owing to the political events of that momentous month. No definitive decision had been taken on the place of next session, though at the previous session (1936 Athens) an invitation to hold a session in Washington in 1939 to coincide with the Centenary of the American Statistical Association had been provisionally accepted. The date was subsequently altered to 1940 and active preparations were being made by the U.S.A. members, for the organization of this session.

The occupation of the Netherlands in May 1940 by the German forces put an end to all negotiations on the subject. The offices of the Institute were in due course evacuated and the Secretary General, Director of the Permanent Office (Methorst) transferred the office to the Peace Palace where under great difficulties, he managed to carry on its work. Contributions from Governments, certain municipalities and Dutch sources continued to be received and various publications were issued including an "Aperçu de la démographie des divers pays du monde" and three volumes in the series of International Statistics of Large Towns; the (quarterly) Revue de l'I.I.S. continued to appear, though not with the same regularity. Both Spain and the U.S.A. had offered hospitality to the Permanent Office but the Secretary General considered it advisable to carry on in the Hague. In 1941 and 1942, German statisticians

approached the Secretary General and other statisticians in the occupied territories concerning the formation of a European Statistical Institute, but their *démarches* remained fruitless. Contact with most of the members of the Institute was no longer possible though the Secretary General was able to maintain some contact with the President (Julin) in Belgium and a vice-president (Huber) in France.

In the meantime, the U.S.A. members of the Institute had not been idle, and the Arrangements Committee for the Washington session remained in existence. Only after the war were the members of the Institute informed of its war-time activities by the chairman of this committee (Rice) in two articles in the Institute's "Revue". The following account is taken from these two articles, which are also of importance for an appreciation of the subsequent changes in the Institute's constitution.

> "A deferral of the (Washington) session was unavoidable but for some months it appeared that the postponement might be brief. The United States Arrangements Committee recommended to the Bureau that the session be convened at Washington in the spring of 1940, in conjunction with the Eighth American Scientific Congress... The Bureau concurred but the Committee's plans were laid aside, this time indefinitely, with the actual outbreak of war in Europe. The meetings of the Statistics Section of the Eighth American Scientific Congress with its empty chairs for European colleagues, were punctuated by almost hourly reports of Nazi advances towards Paris and the English Channel.
>
> As the war deepened and spread American members of the Institute were increasingly doubtful whether the Washington session could ever be held, and whether the Institute itself would survive. The U.S. Arrangements Committee in agreement with its advisers and its contributors to its funds, decided to devote itself to the organization of the Inter American Statistical Institute. Upon the completion of that task, the Committee's remaining funds were placed at interest. They were to be used at some indefinite future time, perhaps by different hands, and in a manner unforeseen, "for the resumption of world-wide statistical relations". (1)

> "The first steps towards the organization of the Inter American Statistical Institute were taken by members of the International Statistical Institute from four American nations during the Eighth American Scientific Congress in Washington in 1940. The statutes of I.A.S.I. express the aim "to cooperate with international organizations especially with the International Statistical Institute..." I.A.S.I. however has the useful device, lacking in I.S.I. whereby the heads of government statistical services and various organizational representatives are ex-officio members during their periods of active service. It therefore avoids the experience of I.S.I. that some members who are elected primarily because of the official positions they hold may continue upon the membership rolls after their capacities to contribute to statistical science have been terminated... There has been some tendency in I.S.I. to elect members primarily in recognition of distinction and past achievement, I.A.S.I. on the other hand has been more solicitous to obtain in its ranks those younger men who are the present leaders of statistical development in their nations and who will actively persist in its work... A separate part of the I.S.I. problem of reestablishing its position of leadership pertains to the geographical balance among its members. There has been in the past and still remains a heavy concentration of membership in the nations of Western Europe and North America... This lack of balance in I.S.I. so far as it affected the larger part of the Western hemisphere was one of the basic reasons for the organization of I.A.S.I." (2)

(1) Revue de l'Institut International de Statistique, Vol. 15 No. 1/4, 1947. p 1. "The Twenty-fifth Session" by Stuart A. Rice.

From these observations, it is seen that the American members of the Institute had given considerable thought to the problems of future international statistical relations. Soon after hostilities stopped in 1945, Rice (Chairman of the Arrangements Committee for the Washington session) came to Europe on U.S. official business and thanks to cooperation of the allied military forces, he was able to use the occasion to visit the Permanent Office at the Hague and to arrange a meeting in Brussels in October 1945, at which the President (Julin), the Secretary General (Methorst) and the Assistant Director of the Permanent Office (Goudswaard) participated. No account of this meeting has been published and the only information given to members was in the first article above, which states that

> "Several important agreements and understandings were reached... It was agreed that steps should be pressed to revise the Statutes of the Institute in order to adapt its organization to the radically altered postwar situation in respect to international statistics."

It was also decided at this meeting to convene the Washington session in 1947. A somewhat laconic and undated statement of the Secretary General in the "Revue 1945 Vol. 1/4", p. 178 (but not distributed till the summer of 1946) announced to members the date of the Washington session and added:

> "Le programme de la Session comporte, à côté de la partie scientifique, une discussion de la position qu'occupe actuellement l'Institut International de Statistique dans le monde statistique international. Le moment est opportun d'examiner si l'organisation présente de l'Institut répond encore pleinement à la réalisation de ses objectifs, compte tenu des circonstances et des exigences du moment. Une coopération aussi étroite que possible avec les autres organisations internationales actives dans le domaine de la statistique est tout indiquée. D'autre part, le caractère fondamental de l'Institut comme académie internationale autonome de statistique doit être intégralement maintenu."

In September 1946, the President appointed an advisory committee on stat-

(2) I.S.I., I.A.S.I. and U.N. (International Statistical Institute, Inter American Statistical Institute, and United Nations) by Stuart A. Rice. Revue de l'Institut International de Statistique, vol. 13 No. 1/4, 1945 pp 5–6.

utes consisting of Bowley (Acting Treasurer). Huber (Vice-President, but deceased 1947), Jahn, Julin (President), Methorst (Secretary-General), Mortara, Rice and Willcox (Vice-President). Rice was appointed rapporteur and it is largely to his zeal, vigour and enthusiasm, that the Committee was able to produce in 1947 a completely new text of the statutes together with an explanatory memorandum.

B. The International Statistical Conferences, the World Statistical Congress and the 25th Session of the Institute (Washington), 1947.

Simultaneously other developments were taking place in the United States. The United Nations was founded in October 1945 with headquarters in New York, and a Preparatory Commission was set up to recommend its form of organisation. One of its recommendations was that a permanent statistical commission should be set up to report to another new body, the Economic and Social Council, but that in the meantime a temporary statistical commission (known as the Nuclear Commission) should be set up to make recommendations on the statistical functions of the United Nations. History was thus repeating itself as on the foundation of the League of Nations in 1919 one of its first tasks was to convene a conference in London in 1919, and another in Paris in 1920, to consider international cooperation in statistics. ([3]) It met in May 1946 and devoted a chapter of its report to the relationships between the United Nations and non-governmental organizations. The following extracts from the report are of special interest:

> "Being keenly aware of the important contribution to the improvement of world statistics which have been made by the International Statistical Institute and other organizations in this field, the Statistical Commission desires that recognition be accorded to their work.
>
> The Commission hopes particularly that appropriate means can be divised to bring the International Statistical Institute into harmonious and mutually advantageous relationship with the United Nations. Consideration of such action at an early session of the Statistical Commission is desirable in view of the forthcoming conference of the Institute to be held in the U.S.A. in 1947. It is believed that this conference will provide an opportunity for revivification of the Institute and expansion of its membership as well as for consideration by the Institute of proposals concerning its relationship with the United Nations.
>
> ... The Commission believes that such organizations (i.e. the International Statistical Institute and other organizations) should be encouraged to the fullest extent practicable to continue and broaden their efforts in such fields as the improvement of standards, long-range methodological research at the highest level of competence, sponsorship of conferences and other means for interchange of scientific knowledge and the like." ([4])

([3]) See page 28 above.

The permanent Statistical Commission was immediately set up and met in January 1947 in New York. Of the twelve members over half were members of the Institute; Marshall (H) (Canada) was Chairman, and Rice rapporteur. Their report contains the following passages:

> "The Statistical Commission Expresses the views:
>
> a) that the United Nations and specialised agencies have responsibilities for the collection, analysis and publication of the statistics required in the performance of their assigned tasks and for the general development and improvement of an adequate and coordinated international statistical system.
>
> b) that non-governmental international organizations interested in the development of statistics should maintain and develop their scientific and professional character and should direct their activities toward the development of statistical methodology and scientific standards, the interchange and diffusion of knowledge, the training of statisticians and the maintenance of high professional competence.

The Statistical Commission therefore recommends

> a) that the Council admit to consultative status, international non-governmental organizations interested in the development of statistics that so request, and are prepared to relate their activities to those of the United Nations, and in the manner described in paragraph 27 (a) & (b) above.
>
> b) that the Council request that the Secretary-General in his discussions with such non-governmental international organizations interested in the development of statistics, be guided by the definitions of rôles stated in the preceding paragraphs with a view to eliminating any undesirable duplication in programme and activities and to assuming responsibility for such activities as might be more appropriately undertaken by the United Nations". ([5])

These paragraphs influenced the work of the other Committee, working at the same time, with Rice as rapporteur, namely the Institute's Advisory Committee on the Statutes.

This first meeting of the Statistical Commission made another and far-reaching proposal, namely that the United Nations should organize a World Statistical Congress. The object of this congress would be:

> "(a) to ascertain the views at first hand of a world-wide assembly of statisticians on the statistical problems to be considered by the Statistical Commission and the specialized agencies of United Nations,
>
> (b) to explain the programme of work of the United Nations, the specialized agencies and the non-governmental organizations,
>
> (c) to explain and develop the means by which the statistical activities of the

([4]) Document E/139. 1947.

([5]) Document E/264. 1947. pars 27 and 28.

specialized agencies, quasi-governmental and non-governmental organizations might be related to each other and to those of the United Nations in fostering international cooperation in the improvement of statistics." ([6])

In the meantime, the officers of the Institute had decided (in 1945) in consultation with the U.S. arrangements Committee and the U.S. Department of State that the long-deferred Washington session should be held in September 1947; the Inter American Statistical Institute also decided that its deferred first session should meet at the same time and place as the International Statistical Institute. Other bodies, such as the Econometric Society and the Biometric Society had also decided to hold meetings at the same time.

"As originally conceived, the United Nations would join in the sponsorship of the Washington sessions which collectively might then be called the "World Statistical Congress". As the proposal was adopted by the (Economic and Social) Council, the term World Statistical Congress was reserved for a special programme of meetings sponsored by the United Nations alone," ([7])

and the meetings as a whole were described as "International Statistical Conferences".

The Arrangements Committee, set up in 1939 for organizing the Washington Session, was merged into a Joint Arrangements Committee for the International Statistical Conferences representing the United Nations, the Institute, the U.S. Government and other bodies; and Rice, who had rendered such devoted service to the cause of international statistics since the crisis of 1938 as chairman of the original committee was elected chairman of the Joint Committee.

The International Statistical Conferences were held from September 6 to 18, 1947, and over 600 participants (of whom over half came from 55 nations other than U.S.A.) registered. This large and world-wide representation was rendered possible in many cases, by the generosity of the American people, who contributed large sums for travel assistance and other expenses. In addition to the regular session of the International Statistical Institute, and of the meetings convened by the United Nations under the term World Statistical Congress, meetings were held of the International Union for the Scientific Study of Population Problems, the Inter American Statistical Institute and the Econometric Society. The Biometric Society was also represented, having held meetings in another American city. The International Association for Research in Income and Wealth was set up during these conferences.

([6]) Document E/264. 1947.

([7]) Rice: International Statistical Conferences, Vol. I Introduction p 5, 1947.

The Proceedings of the Conferences were published in five volumes, at the expense of the Joint Arrangements Committee, and form a unique record of world statistical activities.

"They marked", in the words of Rice, "the resumption, after nearly a decade, of professional and official collaboration among statisticians from all parts of the globe. They brought to notice new technical methods, new programs of national and international statistical activities and new leaders who had come to the fore in their own countries during the war years ...

(In) the years immediately preceding the conferences, ... the United Nations and an impressive number of "specialized" intergovernmental organizations had almost abruptly come upon the scene and taken dominating positions respecting international statistics. So sudden and extensive were these developments that many statisticians throughout the world were scarcely aware of them or of their meaning". ([8])

The scientific work of the Institute at these International Statistical Conferences is reserved for Part III; the changes in the rôle and the organization of the Institute, following on these meetings, were however profound and must now be dealt with in some detail.

The "sudden and extensive developments" referred to by Rice, had been, in fact, anticipated in the "Revue" of the Institute for 1945 when the Secretary General issued his announcement to members ([9]) and the committee for the revision of statutes had ready, as already stated, a complete revision of the Statutes. The first draft was prepared by Rice (rapporteur), and after having received the views of the members of the Committee was circulated to all the members of the Institute in July 1947. Their observations were taken into account in the draft submitted to the Washington Session in September.

The general objectives of the proposed revision are fully set out by the rapporteur in his explanatory statement. One cannot do better than quote from this historic document:

"The Institute as an organization is now confronting forms of competition to which it was not subjected during the earlier years of its life ... The creation of official international statistical agencies leaves open to the Institute a scientific and voluntary rôle in international statistics as distinguished from an official rôle ... If the Institute is not to be further circumscribed in its character and activities, becoming merely "one among many" unofficial international statistical organizations and constantly perplexed as to its own field among them, then it must become more comprehensive in its scope. It must provide for such affiliations with it by national, regional and specialized international statistical societies as will unite them in common purposes and redound to the benefit of statistical science as a whole ... and enable them to become its junior partners and supporters in the common goal of improving statistics, rather than

([8]) Rice: International Statistical Conferences 1947, Volume I Introduction p 9.

([9]) See p 41 above.

engaging their energies and consuming ours in further competition for organizational precendence ... The I.S.I. of the future must be regarded as more embracing than the single society of elected members that we have been in the past. Our Society would indeed continue as *the Institute* without diminution of prestige or the high qualifications which have been required for membership. There is no thought of debasing its exalted character, or of opening its door to less qualified aspirants. It should be the centre of an *organized system* of mutually supporting and interrelated organizations (which) would be related to the central institute as affiliates or sections. The ensemble with "the Institute" as its core would be flexible while interdependent. Each affiliate would preserve (its) autonomy. The rôle of the Institut *per se* within this ensemble would be parental and cohesive ... This evolution should be rapid, bold, energetic and without too much regard for precedent, if the Institute is not to miss the opportunity of this formative period. The Institute will progress if it vigorously and drastically reshapes its organization; but in default of such steps, it will gradually wither away and cease to have either a significant or a recognised function ...

The Institute can no longer regard itself as a semi-official organization, collecting international statistics for government use, drafting conventions and the like ... On the other hand, the Institute cannot live without a mission, *an action program.* As a purely honorary or "mutual admiration" society, it would certainly cease to have influence upon practical affairs, or would become atrophied or die.

The International Statistical Institute stands in a crucial moment at the parting of the ways. It faces both a threat to its continued existence and an unparalleled opportunity to assume international unofficial leadership in the development and improvement of statistics. By resistance to change, and an undue dependence upon its past professional dignity and prestige, it may easily sink into innocuous dreams of bygone greatness and from thence into ultimate oblivion.

The opportunity lies in the world about it. On every hand there is a new dependence upon statistics and statisticians. The organizational competition which the Institute must face on every hand is itself an evidence of the vitality and growth of our professional field. There is a crying need for world leadership in this field; and no existing unofficial organization occupies so favourable a position to seize that leadership as does the Institute.

Such leadership will require the revitalization of our membership, the writing off of losses of familiar functions and the development of a new dynamic action program consistent with the needs and alignments of an altered world. It requires that we burst the bonds of our present statutes which restrict the capacity of our organization for evolution, growth and adaption to the period in which we live". ([10])

The outspokenness of this document, its clarity in explaining to members the crisis in the affairs of the Institute, and the methods of solving them, are sufficient warrant for quoting it at length. Another reason for putting it on record here is that this document has not been published by the Institute in English in any of its publications. ([11])

([10]) "Explanatory statement and commentary accompanying the formal proposal for revision of the Statutes" by Stuart A. Rice. 15 July, 1947 (mimeographed document).

([11]) The proceedings of the Washington Session (International Statistical Conferences Vol. 1 pp 239–251) give only a French version of this document. This is the more surprising as at the Washington Session for the first time in the history of the Institute it was decided that both French and English should be official languages.

The problems which the Institute had to face after the end of the second World War, were hardly different in kind from those which arose after the first World War. They were perhaps more acute but they all existed in 1919. In 1919 and the following years, other methods, already described, were adopted to maintain the prestige and authority of the Institute, without any fundamental alteration of its statutes. While these were partially successful, at any rate for a time, it began to be realized by some members that the Institute would ultimately have to abandon some of the functions it had exercised since its foudation. ([12]) No definite attempts to do this were made. A certain conservatism among the officers and among, probably, the majority of the members, was responsible for doing nothing, or little, to adapt the Institute to the changing times. The interregnum of the war years 1939–1945 and its aftermath gave an opportunity to the officers and a few of the members, to think seriously about the future, and it is to the credit of Rice and his collaborators that they had the courage and the vision to realize that the Institute stood at a parting of the ways. The activation of world statistical relations in 1947 owes a great deal to them and the name of Rice should be bracketed with the names of the men who were pioneers in the field of international statistical collaboration and whose work has been already mentioned in Part I (Quetelet and Neumann-Spallart).

C. Changes in the Aims, Constitution and Membership of the Institute.

The aims of the Institute were completely revised and extended. They are now as follows:

> The International Statistical Institute is an autonomous society devoted to the development and improvement of statistical methods and their application throughout the world, in particular:
>
> a. By encouraging the international association of statisticians, the exchange among them of professional knowledge, and the growth among them of a collective interest in the advancement of such knowledge;
>
> b. By aiding in the establishment of such relations among statistical societies and other official and unofficial organizations having statistical interests as will further the international integration of statistics;
>
> c. By establishing and maintaining professorships, lectureships, and fellowships for advanced studies in statistics;
>
> d. By promoting the training of competent statisticians;

([12]) See in this connection the numerous articles written by members of the Institute in the years 1931–1934, enumerated by Zahn op. cit. and referred to on p 33 above.

e. By studying statistical theories, appraising statistical methods and practices, encouraging statistical research, and furthering the use of statistical methods in diverse subjectmatter fields wherever useful;
f. By promoting the use in all countries of the most appropriate statistical methods;
g. By furthering international comparability of statistical data;
h. By fostering public appreciation of sound statistical practice and the usefulness of statistical methods.

If we compare these with the objects of the Institute as defined in 1887 and still in force sixty years later (see Appendix I) the great change is apparent. While some of the old aims remain, although expressed in more general terms, such as "furthering international comparability of statistical data", reference is now made to promoting the use of statistical methods, the training of statisticians, the encouraging of statistical research and the growth of interest in the advancement of statistics and in the furthering of international statistical relations. Gone is any reference to "inviting the attention of Governments to the various problems capable of solution by statistical observation", a function to which considerable importance had been attached in the past, and gone is the reference to "preparing international publications" and in particular the reference to the publication of an "Annuaire de Statistique Internationale" (which figured in the statutes up to 1934) though the preparation of international publications is not specifically excluded in the new aims. The only reference to statistical education in the statutes hitherto had been in para. 4 of article 1 where reference is made to

> "concourrant s'il y a lieu, par d'autres publications, par l'enseignement et par divers moyens, à propager les notions de statistique".

Reference is now made to the training of competent statisticians; to the fostering of public appreciation of sound statistical practice; to establishing and maintaining professorships, lectureships and fellowships for advanced studies; to studying of statistical theories and to encouraging statistical research. The extent to which the Institute has been able to fulfil these new aims is dealt with in Part III of this volume.
The dropping of all references to governments, which occurred twice in the former statutes (art. 1) "inviting the attention of governments" (par. 2) and "to stimulate the interest of governments" (par. 4), would no doubt have shocked the founders of the Institute who considered as one of its primary functions

> "the establishing of a basis for the uniformity of official statistics" and that "the members composing it should be recruited from among the heads of Statistical Commissions, Bureaux, or Societies, from the distinguished representatives of scientific bodies, and other possessing special qualifications". ([13])

Although the Institute always maintained that it was an independent body, and emphasised this by adding the word "autonome" to article 1 of the statutes in 1934, although Zahn in his book (1934) refers to it as "une association scientifique libre" (p 12), "une académie scientifique autonome pleinement indépendante des gouvernements" (p 24), "une société libre, indépendante des gouvernements nationaux" (p. 180) and Methorst as "académie internationale autonome de statistique" (see p 41 above) and references in the same style are found in the report of the International Statistical Commission of 1920 and in speeches at the sessions of the Institute, the war-period seems to have brought about a change. Up to 1947 there had been no changes in the original aims of the Institute laid down in 1887, yet we now find a different appraisal of them. Thus Willcox states in 1947:

> "In the period between the two World Wars, the Institute's rôle as a semi-governmental organ encountered competition". ([14])

Rice in the same year refers to

> "the impairment of the Institute's traditional rôle as a semi-governmental instrument for the collection of international statistics" ([15]) and in 1949 to "the loss of its unique rôle as an instrument for intergovernmental understandings in the field of Statistics". ([16])

The report of the Committee on the Revision of the Statutes 1947 states:

> "The Institute can no longer regard itself as a semi-official organization, collecting international statistics for government use, drafting conventions and the like" ([17])

and Campion states:

> "Although the Institute had assumed the rôle of a private organization, it still had something of the standing of an inter-governmental organization" ([18])

This sudden change in the immediate post-war period, of the description of the rôle of the Institute is puzzling. Bodio, Delatour, Methorst and March would never have used the term "semi-governmental" in reference to the Institute. The whole basis of their position at the International Statistical

([13]) Neumann-Spallart. Jubilee Volume, op. cit. p. 305.
([14]) International Statistical Conferences. Vol. XXXIII, part I p. 153, 1947.
([15]) ibid p. 170.
([16]) Bulletin Vol. XXXII Part I p. 55.
([17]) Explanatory Statement, op. cit. p 7.
([18]) Campion op. cit. p 110.

Commission of 1920 and subsequently was that the Institute was completely independent of governments and could thus fulfil the rôle of

> "un conseiller impartial, technique et scientifique auprès de la Société des Nations".

The explanation lies perhaps, in the writer's view, in a different conception of the terms "indépendant", "libre", "autonome", "semi-governmental" etc. among members of the Institute. It will be noticed that all the references above to "semi-governmental" and "inter-governmental" are by Anglo-Saxon (U.S.A. and U.K.) members, while enphasis on "indépendance" etc. has usually been made by the continental European members.

It is perfectly true that the Institute had always been an independent body in the sense that it took no instructions from governments, and gave them no special place in its organization; its membership consisted entirely of individuals. On the other hand the President transmitted the *voeux* of its sessions to governments with a request that they would recommed their adoption by the departments interested and it accepted subventions from governments to its Permanent Office; and although no conditions were attached to these subventions, the Permanent Office became "dépendant" on governments for its functioning. The Institute also, almost invariably, accepted (or sought) invitations from governments for its biennial sessions and was thus "dépendant" on these governments for hospitality, sessional expenses etc. The host government also invited other governments to be represented officially as "delegates" at the sessions, and was also usually responsible for publishing the "Bulletin" of proceedings of its session. As Campion points out

> "Governments were free to include persons who were not members of the Institute in their national delegations. Those participating therefore included members of the Institute who might not be official delegates of their governments, and non-members who might be official delegates." ([19])

Governments also supplied statistics to the Institute by filling up questionnaires addressed to it by the Permanent Office, and sometimes by members, and finally the officers of the Institute were nearly always government statisticians. In these respects the Institute as an "autonomous body" was probably unique. It was under these aspects no doubt that the Institute was described as "semi-governmental". But, the other group maintains, this does not mean that it was in any way dependent on governments for any decisions

([19]) Campion loc. cit. p 110. To this it might be added that some of the non-members might not even be statisticians, that all non-members had the right to speak, and that the number of non-members, invariably exceeded the number of members participating in the Session (see Appendix VII).

it took. The persons who took part whether members or non-members, official "delegates" or unofficial participants, were presumably free to speak and if they had the right to vote, to vote as they pleased. Contributions received from governments were entirely uncommitted, or to use a colloquialism "had no strings attached", and were wholly devoted to financing its statistical publications. The Institute was entirely free to publish whatever statistics it pleased and did not submit them to governments for approval before publication. On the many committees set up to report on some branch of official statistics, the official statisticians took part as members of the Institute and not as official delegates. In these senses, the Institute was independent, free and autonomous. Its contacts with governments were no doubt unusually close and even exceptional, but throughout it maintained its independence from any government intervention and pressure. Whether it was, up to 1947 to be considered as a semi-governmental or an independent body thus depends on the meaning given to these terms.

It is however remarkable that many of these "governmental characteristics" remain since the new statutes were adopted. These were based largely on traditions and these traditions have been maintained and are not mentioned in the statutes. Thus it is still the practice – and probably unique for a private international body – that governments regularly invite the Institute to hold the session in its country and take an active part in organizing the session, that by the governments (or through the goverments' initiative) the expenses of the session, and of the publication of its proceedings are met; it is still the tradition that the host government issues official invitations to other governments to send "delegates" to the session, which are frequently accepted ([20]); it is still the rule that other non-members of the Institute, who may be govern-

([20]) The presence of many "official delegates" (42 countries appointed official delegations to the Stockholm session in 1957) may seem at first sight incompatible with the Institute's position as an "autonomous society" and an impartial body, independent of governments, as it has frequently been described. The term "delegate" however is liable to be misleading; a correct usage of this term implies that a certain authority or instructions have been delegated by the country to the delegate. A more correct term would be "representative", or even, in some cases, "observer". These so-called "official delegates" are invited to the sessions in exactly the same way as other participants. They have no special rights, duties or privileges; they do not act on instructions from their governments and if they participate in the session by presenting papers or taking part in discussions, they do so as statistical experts and not as government spokesmen. They are, as already stated, invited by the government which acts as host to the Institute and not by the Institute, following a tradition established at its earliest sessions, in accordance with which the host government to quote from the Institute's memorandum "is expected to invite through diplomatic channels other countries to be represented by official delegates of statistical experts". There

ment officials, are invited to participate at sessions of the Institute, without vote. The only *statutory* changes in the direction of less contact with governments, are that the article (and its interpretation adopted at the seventh session of the Institute providing that the *voeux* adopted by the Institute on statistical matters should be officially communicated to governments) has been suppressed, though there is nothing in the new statutes to prevent the Institute making recommendations to governments. On the other hand, a new category of appointed members, "ex-officio members" was created and reserved for official statisticians, and for the representative of affiliated organizations. In one respect, the new statutes appear to make connection with governments even closer. Before 1947, the rules stated that the expenses of the Permanent Office are met by (inter alia) "les subventions que le Bureau de l'Institut se chargera de demander aux Etats et collectivités".
After 1947, the statutes state

> "The sources of the Institute's financial support shall be... (e) grants from governments... If any grantor so desires the funds granted shall be expended solely in the operation of the Permanent Office or in any other capacity specified by the grantor".

This could, prima facie, give a government or governments some control over the Institute's officers, and determine the subject to which its activities should be directed, but the Institute is free to refuse to accept any funds, if it considers that their object is undesirable or impracticable in the interests of the Institute. No "earmarked" funds have in fact been received from any governments except special grants for the statistical education projects.

is thus no obligation on the part of a government to invite foreign representation, but the fact that it does so and that so many countries accept the invitation is a tribute to the great esteem in which the Institue is held. The fact, which has sometimes been commented on, that the "official delegations of statistical experts" sometimes do not consist of statistical experts and may be for example members of the diplomatic staff accredited to the host country or other personalities, is not the result of any action on the part of the Institute. The practice has moreover the practical advantage of enabling members and others who might not be able to attend on account of the expenses and sometimes of the lengthy journey involved, to participate in the sessions since official delegates usually have their expenses wholly or partially defrayed by the governments. The creation of a new category of *ex-officio* members in 1948 (i.e. persons holding an official statistical post) might be considered as having made the separate representation of "official delegates" less important since these persons may also be considered as, in a sense, official representatives, but the relation between these two classes of officials has never been defined and has been considered in different ways by the governments. Some countries do now in fact appoint their ex-officio member, or members, as the "official delegates", some include them among their official delegation, some ignore them and appoint other persons and a few countries, even if they have an ex-officio member, do not appoint any official delegation on the ground that the Institute is a purely private and non-governmental body.

As a result of the new aims of the Institute, the compilation and publication of international statistics has entirely ceased. ([21]) This function had been one of the most important of the Institute, especially since 1913 when the Permanent Office was set up, as described in Part I. The new statutes abolished this Office in the form created in 1913, but retained the name and it became the permanent secretariat with a full-time Director who was no longer at the same time the Secretary General. ([22]) The last compilation of international statistics by the Institute appeared in the Revue de l'Institut International de Statistique for 1946 (14me. année, livraison 4) which gave for 1944 and 1945 international tables of births, deaths and marriages and their rates for about 20 countries, and causes of death for about 12 countries. Thus ended for the Institute a function which originated in the International Statistical Congress at its first sessions nearly a century earlier.
The second important change in the statutes related to the number and types of members. In view of the growing importance of statistics, the 1947 revision proposed that the maximum number of ordinary members be increased from 225 to 300 with not more than 35 (instead of 25) from any one country, and that of honorary members from 25 to 30. A new category of members was created viz "*ex-officio-members*" in order to enable persons whose eminence in statistics rested principally upon official position to participate in Institute affairs, and who would be maintained as such only during their holding of their official position. Such persons are appointed by the Bureau and are exempt from dues. Their privileges however are limited as they do not take part in elections (exept for members of the Bureau), and in amending the statutes and they can not hold office. Their numbers are limited to 150 (with not more than 10 per country). This new provision enables the Institute to maintain contact with national statistical offices and international statistical agencies and encourages them to take interest in the work and aims of the Institute. At the present time there are 69 ex-officio member posts of this type of whom 12 represent official international organizations and the rest national statistical offices. (see Appendix III)

([21]) That is, of "international statistics" as usually understood by this term. One branch however which may be described, shortly but clumsily, as "international municipal statistics", has continued to form a subject of publication, as this was a sphere which did not compete with any of the international governmental statistical organizations (see Part III).
([22]) Goudswaard, formerly Assistant Director, was appointed first Director of the new Permanent Office, a post he held until 1955. In this capacity he did valuable work especially in organizing the statistical education programme of the Institute as described in Part III. He was replaced by Lunenberg, the present Director.

Although not members within the meaning of the statutes, another body of statisticians was brought within in the sphere of the Institute as defined in articles 101 b of the new statutes. These are described as "*affiliated organizations*", that is national, regional or international scientific organizations or societies which have a comprehensive interest in statistics and which "substantially further the objects of the Institute". Such organizations in the international group may send a representative to meetings of the Bureau when appropriate, and a similar privilege is granted to the Institute to participate in the meetings of the executive bodies of these organizations when questions of mutual interest are considered. These bodies are to be "consulted by the Bureau regarding the scientific program of the sessions" of the Institute and may contribute papers to the Institute's publications. A representative of each affiliated organization is also entitled to ex-officio membership on the same basis as the ex-officio members already described.

By this provision, the national statistical societies which now exist in many countries, regional bodies such as the Inter American Statistical Institute and international bodies such as the Econometric and Biometric Societies can be fully associated with the scientific work of the Institute. Many of these bodies took advantage of this provision at the outset, and other were added from time to time. The names of these organizations at the present time are given in Appendix IV; it will be seen that they cover five international and 15 national associations. The most fruitful form of collaboration is that of holding joint meetings of the Institute and the affiliated organization during the Institute's session to discuss statistical problems of mutual interest. Such meetings were held at each of the sessions of 1951 to 1958 with happy results. ([23])

Another innovation, which might be mentioned here is that of **"sections"**. These may be set up by the General Assembly "to promote the objects of the "Institute in a particular field of statistical investigation or in a particular "geographic region". These sections which may admit non-members of the Institute must have "objects in harmony with those of the Institute", and be open to any member of the Institute without payment of any dues. They are to cooperate in the scientific work of the Institute, submit their statutes to the approval of the Bureau, and carry out their own projects, with the service of the Permanent Office. No sections however were set up until 1957 when a section on municipal statistics was formed (see p 101 below).

([23]) In order to clarify and develop relations with affiliated organizations, a joint "Committee on relations with affiliated organizations" was constituted at the Rome session (1953). This Committee reported in 1956. (see p 70 below).

The third important change concerned the different organs of the Institute; their functions were more clearly defined. In the old statutes (as amended in 1934) the first organ – the General Assembly – was referred to only briefly and was confused with the "session". The General Assembly had to fix the time and place of the next session, to elect the Bureau and auditors while the "session" received the biennial report of the President and in certain eventualities elected members. In the new statutes its status was raised and they declare that "the governance of the Institute as regards both its administration and its scientific affairs is vested in the General Assembly". It continued to elect the officers but also honorary presidents. It was required "to "draw up a scheme for the time and place of future sessions", was authorised "to establish associations which shall be known as sections", and to "establish committees". ([24])

As regards the second organ – the Bureau – the article stating that "le Bureau est chargé de l'administration de l'Institut" was dropped, and its functions were more closely and restrictively defined. Its important functions are now "to make arrangements for each session" and also "to submit a report on its activities and a proposed programme of work", "to appoint ex-officio members", "to invite persons who are not members to participate in any session" and "to admit affiliated organizations".

As regards the third organ, the change by which the old Permanent Office – a separate and independently financed body – became, although retaining its name, in effect the Secretariat of the Institute under the supervision of the Bureau, has already been referred to.

These changes may appear great but in practice their effect has been small. "General Assemblies" under the new régime, do not differ much from the "séances d'affaires" held under the old statutes; the Bureau carries on largely as before, and its relations with the General Assembly have little altered. The appointment of a full-time Director of the Permanent Office has however had many beneficial effects. The changes in the status of the General Assembly and of the Bureau have not proved easy of application in practice. Some further discussion of this matter is given at the end of this Part.

([24]) It should be noted that the "governance of the Institute" is placed in the hands of a body for which no quorum exists and which rarely consists of more than one third of the elected members. (See appendix VII for the numbers participating at the different sessions). Even these figures are no guide to the numbers attending the General Assemblies. For example at the last ordinary session of the Institute (Stockholm 1957) at which the number of members attending was 150 – almost the highest ever recorded – only 80, or a fifth of the Institute's total membership attended the last meeting of the General Assembly at which elections were held and other important business was transacted or discussed.

Other amendments to the statutes were made at this time but of those of importance only three need be mentioned here. The complicated system of election of members (three phases) already described was put on a two phase basis (election by mail with two thirds majority, election of those obtaining a majority of votes at the first phase, by simple majority at an ordinary session); the finances of the institute and the Permanent Office were amalgamated and the Treasurer, hitherto only responsible for the former became responsible for the whole; the statutes were drafted in English which became an authoritative text along with the French. Thus for the first time since 1887, an authorized English text of the statutes became available. ([25])

D. Other Business at the Washington and Subsequent Sessions.

As the new statutes could not come into force until approved by the members by correspondence, the business of the Washington session was perforce carried out under the old statutes. The existing Bureau, depleted by the death of two of its members (Stamp and Huber) and prevented from functioning as such, as after the war of 1914–1918, by the presence of two members from the Central European powers, had carried on as best it could, and the first item was the election of a new Bureau, the Prague session having adjourned before it was possible to hold the statutory elections. These officers could hold office only until the end of the session. The Secretary General who had served the Institute for 36 years had announced his intention of retiring and Tinbergen (Netherlands) was appointed in his place. For President the choice was Willcox (U.S.A.) now (1960) the "doyen" of the Institute, elected a member in 1899. As Treasurer, Bowley returned to fill the place vacant owing to the tragic death of Stamp. The Vice-Presidents were Cohn (Denmark), Mahalanobis (India), Szturm de Sztrem (Poland) and Rueff (France). The outgoing President (Julin) and Secretary General (Methorst) were elected Honorary Presidents. In his report on his eleven years presidency Julin mentions that over 50 members or nearly a third of the membership had passed away since the last session, refers to the difficulties of his period of office, and recalls

> "the steps taken by German statisticians in 1941 and 1942 with the intention of creating an Inter-European Statistical Institute" and adds "the bases of this particular scheme were such that the members of the Institute's Bureau who were approached on this project, either verbally or in writing did not desire to lend their support, neither officially nor in their private capacities. The same attitude was taken by other members of the Institute. ([26])

He goes on to point out

> "the structure of the Institute is at issue now (but) an institution such as ours, should have a dynamic quality able to adapt itself constantly to the exigencies of the time while maintaining its character as an international academy. It is a satisfaction for me that the Institute has survived the upheaval (of the war), if not without injury at any rate full of vitality, ready to take in the new world the place which corresponds best to its noble purpose; to promote the advancement of statistics all over the world and its application in every field of science".

A tribute to the work of Julin (in 1947, the "doyen" of the Institute, having been elected in 1895), is given later.

At the close of the session, the normal elections of the Bureau for the next biennial period took place. Willcox unfortunately did not wish to stand, owing to his age (he was then 86) and Rice was elected – a fitting tribute to the person who as an ordinary member, had done more than any other in the preceding years to revitalise the Institute. The only other change was that Jahn (Norway) replaced Cohn as a Vice-President. In accepting the Presidency, Rice stated that

> "your reason for electing me (is) because the Institute has become no longer merely an organization of honorable character. It has become an organization with tasks to perform which require the reshaping of its work and its program ... I view my task as one of strenuous endeavour to change the rôle and functions and program of the Institute to correspond to a new situation in the world which we have not previously been required to face. You have done me the honour of believing that I have indicated to you a reasonable and hopeful course of action for the future and have entrusted me with directing the Institute's work along that road. I hope that the course of action I have suggested to you, and which you have honoured me by accepting is the right course. I shall do my best to make it so". ([27])

In his brief period of office (limited by the statutes to six years) Rice duly carried out his promise and the present high position of the Institute is a witness to his work and foresight.

After the International Statistical Conferences of 1947 subsequent sessions of the Institute were held at Berne (1949), New Delhi and Calcutta (1950/51), Rome (1953), Rio de Janeiro (1955), Stockholm (1957), and Brussels (1958) the last being a special session held on the occasion of the Universal Exhibition. It became a tradition that sessions of the Institute should be held, as far

([25]) In 1885 the provisional statutes were drafted in English, but the amended text adopted in 1887, was in French only. The rules of the Permanent Office adopted in 1913 and amended in 1934, were in French only.

([26]) International Statistical Conferences 1947 Vol. I p. 203.

([27]) op. cit. p 259.

as possible, in a European and a non-European country alternately. This change from the pre-war practice when out of 24 sessions, only 4 were held in a non-European country, reflects the great and continuing increase of the non-European element in the life of the Institute.

The first of these sessions (Berne) was described by the President as one of "consolidation". The new statutes had been in force for 12 months and had not yet had their full effect. The Bureau reported on the extent to which they had been applied, particularly as regards the new categories of ex-officio members and affiliated organizations. It also reported that of 28 committees created before the war which nominally existed, 19 had been suppressed on the ground that they were not functioning or had not functioned for some time, or that the reasons for their creation no longer existed. Although the statutes provide for the establishment of committees, much less use is made of this provision than under the old statutes since the work they formerly did tended to overlap with the work of the new international official statistical bodies. Some new committees were appointed, including one on statistical education, of which more later.

It was at this time that the Institute was granted "consultative status" by the Economic and Social Council of the United Nations under article 71 of its Charter. Under this article, non-governmental organizations fulfilling certain conditions may be allowed to send respresentatives to meetings of the Economic and Social Council, and its committees, to submit communications, and to participate in discussions on subjects in which they are interested. In this capacity, a representative of the Institute is invited to attend the meetings of the United Nations Statistical and Population Commissions, the Economic and Social Council, the Economic Commission for Europe and its various statistical committees. This recognition of the Institute as an independent statistical body which may be consulted on any statistical matters in which it is interested is a tribute to its importance. Similar status was also granted by U.N.E.S.C.O. Owing to special circumstances it was not possible for the International Labour Office to grant it consultative status, but its governing body in 1955, for the first time, invited the Institute to participate in the International Conferences of Labour Statisticians which are held every few years.

At the Berne session, much time was spent on the subject of electoral procedure. The elections, held under the pre-1948 statutes, failed to fill many of the vacancies, only six of the 33 candidates being elected. The assembly decided, as an exceptional messure, to hold a second election among the 27 eligible candidates but only two were elected. A temporary modification

was made of the statutes which brought in 18 further candidates and a committee was appointed to study the whole question of election of new members.

As this subject was discussed at several sessions after 1949, it is perhaps better to give here the results achieved, rather than to discuss it piecemeal under each session. The committee of 1949 – rapporteur Fisher (U.K.) – recommended that the number of members to be admitted should be fixed by the assembly each year, and at the 1950/51 session (New Delhi) the President announced that the detailed proposals of the Committee, as modified by the Bureau, had been accepted by a postal vote of members. The main proposals were:

a) The limit of ordinary membership to a maximum of 300 was abolished and a new and ingenious formula for determining the number of vacancies was proposed. This number is to be the integer nearest to the formula 52–N/9 where N is the number of eligible voters at the election ([28]). This formula may however be revised at any General Assembly.

b) elections to be held yearly, instead of at intervals "not exceeding two years," and

c) the two-phase system (two-thirds majority at first phase, majority at second phase) was abolished. Candidates receiving at least one-third of votes cast are arranged in descending order of votes received and those are elected, starting from the top, who make up the declared number of vacancies, subject to the country quota rule.

d) The country quota rule (maximum of 35 per country) was slightly modified to read "one-eighth of all ordinary members" but if the total number of ordinary members is less than 280, the country quota may be increased to 35.

e) If more than a third of the candidates for whom a member votes are from one country, his vote shall be null and void. This is to prevent a member giving a decided preference to candidates from one, usually his own, country.

f) Candidates not elected may be presented at two subsequent elections without the usual procedure of nomination, sponsorship etc.

([28]) The effect of the formula is that the number of vacancies falls as the total membership increases. The formula is asymptotic and its final value depends on the rate of withdrawal. The committee assumed a rate of withdrawal of $3^1/_3$ per cent., (expectation of life taken as approximately 30 years) which would give on the basis of the membership at the time, annual vacancies of about 30, 27, 25, 23 and 21 in each of the next five years and would yield a membership stabilised at around 360 in about 1970, when the intake (12) would equal the assumed withdrawal rate. Before the war, the withdrawal rate, (deaths, resignations and default) was higher than $3^1/_3$%, but members on election were then on the average older than those elected in recent years. Moreover all the declared vacancies (the intake) need not necessarily be filled.

These proposals were put into effect in the elections of 1951 and following years and had an immediate effect. All the declared vacancies were filled resulting in a substantial increase in membership. In the years 1951 to 1959, net membership increased by over 100 (see Statistical Appendix VII).

In 1955 (Rio de Janeiro) further proposals for the revision of statutes were submitted by a group of members and the General Assembly appointed another committee, under the chairmanship of Fisher, to make proposals. These were submitted to members for approval and came into force in July, 1957. The main changes were that members were now classified by nationality and that new rules for the fixing of country quotas were introduced.

The rapid growth in membership from the U.S.A. brought the total membership of this country to the maximum of 35, and at the elections of 1955 and 1956 a candidate, although otherwise eligible, could not be elected for this reason. As this situation might mean that for some years to come no further candidates from the U.S.A. could be elected as ordinary members, and as there were many potentially qualified candidates, it was decided that members of 70 years of age and over should not be charged to the national quota of any country. This would, it was felt, remove the feeling among some older members that they should resign in order to make room for younger statisticians from their country. This new rule was in force in time for the election of 1957. The result of these changes was to increase the U.S. ordinary membership to 42 and to reduce the total number of members charged to the national quotas of the different countries by about 55.

Other amendments, chiefly to clarify the statutes were also adopted. None made any important change in principle except that the rule that no officer should occupy the same office for more than three consecutive terms was altered to read two consecutive terms. This change was made because it was considered desirable that in view of the wider geographical coverage of the Institute and of the increasing specialization among members, a larger number of countries and of subject matter fields should have an opportunity of being represented in the Bureau. Thus after ten years of discussion, the Institute was provided with a detailed set of statutes; no changes had been made in the aims of the Institute, and few changes in its organization apart from the method of recruitment of new members.

Returning now to the sessions of 1949 to 1958 it was at the Berne session (1949) that the Institute's work on statistical education was first taken up, a task which has become now one of the most important of the Institute's activities. It is described in full in Part III. At this session 80 members of the Institute were present, and over 200 invited persons. All the officers were

re-elected except that Allen replaced Bowley as treasurer.

The next session New Delhi and Calcutta (1950/51) took place as part of the International Statistical Conferences, organized largely by the Indian Statistical Institute in which other societies such as the Biometric and Econometric Societies, the International Population Union, joined. There thus followed to some extent the precedent of the Washington meetings but on a less elaborate scale. About 300 participants from 34 countries, plus representatives of international bodies spent a week in New Delhi and a few days in Calcutta where opportunities were given to see the Indian National Sample Survey in operation as well as the work of the Indian Statistical Institute. At this session the method of round table discussions was introduced. At the elections Idenburg (Netherlands) replaced Tinbergen as Secretary General and Teixeira de Freitas (Brazil) and Geary (Ireland) were elected Vice-Presidents in place of Jahn and Szturm de Sztrem.

The Rome session (1953) was distinguished by the fact that it was the largest one in the history of the Institute. The total number of members (honorary, ordinary and ex-officio) was 164 together with 440 "invités" (of whom 170 were Italian and 270 non-Italian) a total of over 600 persons. ([29]) 34 countries sent "delegations". Rice, after six' years' service as President in what was perhaps the most significant period in the history of the Institute could not under the new rule of 1949 be re-elected but he declined to allow his name to be put forward for a vice-presidency.

> "The time has past," he said, "when any national group of members however numerous and influential can assume a vested right to representation in the Bureau".

and he urged the Nominating Committee to allow United States representation to drop. Thus for the first time since 1927, this country had no member of the Bureau ([30]). Darmois (France) was elected in his place and Boldrini (Italy) and H. Marshall (Canada) became vice-presidents. Joint meetings were held with the Biometric Society, the Econometric Society and the International Population Union. Over 150 communications were received; the choice of which for discussion was left to the chairman of the different "séances", who had been appointed in advance.

Kendall (M) drew attention to a characteristic of the session, which was not new though never faced before; namely that, although

> "The Institute was moving into the direction of an institution of an academic rather

([29]) It may be recalled that of the sessions of the International Statistical Congress, the largest was also held in Italy (the 6th at Florence with 750 participants).

([30]) This interlude did not last long. In 1955 a U.S.A. member was appointed Treasurer.

than official character, participation is easier for officials than for academic statisticians, because, their chances of getting travelling expenses are better."

This tends to give ex-officio members and members of official delegations an advantage over non-official members who are often prevented from attending (especially when held in a country very distant from their own) on the ground of expense. This "important problem" in the words of the President, was referred to the Bureau, but it has not proved possible to propose any solution.
The Rome session was also unique in that it was attended by the President of the Italian Republic, Professor Einaudi, an ordinary member of the Institute since 1926. In fact it was largely due to his personal influence that the Italian Government invited the Institute to meet in Rome. In 1954, he was elected honorary member. ([31]) In his address to the Institute he stated "a rapid "glance at the papers presented to the session is sufficient to arouse admiration "for the severity of method, the efficiency of the instruments of inquiry, the "acumen of the reasoning which are the necessary bases for the work ac- "complished by statisticians all over the world".
The 29th session Rio de Janeiro (1955) was attended by 94 members and 138 invited persons, from 39 countries. This session marked the 70th anniversary of the Institute (to the very day, since it opened on 24th June). It was also arranged that the Inter American Statistical Association should hold its annual meeting at Rio a few days before the Institute's Session. No changes were made in the Bureau exept that Cox (Miss) (U.S.A.) replaced Allen as treasurer.
A large number of papers was presented, some of which led to the adoption of resolutions. Proposals to set up inter-sessional committees on certain subjects were made, as at the Rome session, but they were on the advice of the Bureau, not accepted. The new method of organizing the scientific meetings proposed at the Rome session, whereby the organizers of meetings were nominated well in advance, worked again satisfactorilly.
The 30th session was held in Stockholm (1957) at the invitation of the Swedish Government and was attended by 150 members and 425 non-members. The organization of the scientific meetings was slightly changed. The organizer appointed in advance arranged for three "invited papers" to be presented; in addition non-invited papers were accepted from members and non-members, but in the latter case, only if the author was present at the session. Five papers were placed on the agenda of each meeting; others could be added at the discretion of the organizer. As over 125 papers were received, many of them were merely distributed.

([31]) This is not the only example of the Head of a State being a member of the Institute. Hoover (U.S.A. President 1923–33) a non-member, was elected an honorary member in 1928.

The chief business at the General Assembly was the election of the Bureau and a discussion of the organization of the scientific meetings of the sessions. The president (Darmois) was re-elected for a further period ([32]); two vice-presidents were due to be elected and Wold (Sweden) and Morita (Japan), replaced Geary and Kingston (Brazil) who had replaced Teixeira de Freitas who died in 1956; a new Secretary General, Goudswaard (Netherlands), formerly director of the Permanent Office replaced Idenburg. Two honorary presidents were also elected Fisher and Mahalanobis (India).
In spite of the attempt of the Bureau to organize the sessions in a planned and orderly way, some dissatisfaction was expressed at the way the scientific meetings had been carried on, at the rules for the presentation of papers, the delay on their circulation, and at the methods of discussion. Some authors, it was pointed out by Kendall (M), had not been given a chance to present their papers while a number of papers had been presented even in the absence of their authors, and Winkler complained that the organizers "had a certain dictatorial power" and had in some cases given non-members a privileged position. He submitted a motion urging *inter alia* that "in no circumstances are papers of members to be treated worse than those of non-members, even invited papers". This led to an animated discussion in which several speakers emphazised the valuable contributions often made by non-members. The motion was not put to the vote but referred to the Bureau to review the whole subject and prepare a document to be circulated to members. A proposal to create a "section" of the Institute for municipal statistics was accepted.
The statutes provide for the holding of special sessions of the Institute, outside the usual biennial sessions and such sessions had already taken place at Tokio in 1938 and in Mexico in 1933. On the occasion of the Brussels Universal Exhibition of 1958, the Institute was invited by the Belgian Government to meet in special session in that city. It was fitting that this session should be held in connection with the Brussels Universal Exhibition since it was at the first Universal Exhibition – that of London in 1851 – that the idea of international statistical congresses was first proposed by Quetelet. At special sessions, there are no elections, and no report of the Bureau to be discussed, so it is possible to devote more time to scientific meetings. The session was attended by 121 members and 171 non-members. The only administrative matters discussed were two. One – a small one but perhaps of far-reaching effect – is that for the first time in the history of the Institute a fee was charged for participation by non-members; a justifiable change in

([32]) Unfortunately he did not live to complete his term of office. On his death on 3 January 1960, the senior vice-president (Boldrini) was appointed President.

view of the heavy expenses incurred by the inviting government. The second a resolution submitted by Neyman and signed by 26 members that a committee of the Institute be set up on the application of statistical methods to the physical sciences. The attention of the members had already been drawn to this at the Stockholm session where the chairman of the Committee on Statistics in Industry and Technology (Hamaker) had referred to the increasing application of statistical methods in meteorology, oceanography, geophysics, physics and chemistry. The resolution was adopted and the committee was set up in 1959 under the chairmanship of Kitagawa with Bartlett as rapporteur.

Considerable attention had been given by the Bureau to the subject of the organization of scientific meetings, as decided at the Stockholm session, and the document referred to above was prepared by the Bureau and submitted to all members. It covered the establishment of a programme, the types of meetings, the rules for submission of papers and for discussion. The right of each member to submit a paper to the session was maintained but a distinction was made between papers to be presented orally and those to be read by title only, and proposals were made for reducing the number of papers. As regards non-members, it was stated that there was no reason why they should have the same rights as members but when they are invited and actually attend, they should be allowed to submit a "contributed paper" to be presented by title, and some of these may, on the advice of the Programme Committee be accepted for inclusion in the programme. The rules for discussion were made more precise.

The proposals were applied at the Brussels session with on the whole satisfactory results. Planned meetings on subjects selected in advance were prepared by an "organizer" who invited not more than three members to present an "invited paper". The Bureau had suggested that in order to limit the number of papers submitted, a Programme Committee should be set up to advice the Bureau „on "the long-term planning and coordination of programmes and on the establish-"ment of the programme for the next session" and it was hoped that by a satisfactory rotation of subjects for the session members would decide to limit their papers to the subjects announced in the programme. The Committee was duly set up under the chairmanship of Miss Cox, its proposals have been submitted to the Bureau for consideration in its preparation for the 1960 session of the Institute. The dead-line for the receipt of papers is also to be more strictly enforced in future. In this respects, there was a marked improvement at the Brussels section compared with the previous session where papers were not available, in some instances, until the opening of the meeting.

E. The Financing of the Institute.

The changes in the statutes adopted after the war brought about a great change in the financial administration of the Institute. Before 1947, the duties of the Treasurer consisted principally in maintaining an account in sterling in London to which members' subscriptions, sales of the Institute's publications and interest on investments credited. Since 1913 a separate account of the Permanent Office was maintained in florins at the Hague under the control of the Director. To this account were paid the contributions of governments, municipalities and certain industrial enterprises and banks (Dutch), interest on its investments and sales of Permanent Office publications. As from 1st July 1947, the two accounts were amalgamated and the Treasurer became responsible for all the finances of the Institute.

For the 1947/48 session, the first under the new regime, gross receipts were 35,445 florins and expenditure 26,883 florins but they increased substantially in the following years, due to the greater activity of the Institute, to subventions and a large increase in receipts from members' subscriptions which had been suspended during the war years. Governments and other bodies which had contributed to the funds of the Permanent Office continued to contribute to the combined funds of the Institute. In the following years the accounts which were kept in various currencies were presented in U.S. dollars and have so continued to the present time.

In the year 1948/49 and subsequent years, a new source of income arose namely the subventions under contract with the United Nations and UNESCO. As pointed out in the chapter on statistical education, UNESCO made annual grants for this purpose – $ 5000 in 1949, $ 10,000 in 1950, $ 15,000 in 1951, $ 13,000 in 1952, and $ 14,000 in 1953 and 1954, and $ 10,000 per annum from 1955.

In 1955 the Indian Government made a first grant of $ 9,000 towards the cost of teachers for the Institute's Statistical Education Centre at Calcutta and renewed its support in later years.

The Lebanese Government beginning in 1954 made an annual subvention of L £ 20,000 and, beginning in 1955, a further sum of "not more than $ 100,000 to be spent in not less than four years" was allocated to the Beirut Statistical Education Centre out of funds made available by the Ford Foundation. The United States Technical Cooperation Service and the United Nations Relief Works Administration also gave financial support to this centre.

A summary account of income and expenditure for selected years from 1949/50 to 1958 (the financial year was changed to the calender year in

1956) is given in Appendix VII. Compared with the pre-war years the figures reflect the great increase in the activities of the Institute. In 1938/39, the income of the Institute was only £ 467 and that of the Permanent Office 45,000 florins; in the year 1957, the total income was over $ 56,000 of which about $ 36,000 were from subventions for special objects and $ 9,000 for the general objects of the Institute. The investments amount to about $ 100,000 at the present time.

F. **A Summing-up.**

The period of about 12 years covered by this Part of the History has been the most important, even the most revolutionary in the whole of the last 75 years. The effect of the war of 1914–18 on the aims and purposes of the Institute was as we have seen surmounted by a sort of temporary compromise with the new international statistical organizations resulting from it, and the Institute attempted to conserve all its former functions while recognising, though grudgingly, that the rôle it had hitherto played could not be as effectively and efficiently maintained as hitherto. It was rightly proud of the prestige it had acquired in the field both of governmental and non-governmental statistics, especially of the former, since most of the leading governmental and official statisticians had been elected to membership. It tried to maintain its position both as an independent, autonomous body of impartial statisticians and as a semi-governmental institution which made recommendations to governments on the methods of compilation their statistics in the interests of international comparability. The second war of 1939–45 gave a further jolt to these ideas and it was realised that in order to justify its existence, it must beat a retreat from some of its most cherished functions, make an advance on others, and take on new ones. It abandoned its aim of submitting to governments recommendations on statistical matters, it ceased to publish international statistical yearbooks covering national statistics and other statistical publications, it widened its membership to include other types of members, and it endeavoured to maintain close collaboration with other national and international bodies both governmental or non-governmental by opening its doors to the former (as ex-officio members) and by collaborating with the latter (as affiliated organizations). It justified its triple title of *International Statistical Institute,* far more after the second world war than it did before. It became more truly an *Institute* or independent academy; it became more truly *Statistical* in that it concerned itself with fields of statistics almost unknown or unrecognised in the earlier periods, (see Part III of this History) and it became more *International,* in that it ceased to be primarily a European body. ([33])

The new statutes discussed at length in the years 1946 and 1947 and brought into force in 1948 laid down in greater detail than the former statutes the aims of the Institute, the functions of the different organs, the method of election of members and officers, and other administrative details. It was soon found however that they were not wholly satisfactory in certain respects and at every session from 1949 to 1955 some questions of amendment of the statutes arose. Many of these referred to the election procedure, both for members and officers. The question of election procedure had always been a difficult one during the first 70 years of the Institute and the various attempts to deal with it had proved in practice unsatisfactory. In 1951 however a method was adopted which with a slight amendment in 1957 has apparently given satisfaction. As regards election to honorary posts, the procedure for election of honorary presidents is in great contrast to that for honorary members. Whereas the latter require five sponsors and a two-third majority vote in a postal vote of all members, the former require no sponsors,

([33]) On the last point it should be recalled that at its foundation, over 90 % of the members came from 18 European countries, and nearly 10 % from 3 other countries (See Appendix II for data for 1887). The European percentage remained high for the first 50 years and was still 80 % in 1938 though the number of countries from which members were drawn had increased to 35 (23 European and 12 extra-European). The changes since that date are shown in the following table which gives the data for 1938, 1948 and 1958. By 1948, the European percentage had fallen to 70 % although there was a small drop in the number of countries covered; by 1958 the Europeans had fallen to 63 % and the number of extra-European countries had increased from 12 to 24 thus exceeding the number of European countries. In 1948 moreover, a new category of ex-officio members representing "official national statistical agencies" was introduced and if these are included, the number of countries represented in the Institute is now 55. For the distribution of membership by countries, see statistical appendix VII.

Membership (honorary and ordinary) of the International Statistical Institute by continents.

	31 December 1938		31 December 1948		31 December 1958	
Continent	Countries	Members	Countries	Members	Countries	Members
Europe	23	164	24	146	21	201
America	5	31	5	38	9	83
Africa	2	4	1	2	4	7
Asia	3	9	4	11	9	32
Oceania	2	3	2	3	2	8
Total	35	211	36	200	45	331
Unclassified	—	—	—	—	—	2

(unless the candidate is an honorary member when the Bureau is the sponsor) and a two-thirds majority of those "present at the General Assembly at the time of the vote". As pointed out elsewhere (p. 55), the attendance at a General Assembly may be very small and a few members are sufficient to elect a candidate, especially as there is no quorum for a meeting of the General Assembly. ([34])

Another administrative change of importance is that of rotation among the officers. From 1885 to 1947 the Institute had 4 Secretaries General, one of whom served for 20 years and another for 36; from 1948 to 1960, the Institute has had 3 with an average service of four years. Under the statutes now in force, no member of the Bureau can hold office for more than two terms (i.e. normally four years). Frequent rotation among the officers is essential if different nationalities and specializations are to have representation, but it may perhaps be considered unnecessary that such a strict rule should apply to the post of Secretary General where continuity of tenure may be more desirable, and change of nationality less desirable than for the other members of the Bureau. But since 1907, this post had been held by a person of Dutch nationality resident at the Hague. This disadvantage of now having to change the Secretary General every four years is not however so serious as would appear at first sight. The office was retained more for reasons of continuity and the functions of the Secretary General (who is not a full-time officer and became rather the liaison officer between the Bureau and the Permanent Office) were diminished. In compensation for this a full-time Director was appointed, on a permanent basis, not necessarily a member of the Institute who is "in charge of the administrative and scientific activities of the Institute." These titles correspond more closely to what in British and other societies are often called Honorary Secretary and Secretary. The Institute is fortunate in possessing since 1955 a Director (also of Dutch nationality) who has shown zeal and initiative and made many improvements in the general and financial administration of the Institute and in relations with members. The rôle to be played by the General Assembly was also further defined in the new statutes. Whereas before the change in 1948, its duties were vague and it was hardly referred to in the statutes, it now became the body in which the "governance of the Institute" is vested, but the General Assembly has not

([34]) This contrast was vividly shown at the 1958 elections, where a distinguished member failed after three attemps, to secure election as honorary member, although 131 members (a few short of the two thirds required) voted for him; whereas in 1957 an honorary president was elected by 65 votes (in fact two favourable votes out of three would have sufficed).

shown itself eager to assume its full responsibilities in this field. This is partly due to indifference of many members regarding its internal affairs and the desire to leave these matters to the Bureau, partly to the fact that never more than half, sometimes much fewer, of the members attend the session and not all these attend the meetings of the General Assembly ([35]) and also to the fact that the items on the agenda of the session on scientific matters often take up so much of the available time that little time is left for discussion on administrative and organizational matters. For over 60 years from 1885 to 1948 it was the Bureau which was "chargé de l'administration de l'Institut", and it discharged this function on the whole satisfactorily, which probably accounts for lack of any desire on the part of most of the members to exercise fully their functions of "governance". In view however of the great infusion of new blood (of the present membership about two-thirds have been elected since 1949 under the new statutes), it is possible, and signs are already evident, that members are taking more interest in the work and future of the Institute. The low attendance at some of the sessions in the past (see Appendix VII) can be explained by factors other than indifference, such as the place and date of the session, length of journey, age of the member, financial considerations etc., but participation of members has increased in recent years. At the postal elections for new members, when none of these factors apply, only about half of the members in some years have troubled to return their ballot paper, but in the last few years the proportion has increased to about two-thirds. ([36])

One of the principal pre-occupations both of the Bureau and of the General Assembly has been the methods of organizing the scientific discussions. This subject has now displaced those of the statutes and of the recruitment and election of members, as a regular feature for discussion at each session. The large number of papers presented at recent sessions, the wide range of topics covered, necessitated some planning or organization in advance, if the subjects were to be adequately discussed. Various proposals were made by the Bureau as mentioned in the previous pages but none of them has proved entirely satisfactory. Their success depended on their rigid application which proved very difficult in practice. It is of little use laying down that an "organizer"

([35]) See footnote 24 on p. 55.

([36]) Even these ballots are not always valid. In spite of the reminder issued with the ballot papers that a member must not give more than one third of his votes to candidates from one country, many "statisticians" do not count their votes, or count them wrongly. At the 1959 elections, nearly 8 per cent of the voting papers were declared null and void for infringement of the rule (202 valid, 16 invalid).

of a scientific meeting shall invite three persons to submit papers on a topic and select two non-invited papers to be added, if the papers do not in fact mature, or arrive many weeks after the closing date for acceptance or are distributed only at the opening of the meeting. As a result of the discussion of the subject at the Stockholm and Brussels sessions (1957 and 1958) new proposals will be applied at the next session in Tokyo (1960).

Among the other constitutional changes, that of introducing a new group of "ex-officio" members has proved a source of strength to the Institute. Those representing international organizations have contributed many papers to the sessions on the statistical activities of their organizations and both the international and national members have furnished notes to the "Review" on the current statistical work of their government or organization. These members thus provide a valuable link with official statistical activities. While they have a certain advantage over many other members in that, as they do not generally have to defray their own expenses on attending a session, they can be present at the sessions in a greater proportion than the elected members, they render good service to the Institute and its Permanent Office.

With the other new group introduced in 1948 that of "affiliated organizations", relations have not however developed to the extent that was hoped for. Among the five international affiliated organizations, joint meetings have been held with most of them, some of them regularly such as the International Union for the Scientific Study of Population, some more or less irregularly as the Econometric Societiy, and the Biometric Society. With the first of these bodies, relations have been particularly close, as the Union has often held its own General Assembly at the same time and place as the Institute. With other affiliated organizations, especially those in the national group, relations have not yet been satisfactorily developed and a Committee on Relations with affiliated organizations set up in 1953 reported in 1956. Its report is still under consideration.

Similar remarks apply as regards "Sections" of the Institute, (see page 54 above), where little progress has been made. Only one Section has been set up so far, on municipal statistics which held its first conference in 1958 in Geneva. Other sections will no doubt be set up in the future when more experience has been gained as to their practical value and the method of organizing them.

On the financial side, the great development of the "extra-sessional" activities of the Institute has led to a much greater need for financial assistance. Dues from members, fees from affiliated organizations, sale of publications etc. are no longer sufficient, even for carrying out the ordinary administrative

work of the Institute, and it has become more dependent on voluntary contributions from governments and other bodies for its general work, and on "ear-marked" subventions from foundations, international bodies etc. for a particular activity. No fewer than 30 governments have contributed to the Institute's funds since 1947. The Statistical Education Programme has been entirely financed from the "ear-marked" subventions. Although the financial situation is satisfactory at present, continuation of the generosity of both kinds of contributors is necessary if these valuable activities are to be maintained and developed.

This summary of the development of the Institute since the war excludes, almost entirely, reference to its scientific work as a body of statisticians "devoted to the development of statistical methods and their application throughout the world"; this forms the subjects of Part III of this History.

PART III. THE SCIENTIFIC AND EDUCATIONAL WORK OF THE INSTITUTE

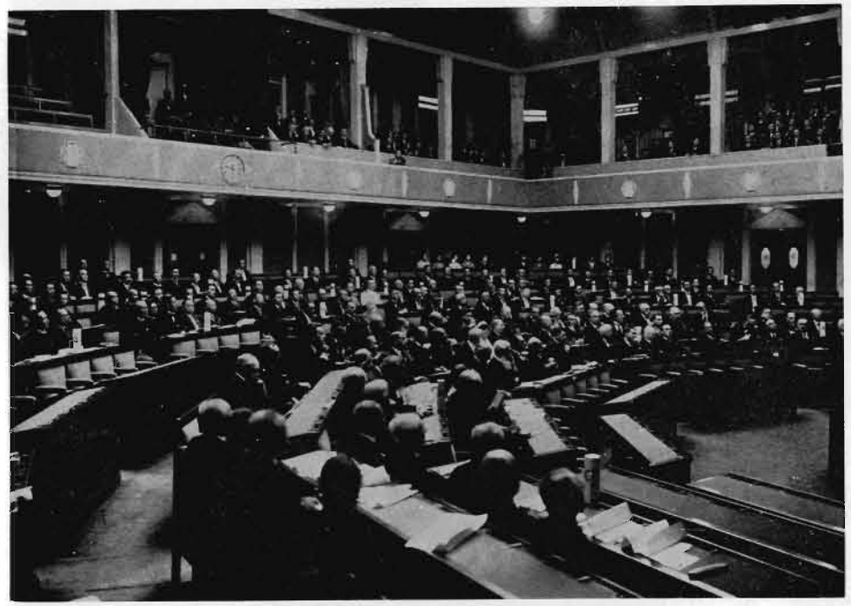
A. Introduction.

Parts I and II of this volume have given an account of the origin of the Institute, of the aims of the original founders and of the changes and developments in both the constitution and aims of the Institute in the past 75 years; only passing references have been made to the scientific work of the Institute. It is now necessary to describe this work in some detail and to assess what contribution the Institute has made to the science of statistics. For the period covering approximately the first 50 years of the Institute this has already been done in the Jubilee volume Part 2: so it is not considered necessary to go over it again in detail. Attention is therefore directed principally to the work of the last 25 years and more particularly to the period since 1947 when the reorganization of the Institute both as regards its aims and its functions took effect. It is however necessary to call attention to the principal scientific activities of the Institute in the pre-war period, not only for the record, but to bring them into relation with its more recent activities. Zahn devoted Part 2 of his volume ("Activité Scientifique de l'Institut") to enumerating the titles, or giving short accounts under different subject headings of the scope of the various papers and reports submitted to the Institute's sessions. This method is not repeated here. First because it is almost impracticable. The number of papers, communications, reports submitted to the Institute at its sessions has enormously increased and a further large number, over a hundred, has appeared in the Institute's "Review" which started in 1933. An assiduous member of the Institute has compiled a table of the communications presented to the Institute and published in the first 28 volumes of the Bulletin (1886–1935) and arrives at the total of 819 ([1]). During the 25 years since that date, the number of communications is probably at least equal to that of the previous 50 years, as they considerably increased in

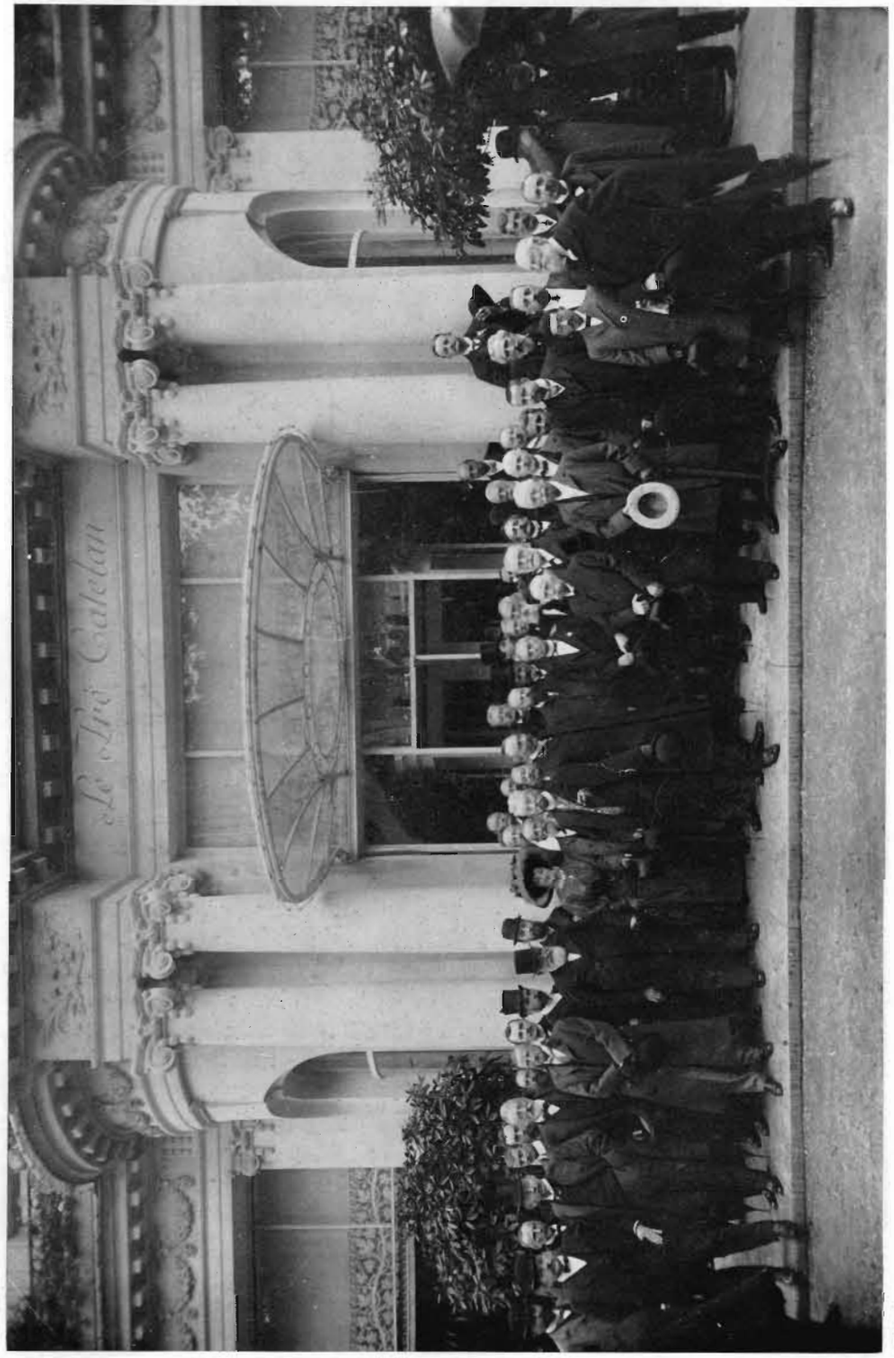
([1]) Giusti, Ugo: Istituto Centrale di Statistica-Decennale 1926–1936 Chap. IV p. 164 Roma. 1936.

XIV. *Sir Ronald A. Fisher*
Honorary President, 1957

XV. *Prasanta Chandra Mahalanobis*
Honorary President, 1957



XVI. *19th Session, Tokyo 1930*
Opening Ceremony in the Chamber of Representatives



12th Session, Paris 1909
Group of participants

XVII.

the post-war years. (2) The total to date is therefore probably near 2000 and any attempt to enumerate or classify this large forest of reports would be a hopeless if not a tedious task. Secondly were it practicable, it would not be of very great scientific interest. Many communications though of value at the time were of a temporary interest only. Papers on the methods of conducting a population census in a certain country in the nineteenth century, for example, are now only of historical interest and many papers on theoretical subjects are now out of date. Thirdly, the character of the communications has changed. In the early years much more attention was given to official enquiries, to proposals for international comparability and to "enquêtes" of various kinds. Levasseur contributed several papers on the "Statistique de la superficie et de la population des contrées de la Terre" to the early issue of the Bulletin, a work covering some 200 pages; Bodio prepared an account of the "Movimento della popolazione in alcuni Stati d'Europa e d'America" covering 300 pages. Levasseur also presented to the Institute's sessions in 1891 and 1893 a monumental report on "La statistique de l'enseignement primaire" throughout the world covering over 400 pages. Engel's well-known study on "Die Lebenskosten belgischer Arbeiter-Familien früher und jetzt" (a report of 125 pages) was given in 1895 in vol. IX of the Bulletin, and Bateman made a long series of reports in volumes II to IX of the Bulletin on the foreign trade statistics of different countries. Other examples could be given.

The reason for this change in the character and subject matter of the communications submitted to the Institute's sessions is as indicated in Part II of this volume that other international bodies have now taken over much of the work done so effectively and efficiently by the Institute in the pre-war years, and international surveys of statistics, such as those mentioned are now unknown. The aims of the Institute especially as regards "official" statistics have been modified, as the practice of adopting "voeux" on statistical practice has been discontinued. As a result, papers submitted to the Institute's sessions now range over a wider field in one sense, over a narrower field in another. They now deal much more with statistical theory and method, with fields of statistics some of which were almost unknown in 1934. (3) On the other hand they are much briefer; a communication of 20 pages or

(2) Over a hundred communications were submitted to each of the sessions of 1951, 1953, 1955 and 1957.

(3) Out of the 117 pages of Zahn's account of the scientific activity of the Institute, only 7 pages are devoted to "Statistique Théorique" (about 30 communications), and 110 to "Statistique Practique" (about 400 communications).

over is now an exception, and few communications are international in scope. In these circumstances it is necessary to adopt a different method of treatment. ([4]) The method adopted is to give first a short account of the principal scientific activities of the Institute in the first 50 years especially those which may be considered as "pioneer" efforts or which led to definite improvements in the complication of international statistics or have had a favourable influence on them. The contribution of the Institute to theoretical statistics and modern developments in statistical method and techniques in the last 25 years will then be related, and its work on the industrial application of statistics, followed by an account of what has now become one of the Institute's principal activities – the encouragement of statistical education and training – and finally by an account of its work on municipal statistics, the only field in which the compilation and publication of statistics is now undertaken by the Institute.

B. Pioneer Efforts in the Field of Official Statistics.

Demographic Statistics.

Censuses of Population. This subject pre-occupied the Institute from its earliest days and was, so to speak, taken over from the International Statistical Congress. The monumental work of Levasseur published in Vol. I of the Bulletin in 1886 has already been referred to. The subject was discussed at the sessions of 1887, 1893 and 1897 when *voeux* were adopted on the "Règles pour le dépouillement des résultats du recensement da la population" and again in 1903 with *voeux* on the forms and instructions to be used for counting the population in countries without a census. At the session of 1899, the Institute decided on a second edition of Lévasseur's work; this, compiled by Levasseur and Bodio, was published in Vols. XII and XV of the Bulletin and covered as far as possible the years 1900/1901. Guillaume had made proposals "pour le dénombrement de la population en 1900" at the session of 1895 and as chairman of the committee set up to consider "l'opportunité de provoquer dans tous les pays un recensement de la population en 1900" reported to the session of 1897. He proposed to adopt the scheme of Körösy, originally presented to the Congrès International d'Hygiène et Démographie

([4]) Moreover the method adopted by Zahn has become less necessary, as since the publication of his volume, the Institute published in 1941 a "Table systématique des rapports et communications présentés" at the first 24 sessions (1887–1938), in which all papers are classified by subject under 24 main and many sub-headings together with a "Table chronologique des matières, et Liste alphabétique des noms d'auteurs" (Bulletin vol. XXX Supplément 1941.)

in 1882, and the proposals of the Committee were duly circulated to governments. As a result some 10 countries stated their intention to hold a census on 31 December 1900, and others at a date near to this. The practice now adopted in a large number of countries of taking population censuses every ten years and on a year ending in 0 or around this year, is to a great extent due to the proposals of the Institute in the nineteenth century.

At the session of 1891 Ogle had submitted a proposal "for the preparation "and publication in the Bulletin of a concise summary of the last census of "each European country", and Bertillon undertook this task for the Institute. His volume "Statistique internationale résultant des recensements exécutés dans "les divers pays de l'Europe pendant le 19e. siècle et les époques précédentes, "établie conformément au voeux de l'Institut International de Statistique" was published by Masson in Paris in 1899. The territorial changes and movements of population occurring as a result of the war of 1914–1918 had however made the publications of Levasseur, Bodio and Bertillon out of date and Bunle brought the data up to date in his report on "Superficie et population des contrées de la Terre vers 1920" published in Vol. XXI of the Institute's Bulletin. Many other *voeux* were adopted on population census-taking; on the nature of the questions to be asked, on methods of tabulation, on forms and instructions to be used in counting the population in countries without a regular census, and the great developments which have taken place during the last fifty years in this field and in the greater uniformity and international comparability of censuses owe much to this pioneer work of the Institute.

Movement of the Population. In the field of vital statistics the Institute has been since its foundation equally active. The impulse came from the Italian Statistical Office under the direction of Bodio which in 1884 had continued the work of Quetelet and Heuschling on this subject as the result of the recommendation of the fourth session of the International Statistical Congress in 1865. He published a further series of tables on population movements in Europe and North America for the years 1865–1883. The first number of the Institute's Bulletin in 1886 contained an account and criticism of this work by the President (Rawson). ([5]) As a result of a *voeu* of the Institute, Bodio, then Secretary General, continued this task, and the results were given in the Bulletin volumes VII and X (Movimento della popolazione in alcuni stati d'Europa e d'America). This first volume covered marriages and births in the years 1874–1892 and the second deaths in the years 1874–1894, with an appendix on marriages and births in the years 1892–1894.

([5]) Bulletin Vol. I pp 153–182.

At the Berne session (1895), Mayr called attention to the scientific value and practical interest of these publications and on his proposal, the Institute adopted a *voeu* on the desirability that a year-book on this subject should be compiled. He even suggested that a special international office for population statistics might be envisaged. The "Statistique Générale de la France" under the energetic direction of March however eventually undertook this task in its volumes on "La Statistique annuelle du mouvement de la population" published in 1903 and 1904. At the Copenhagen session (1907), March offered to continue this work every five years, and two further volumes appeared in 1907 and 1913; and at the Vienna session (1912), he contributed a resumé of this volume under the title of "La Statistique internationale du mouvement de "la population d'après les registres de l'état civil de 1901–1910." ([6])

The setting up in 1913 of the Permanent Office of the Institute, one of whose objects was the publication of an Annuaire International de Statistique, placed the compilation and publication of demographic data on a different basis. The staff and collaborators of the Permanent Office, (not the members of the Institute or the governments they represented) now performed this task. Between 1913 and 1939, a series of volumes was prepared by the Permanent Office of the Institute which were of the greatest value to demographers. The first volume was issued in 1916 under the title "Etat de la Population (Europe)" in which the population census data of all European countries were presented in a series of tables with analysis by sex, age, marital condition and other characteristics; this was followed in 1917 by a volume on "Mouvement de la Population (Europe) 1906–1915" in which the number of births, deaths and marriages and their respective rates were tabulated; in 1919 and 1920 two similar volumes were issued covering the American continent, and in 1921, a volume for Asia covering both "l'Etat de la Population" and "le Mouvement de la Population". They were followed by supplements issued at approximately two-year intervals from 1922 to 1931, entitled "Aperçu de la démographie des divers pays du monde", and a final issue in 1939 covering the years 1929–1936 together with in 1929 a special volume which was entitled "Renseignements sur l'organisation actuelle des Statistiques de l'état "civil dans divers pays." These volumes were not merely a collection of national statistics but international surveys in which the data were presented as far as possible on a comparable basis. They were and still remain, a unique

([6]) Bulletin vol. XX Part 2 pp 270–305.
This work was continued by a member of the Institute (Bunle) who compiled a volume on "Le mouvement naturel de la population dans le monde de 1906 à 1936", Paris, 1954, Institut National d'Etudes Démographiques.

source of information on demographic data for the years before the war. The outbreak of the war involved the discontinuation of this activity of the Permanent Office and much of its work in this field is now carried on by the Statistical Office of the United Nations and the World Health Organisation. One feature of these volumes on "Mouvement de la Population" should however be mentioned, namely the attempt to compare death-rates in different countries by means of a standard population. As long ago as 1891 at the Vienna session Ogle submitted a proposal "for the establishment and inter-"national use of a standard population with fixed age and sex distribution in "the calculation and comparison of marriage, births and death-rates" (Vol VI Part I p. 83), and Körösy made similar proposals both at this session and at the following one in 1893. As a result of these discussions and of the report of a committee on the subject of a "population-type", the Institute proposed to governments to use as a basis for standardised mortality, the age-distribution shown by the recent Swedish census. In its volume on "l'Etat de la Population (Europe)" (1917) the Permanent Office computed standardized death-rates based on a population-type calculated by using the census data by age and sex for the years around 1910 of 19 European States. The recommendations of the Institute were adopted at the time by certain countries and are in fact still being applied. ([7])

A large number of communications on demographic statistics was submitted to the Institute, not only on national aspects of these subjects but on general questions such as methods of measuring nuptiality, fertility, and mortality, on population registers, on emigration and immigration statistics, on life-tables, and they are referred to in Zahn's volume. Many of these were important contributions and have had effect in improving and developing this important branch of statistics.

This is especially true of the contributions of the Institute to the subject of the *classification of causes of death* which has had a profound effect on the practice of different countries. The Institute inherited this subject from the first session of the International Statistical Congress in 1853 which requested the well-known English demographer Farr, and a Swiss doctor, d'Espine, to prepare "Une nomenclature uniforme des causes de décès applicable à tous les "pays". Farr's list (which was separate from that of d'Espine), was revised in 1864, 1874, 1880 and 1886. ([8])

([7]) See for example, the 100th Annual Report of the Registrar-General for Scotland, 1955, p. 25 "For international comparisons, the Standard population still in use for this purpose "is the one taken by the International Statistical Institute".
([8]) See next page.

In 1891, at its third session, the Institute set up a committee to consider the national statistics on this question with Bertillon (France) as chairman and at the 1893 session, he presented a scheme which was, in effect, a synthesis of the English German and Swiss classifications. His scheme comprised three classifications: the first an abridged classification of 44 titles, the second, one of 99 titles, and a third a more detailed one of 161 titles. This "Bertillon Classification" as it was then called was adopted by several countries and many cities, and was recommended by the American Public Health Association in 1898 for adoption in Canada, Mexico and U.S.A. At the Institute's 7th session in 1899 Bertillon presented a report on the progress of the classification and the Institute adopted a *voeu* in which it

> "insists vigorously that this system of nomenclature be adopted in principle and without revision by all the statistical institutions of Europe, approves the system of decennial revision proposed by the American Public Health Association at its Ottawa Session (1898) and urges the statistical offices which had not adhered to do so without delay". (Bulletin Vol. XII No. 1 p. 280).

As a result, no doubt, of this *voeu* the French Government convoked at Paris in 1900 the first International Conference for the revision of the international classification of causes of death. Bertillon continued as the guiding force in the promotion of the International List and the sessions of the 1st. 2nd. and 3rd. conference in 1900, 1910 and 1920 were carried out under his leadership and the technical preparation was in the hands of the Institute. At the 1923 session of the Institute, Huber, later Vice-President, recognised that the death of Bertillon in 1922 had left the International Conference without a guiding hand and introduced a resolution for the Institute to renew its stand of 1893 and to cooperate with other international organizations. The Institute accordingly renewed the mandate of its earlier committee, and increased its membership by including medical experts of different countries. The report of this mixed committee was presented by Huber to the 1927–28 session and in a long and detailed report (Bulletin Vol. XXIII Part 2 pp 3–166), he indicated the changes desirable in the 1920 nomenclature. In the meantime however the Health Organisation of the League of Nations through its Committee of Expert Statisticians had had the subject the nomenclature of deaths and diseases under consideration and in order to coordinate the work of both agencies a "Mixed Commission" was set up composed of four members of

(8) "Although there was never any universal acceptance of this classification, the general arrangement proposed by Farr has survived as the basis of the International List of Causes of Death." Bulletin of the World Health Organisation, Supplement 1, 1948, p XV.

the Institute and four representatives of the League of Nations Health Organisation, under the chairmanship of Huber. The work of this "Mixed Commission" was highly successful and its proposals, with slight modification were adopted by the fourth Conference of 39 States held in Paris in 1929. The mixed Commission also drafted the proposals for the fifth revision conference to be held in Paris in 1938 and drew up three lists, an abridged list of 44, an intermediate list of 87 titles and a detailed list of 200 titles. These were approved by the Institute at its 1938 session in Prague. The Paris Conference recognised the need for a corresponding list of diseases and passed a resolution recommending that

> "The joint Committee appointed by the International Institute of Statistics and the Health Organization of the League of Nations undertake, as in 1929, the preparation of international lists of diseases... and that the various national lists in use should as far as possible be brought into line with the detailed International List of Causes of Death".

The outbreak of war prevented the carrying into effect of this resolution but in 1945 a committee appointed by the U.S.A. Government recommended that there should be a single list for both morbidity and mortality statistics and in 1946 the Institute learned to its surprise that the International Health Conference held in New York in 1946 had entrusted the Interim Commission of the World Health Organization with the responsibility of preparing for the next decennial revision of the International Lists of Causes of Death and of establishing international lists of causes of morbidity. An expert Committee was appointed on which the Institute was not represented. The World Health Organization thus took over responsibility for this subject; and the Institute was no longer invited to participate in the decennial conferences held in Paris in 1948 and 1955, and called by the World Health Organization. The lists in force now known the "International Statistical Classification of "Diseases, Injuries, and Causes of Death", still follow the Institute's original proposals in 1893 of having three lists, – a detailed, an intermediate and an abbreviated –, and the principles of classification proposed by the Institute on the initiative of Bertillon are still to be seen in the latest lists. There can be no doubt that the scientific work on this subject undertaken by the Institute almost from its foundation, and continued until 1938 has been of great value to the institutions now responsible for this classification.

Bertillon was also the initiator in the Institute of another activity which though not strictly part of demographic statistics as usually understood, plays an important part in population censuses namely, the *classification by occupation* of the active population. As a result of a communication by Körösy at

the Institute's first session in 1887 entitled "Propositions pour arriver à une "comparabilité internationale des ouvrages de recensement", a committee was set up and at the following session in 1889, Bertillon presented a communication "Sur le classement des professions dans le dénombrement de la popu-"lation" in which on the basis of the English, French and German nomenclatures he prepared a scheme based on certain principles with main groups and subgroups. (Bulletin Vol. IV Part 2 p. 252). This gave rise to a lively discussion and Bertillon prepared further schemes for the session of 1891 (Bulletin Vol. VI Part 1 p 263), and after receiving the observations of the directors of national statistical services, a third scheme was submitted to the session of 1893 (Bulletin Vol. VIII Part 1 p. 226). This nomenclature was called a "statistique des professions" but was in fact a combination of a "statistique des professions" and a "statistique des industries", all carpenters for example being shown under building. It consisted of 12 main divisions and then of three lists of 61, 207 and 499 classifications. This scheme was recommended by the Institute to governments, special emphasis being laid on the "introduction des 12 divisions générales", since the more detailed lists were in practice only realisable in the more advanced industrial countries.

This question was not taken up again until the 1907 session when March submitted a proposal for the publication of a "Répertoire technologique des industries et professions". The object of this publication was to give in three languages – English, French and German – the names of the different industries and occupations, and also, but in French only

> "Une description sommaire, mais aussi précise et aussi vivante que possible, des opéra-"tions effectuées dans chaque industrie, en faisant ressortir surtout la nature du travail "executé, soit à la main, soit à la machine, l'outillage etc.".

The Institute appointed a committee on the subject with van der Borght as chairman and March as rapporteur, and the "Statistique Générale de la France" of which March was director undertook to carry out the work in collaboration with technical experts in the countries concerned (United Kingdom, Belgium, France, Switzerland, Germany and Austria). The final preparation of the work was entrusted to Huber then statistician in the "Service de la Statistique Générale de la France" and at the 1909 session in Paris the committee presented its report, together with a proof of the first edition. The volume "Répertoire technologique des noms d'industrie et de professions – "Français – Anglais – Allemands – avec notices descriptives sommaires suivis "de trois listes alphabétiqu des noms allemands, anglais et français" was issued by the French Ministère du Travail et de la Prévoyance Sociale, Statistique Générale de la France in 1909, a volume of 460 pages of "répertoire"

and 285 pages of "listes alphabétiques". The committee remained in existence for the purpose of centralising improvements to be made in future editions, but no further editions have been issued. The classification differs somewhat from that of the Bertillon scheme being, for the main divisions, industrial; and those occupational titles which occur in more than one industry are defined separately. It also differed from the Bertillon scheme in that it was confined to fishing, agriculture, mines and quarries, manufacturing industry, construction and transport. For administration, commerce, liberal professions etc., it was not considered necessary to give a technological nomenclature in three languages as ordinary dictionaries sufficed. This volume proved of great value to all statisticians and technicians who had to use statistical publications issued in these three languages and remains to this day the only work of its kind.

After the war of 1914–1918, the International Labour Office, set up in 1920, took up the question, and at its first international conference of labour statisticians in 1923, the subject of the classification of industries and occupations was on the agenda; and as a basis for its deliberations, it took the Bertillon scheme of 1893. Although no definite decisions were made at this conference, the International Labour Office continued its work on the subject and in 1949, the seventh Conference adopted an international standard classification of occupations covering 10 major groups and 71 minor groups, and at the ninth conference in 1957, a list of 201 unit groups was adopted, together with definitions of each of these in terms of the work performed. Since Bertillon's scheme was drawn up in 1893 and since the Répertoire Technologique was issued in 1909, there have been considerable changes in industrial processes; the new lists are a great advance on these early attempts, but they nevertheless owe much to the original work of the Institute.

In close connection with this subject of international comparability in population censuses is the *classification of industries*. This subject is dealt with later under economic statistics.

Before leaving the subject of demographic statistics, reference should be made to the work of the Institute in the field of *statistics of emigration and immigration*, or as they are now called *migration statistics*. As with other branches, this subject occupied the Institute from the outset, as the successor to the International Statistical Congress, which itself, devoted considerable time to this subject both at its first meeting in 1853 and up to its last meeting in 1876. In the Institute's first Bulletin in 1886, Bodio began a series of studies on the subject; one in which Italy as the principal country of emigration at that time was especially interested. In the following years 1887–1893 he compiled

two studies which were the first of their kind on methods of compilation of migration statistics in different countries: "Appunti di statistica comparata "dell' emigrazione dall' Europa e delle immigrazione in America e in Austra- "lia" (Bulletin Vol. III Part 2 pp 95–158, Vol. IV Part 1 pp 136–190, Vol. V Part 1 pp 188–245) and "Appunti statistici sulla emigrazione dall' Europa e "sulla immigrazione in America e in Australia" (Bulletin Vol. VII Part 2 pp 165–226 and pp 443–462). These reports constitute the first international survey ever made of the international population movements. Various recommendations were made by the Institute on this subject at the sessions in 1891, 1901 and 1903 but little actual progress was made. It was not until 1925 that on the proposal of Willcox, the Institute appointed a committee on international migration with Zahn as rapporteur. He in 1929 (Bulletin Vol. XXIV Part 2 pp 20–31) and, in 1931, Molinari (Bulletin Vol. XXVII Part 2 pp 191–209) submitted proposals for the uniform compilation of statistics of migration. The systems adopted in the different countries, for recording the arrivals and departures of nationals and foreigners, the difficulties of defining, and even when defined, of distinguishing in practice between passengers or travellers, and genuine migrants have prevented the adoption and application of international standards. At the sessions of 1929 and 1931 resolutions however were adopted on this subject.

After the war of 1914–1918, the International Labour Office took up this question and after various meetings and discussions by its International Migration Commission called an International Conference on Migration Statistics in 1932. This conference adopted a series of recommendations on the methods of classification of migrants. On the method of recording migration, it proposed the same method as that recommended by the Institute in its recommendations of 1929 viz. an individual identity document to be carried by all persons entering or leaving the country. The Conference however realised that such a proposal

> "would involve serious difficulties and could not be effected immediately" and suggested "scientific collaboration between the International Labour Office and the International Statistical Institute which has made proposals on this subject".

Little progress was however made, and after the war of 1939–1945, the Population Division of United Nations took up the question and published several studies on the question in which recognition was made of the valuable contribution of the Institute in this domain. It also published valuable studies of migration statistics and in the U.N. Demographic Year Book, the Statistical Office of United Nations in collaboration with the Population Division (now Population Branch) has published current data for a large number of

countries, on the available types of migration statistics. The compilation of migration statistics on uniform lines by different countries is still far from being achieved; and it is doubtful if much further progress can be expected in this field.

These examples of the work of the Institute in the demographic field are not exhaustive. They are given to show the large part it played before the last war in carrying out in one field the first of the aims set forth in its statutes (the achievement of comparability in the statistics of different countries). Its success in this field and the position of eminence which it had acquired is shown by the fact already mentioned in Part I that when in 1919 on the foundation of the League of Nations, a conference was called of the various international bodies interested in statistics to discuss the organization of international statistics and the relations of the League with these bodies, one of the "suggestions approved at the Conference" was that

> "the main classes of statistics ... should be entrusted to different bodies or institutions working in conjunction with the League ... and that these bodies should be ... for the time being in the case of Demographic Statistics, the Permanent Bureau of the International Institute". (9)

The Institute and its Permanent Office held this predominant position up to the outbreak of the war of 1939; after which as stated in Part II its work of compiling and promoting comparability in, demographic statistics was taken over by other institutions. Some other aspects of demographic statistics however, remained open to it, and these are dealt with later.

Economic Statistics

In this extensive field (which for our purpose covers agriculture, industry, foreign trade, finance, labour, prices etc.) the contribution of the Institute to the improvement and development of statistics was especially in the first 30 years of the Institute, i.e. up to the outbreak of the war of 1914–1918, somewhat meagre in comparison with its contribution in the field of demographic statistics. A large variety of communications and studies were submitted to the sessions of the Institute but few important *voeux* or recommendations to governments and others, were adopted. It was not until after the war that an impetus was given to this branch, and from 1922 to 1927 a major part of the Institute's activity was devoted to this branch of statistics. This had its origin in the Genoa Conference of 1922 which adopted a recommendation that the recently constituted League of Nations should adopt

(9) See p 28 above.

uniform principles for the compilation of economic statistics. The Economic Committee of the League, as stated in Part II induced the League Council to propose collaboration with the Institute and a mixed committee was set up, composed of members of the Economic Committee of the League and of the Institute. This committee under the chairmanship of Llewellyn Smith drew up a programme which covered statistics of foreign trade and production, index numbers (wholesale and retail, financial etc.) and economic indicators, and a Preparatory Committee of 14 members was set up to compile reports on these subjects under the presidency of Delatour (Vice-President of the Institute). This committee consisted of seven members representing the League of Nations (Secretariat and International Labour Office) and seven members representing the Institute. (Practically all were members of the Institute). The Committee was in position to submit four reports to the 1923 session of the Institute; viz. statistics of international trade by Julin, statistics of agricultural production by Ricci, statistics of fisheries by Rew and indexes of the economic situation by March.

The report of Julin on foreign trade statistics should perhaps have a special mention. The contribution of the Institute to this subject started at its first session in 1887 when Bateman submitted a "statement on the possibility and "method of making more comparable the foreign trade returns of the various "countries" (Bulletin Vol. II Part I p 294). A committee was set up, with Bateman as rapporteur and his reports and communications were submitted to the sessions of 1889, 1891, 1893, 1895 and 1897. In 1905 he (in collaboration with Fountain) submitted a paper on "The import and export statistics "of various countries" (Bulletin Vo. XV Part 2 pp 219–239). The Committee recommended, inter alia, a uniform list of 50 essential products and the adoption of a system of declared values, and the great improvement in foreign trade statistics at the end of the 19th century was undoubtedly influenced by the work of Bateman's committee. The long series of reports he prepared proved a valuable background for Julin's report for the Preparatory Committee; and on the adoption of the latter's proposals by the League's International Conference on Economic Statistics in 1928, the conference stated (Report p 251):

> "It will not be out of place to emphasize the importance of this discussion which substitutes uniform scientific accuracy for the chaos that has long prevailed. The International Statistical Institute which since 1891 has been calling attention to the superiority of the declaration system, and the mixed committee, have cause for satisfaction in the happy issue of their protracted labours".

At the 1925 session of the Institute four more reports were presented on the

classification of industries by March, on censuses of industrial production by Flux, on statistics of production for industries subject to excise duties by Julin and on statistics of stocks of raw materials by Methorst, and at the 1927/28 session (Cairo), three more reports, on indexes of productive activity by Flux, on statistics of stocks of cereals by Ricci and on statistics of sugar stocks by Loveday. During this period and independently, the International Labour Office had convoked two international conferences of official labour statisticians, in 1923 and 1925, and it was decided, in view of the fruitful collaboration shown by the Preparatory Commission on Economic Statistics, to communicate the resolutions of these conferences to a Mixed Committee composed of four representatives appointed by the Director of the I.L.O. and four members of the Institute. The reports of this mixed committee were submitted to the 1925 session of the Institute namely, statistics of the cost of living by Giusti, of industrial accidents by Ney, of unemployment statistics by Hilton and of wage statistics by Huber. At each of these sessions, these reports were discussed in the appropriate "Section" and the appended resolutions then submitted to the vote of the General Assembly. The subjects were thus thoroughly discussed, and in some cases the original texts were amended. The resolutions on economic statistics were then forwarded to the Economic Committee of the League of Nations which transmitted them to governments, and they were taken fully into account when an International Conference on Economic Statistics convoked at Geneva in 1928 by the League of Nations, resulted in the adoption of an International Convention on Economic Statistics. The great value of the collaboration in the Institute was expressed in the telegram addressed to the President of the Institute by the President of the Conference quoted on p. 32 above. In its turn, the Economic Committee in its report to the Council of the League stated that

> "The committee has been struck, throughout the Conference, by the value of the collaboration of the International Statistical Institute".

This direct collaboration effectively terminated with the presentation of final reports; the Preparatory Committee and the Mixed Committee disbanded and the League set up its own Committee of Statistical Experts. Thus ended a unique period in the history of the Institute and a method of collaboration which though criticised by some members as inconsistent with the independence and autonomy of the Institute, was fully in accordance with the first object of the Institute as cited above. Although direct contact ceased, the results of these studies continued to have their effect. The valuable report of March, for example, on the classification of industries was taken into account by the League's committee of Statistical Experts. As a result of the adoption

of the International Convention (see recommendation IV of the International Conference relating to Economic Statistics) this Committee was asked to "take account of the work of the International Institute of Statistics" and in its report on this subject the classification followed closely the lines proposed by March. This classification also formed a basis for the work of the Statistical Commission of the United Nations in 1948 when it published its International Standard Industrial Classification of all Economic Activities, now adopted by many countries. The International Labour Office in its future work and the conference of labour statisticians which it held, also benefited by the work of the Institute.

Other Official Statistics

In this period, the Institute also collaborated with other official bodies. In 1925, the Institute of Intellectual Cooperation on the suggestion of its director invited the collaboration of the Institute in the field of intellectual statistics. A Mixed Committee of four members from each body was set up with March as chairman. A scheme was drawn up and communicated to the competent services of 58 countries and on the basis of their replies, a final report was drawn up, together with 66 standard tables covering all branches of the subject from education to theatres, cinemas and radio. This scheme was submitted by the Institute of Intellectual Cooperation to the Council of the League of Nations which

> "recommended States Members to put at the disposal of their competent services, the means necessary for carrying out as far as possible the recommendations of the International Statistical Institute at its last session".

At the Madrid session 1931 a first "progress report" was presented by Castrilli, of the Institute of Intellectual Cooperation, but at the London session in 1934, he reported that the programme had proved too vast and the reorganization of the Institute of Intellectual Cooperation did not allow for its full carrying out. Nevertheless some interesting data were obtained from many countries. An attempt to revive interest in this subject was made at the 1934 session (London) but no progress was made in this field until the setting-up after the last war of the United Nations Educational Scientific and Cultural Organization which now publishes regular statistics on education and other intellectual statistics.

In 1927, the Institute set up a committee on Inland Transport Statistics under the chairmanship of Colson with Girard as rapporteur. This Committee however soon realised that other international organizations were interested in

this question namely the Consultative and Technical Commission on Communications and Transit of the League of Nations and the Union Internationale des Chemins de Fer, and it was decided to set up a Mixed Committee of four members of the Institute and four members representing the Consultative Committee of the League's Transit Section and including a representative of the U.I.C. This mixed committee drew up a complete scheme of transport statistics with special reference to railways. A valuable report on the statistics of maritime and inland navigation was presented by Piekalkiewicz. At the Madrid session (1931) the proposals on these subjects were adopted and the attention of governments drawn to them. No further action however appears to have been taken by the Institute on this subject.

Other examples after 1934 are as follows: *Forestry statistics* on which the Institute set up a joint commission with the International Institute of Agriculture in 1936 with Doré as rapporteur. These proposals were accepted by the Institute of Agriculture and continued to be applied after the war by its successor the Food and Agricultural Organization of United Nations. *Criminal statistics* on which subject a joint committee with the International Penal and Penitentiary Commission was set up. *Housing statistics,* on which subject a committee of the Institute with Nyström as rapporteur submitted reports to the 1936 session (Athens) and the 1938 session (Cairo). Although no mixed committee was set up the representative of the Institute was invited to take part in the meeting on this subject of the League of Nations Committee of Statistical Experts in 1938. Similarly as regards the statistics of *road accidents,* the Institute's committee on this subject submitted a report (rapporteur van Zanten) to the 1936 session and he was invited to attend the meetings on this subject called by the League of Nations' Organization for Communications and Transit in 1936 and 1937.

Finally mention may be made of recent work of individual members in collaboration with government statistical services. A report on the definition of *rural population* was submitted by Bunle to the 1938 session based on a questionnaire sent to the statistical authorities of 25 countries. His conclusions were submitted to governments. Also Winkler undertook the preparation of a report on the decline in the birth-rate. For this purpose a detailed questionnaire was despatched to 31 government statistical offices of which 27 replied. In a first report submitted to the 1938 session (Prague) an elaborate series of synoptic tables was presented summarising the kind of data available on this, at the time, important topic. It was intended that this report should be fully discussed at the Prague meeting, and that the author would submit a second analytic report at the following session. Owing to the sudden break up

of the Prague session and the outbreak of the war in 1939 neither of these proposals was carried out.

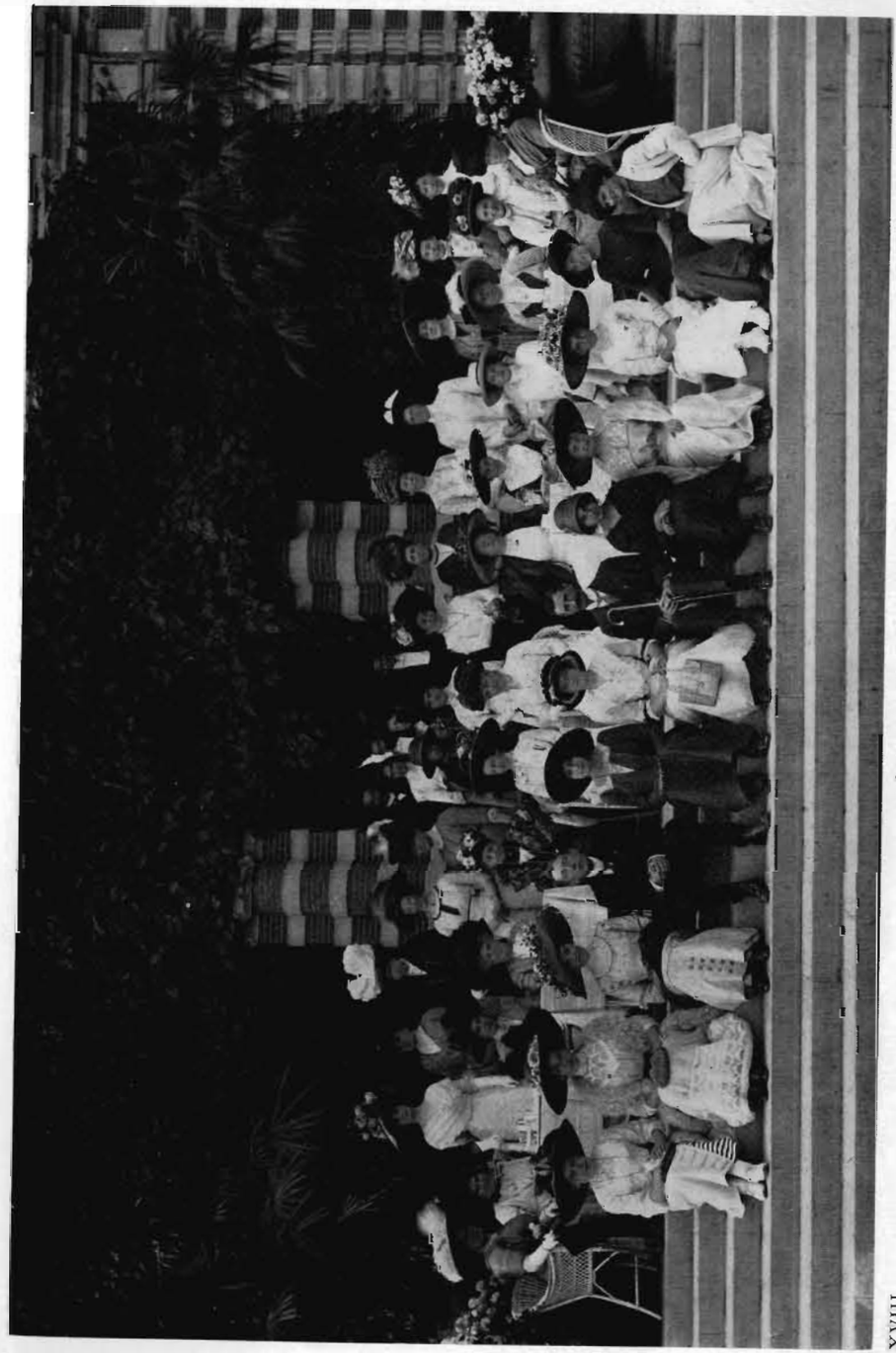
A further example of pioneer work of the Institute, although not directly connected with the comparability of official statistics should be mentioned, namely that on sampling. The Institute first took up this subject at the sessions of 1895, 1897, 1901 and 1903 when Kiaër presented four short reports on what was then described as "la méthode représentative". At the last of these sessions, a somewhat cautious resolution was adopted to the effect that this method may, in certain cases, yield exact and detailed observations from which it is possible to generalize, with certain reservations, the results and it was recommended that it be applied provided that the account clearly states under what conditions the choice of the units observed has been made. It also decided to keep the question on the agenda in order that a further report might be made to the next session, on the new applications of the method and on the value of the results obtained. This report did not materialize and the subject was not taken up until the 1923 session when Jensen circulated a brochure entitled "Méthodes permettant de réaliser une économie de travail dans la statistique". This report was not discussed, but, no doubt as a result of it, the Bureau in 1924 appointed a committee on the application of the representative method in statistics, with Jensen as rapporteur. His report was submitted to the 1925 session together with four annexes by Jensen, Verrijn Stuart, March and Bowley. The first of these was a comprehensive account of "the representative method in practice" and the last a valuable mathematical study of over 60 pages on the "measurement of precision obtained in sampling". ([10]) These reports were fully discussed and a lengthy resolution was adopted, more affirmative than the previous one calling attention to the great advantages which may be obtained by applying the representative method and distinguishing the two main types of drawing the sample (random selection and purposive selection). The report of this committee and its annexes were the first full account of the applications of this method in different countries and of the principles underlying the method and have undoubtedly contributed to the development of the theory and practice of sampling procedures which have now become one of the most important and widely used statistical techniques as shown by the numerous papers on the subject which now figure on the agenda of every session of the Institute.

These examples illustrate the fruitful experiences of the Institute in its collaboration with governments and official international bodies, and in carrying out the aim of its statutes to "rendre comparables les résultats obtenus dans les différents pays". After the 1939 session, the scientific work of the Institute did not change in intensity but only in direction as a result of its reorganization and it is to these new developments that the rest of this part of the history is mainly devoted.

C. The Scientific Activities of the Institute in the last 25 years.

In dealing with the last 25 years, i.e. from the date of the jubilee volume in

([10]) Bulletin Vol. 22 Part I pp. 359–451 and (I) pp. 1–62. The contribution by Bowley was also published separately by the Cambridge University Press 1925.



XVIII. *13th Session, The Hague 1911*
Group of ladies accompanying the participants

XIX. *27th Session, India 1951*
Prime Minister Nehru addresses the participants at the Opening Ceremony

XX. *27th Session, India 1951*
Section meeting

1934 to 1959, it is not possible to follow a uniform plan and it is convenient to divide this period into three parts: – the years 1934 to 1938 when the Institute's scientific work proceeded largely on the lines followed in the previous years, the years 1939 to 1947, covering the war and the immediate post war years when much of the work of the Institute was suspended, and the years 1947 to the present time when the Institute's scientific rôle was considerably modified and enlarged. ([11])

The first period can be dealt with briefly. Three sessions of the Institute were held: in 1934 in London, on the invitation of and in connection with the centenary of the Royal Statistical Society, in 1936 in Athens, and in 1938 in Prague. At each of these sessions a number of reports of committees were submitted as well as papers by members and invited persons. At each session also sections were set up covering demographic statistics, mathematical statistics, economic statistics, and social statistics. Committees reported on the normalisation of statistical tables, on historical statistical researches, on economic fluctuations, on the coefficient of correlation, housing statistics, national productive equipment, on the organization of statistical services, on rural population, on distribution, on the causes of death etc. On many of these, *voeux* or *avis* were adopted, which were, when appropriate, transmitted to governments. Many of these reports were based on exhaustive inquiries or research by the "rapporteur" of the Committee and his collaborators or on the results of inquiries addressed to governments. At the Prague session however no *voeux* or *avis* were adopted as the session (as related in Part II) came to a sudden end after two days. At this session also, a most valuable report on the decline of the birth-rate, was submitted by Winkler for discussion at a plenary session which unfortunately never took place. ([12]) Some of the activities of these three sessions, where these activities were carried over from pre-1934 sessions, have been referred to in the previous section of this chapter.

The abrupt close of the Prague session left the Institute with a large programme of activity. Over 20 standing committees were in existence, and due to report at a subsequent session, and the 130 papers and reports submitted

([11]) Unlike the practice followed in "50 années de l'I.I.S." the names of the authors of papers submitted to the sessions are not, in general, given. To have done so fully, would have encumbered the volume with many hundreds of names, both of members and non-members; to give names in certain cases only would have involved difficulties in deciding whom to mention and whom to omit. Names of contributors are mentioned only in certain special cases, e.g. when the contribution gave rise to the adoption of a resolution by the General Assembly or led to a further activity being undertaken by the Institute.

([12]) The contributions of those invited to take part in the discussion were however given in the Revue de l'I.I.S. Vol. 6, 1938.

to these three sessions as well as the large number of papers contributed to the Institute's "Review", (started in 1933) reflect the vitality of the Institute at this time. ([13])

In the war and immediate post-war period 1939 to 1947, the Institute was unable to hold sessions but its scientific activity though diminished continued. The rôle of the Secretary General of the Institute at the Hague was much reduced; his rôle as Director of the Permanent Office continued, in spite of great difficulties. The "Revue" of the Institute continued to appear for each year from 1939 to 1947 although quarterly publication was not possible, and it contained a series of contributions, mostly on some branch of mathematical or demographic statistics. Reference will be made to certain of these when the papers submitted in the after-war period are discussed. In 1939 and 1940 it was possible to publish an edition (the last) of the "Aperçu de la démo-"graphie des divers pays du monde", several volumes in the series "Statistique "Internationale des Grandes Villes", notably the volumes on public utilities (gas, water, electricity), area and population, and housing, and a volume on the international classification of causes of death.

Shortly after the close of the war, it was found possible to revive the Institute and, as described in Part II of this volume, a session was held at Washington in 1947. After this session, as a result of the new statutes the Institute entered on a new period of scientific activity. Some of its oldest activities were dropped, and new scientific activities were added. The scientific work of these last 12 years therefore requires a separate treatment.

The Washington session of the Institute took place as part of the International Statistical Conferences in which statisticians from all over the world and many international and other bodies connected with statistics participated. Over 600 persons from 56 countries (about half however from U.S.A.) registered for these conferences. The object of the World Statistical Congress which formed part of the International Statistical Conferences was, inter alia,

> "to explain and develop the means by which the statistical activities of the specialized agencies, quasi-governmental and non-governmental organizations might be related to each other and to those of the United Nations in fostering international cooperation in the improvement of statistics. ([14])

([13]) An appreciation of the scope of the papers and reports submitted to the Institute since its foundation up to 1938 is much facilitated, by the publication by the Institute in 1941, of a chronological list of papers presented at the first 24 sessions. This publication does not however give the text but only the titles of the *voeux* adopted: the text of those adopted in its first 13 sessions (1887–1911) is given in the supplement to Vol. XIX of the Bulletin, 1911 (see also footnote 4 on p 74 above).

([14]) Report of the first session of the UN Statistical Commission E/264. 1947.

The Institute held its own session (the 25th) during these Conferences at which many important statistical questions were discussed and these only are mentioned in the following paragraphs. In 1935 the Bureau of the Institute introduced the category of "invited papers" and such papers were submitted to the Athens (1936) and Prague (1938) sessions, but their numbers were small. At the Washington session however, the procedure was applied on a larger scale, especially as many of the Commissions set up before the war had not renewed their activity. Further a number of "special meetings" was held on important topics at which some of these invited persons were present. Those selected for this session were on the World Census of Agriculture of 1950, on the 1950 census of the Americas, on sampling theory and sampling practice. On these subjects valuable papers were submitted by many experts in these fields. Sections were set up on statistical methodology, social statistics, and demographic statistics. At this session, perhaps for the first time, demographic statistics took second place, mathematical statistics now taking a more important place. Papers on probability relationships, on factorial analysis, means of samples, statistical inference and experimental design may be mentioned as contributions to the subject. At the section on statistical methodology, the subject of industrial applications of statistics (which now plays a prominent part in the statistical field and, as shown later, in the activities of the Institute) was apparently introduced for the first time, in papers on industrial quality control and statistical method in engineering research. In the social statistics section, papers were submitted on criminal statistics, social insurance statistics, cost of living and public opinion research; and in the demographic section a number of papers on national experiences in various fields, fertility, infant mortality, demographic trends, and morbidity.

At this session advantage was taken of the meetings of other statistical bodies to hold joint meetings – a practice much developed at later sessions when under the new statutes closer relationships were established with these organizations. Joint meetings were held with the Econometric Society on the uses of probability theory, estimation of parameters, sampling theory and practice, measurement of national income, and social accounting; and with the Inter American Statistical Institute on the international classification of statistical materials and the future rôle of international statistical societies. A new international body was set up at these meetings, the International Association for Research into Income and Wealth, now affiliated with the Institute.

In spite of the fact that administrative matters (revision of the statutes etc.) took up much time a large amount of useful scientific discussion took place. Never before, or since, have so many of the world's statisticians and statistical

institutes and societies, met together, and the contacts made and relationships formed at this session have been of value to the Institute in carrying out its new aims, elaborated during this session.

The 26th session at Berne in 1949 was a relatively quiet session both as regards attendance (286) and papers contributed (70). It was the first session to be held under the new statutes and the President described it as one of "consolidation". Its most important function was perhaps that of laying down the foundations of the Institute's work in the field of statistical education. As mentioned in Part II of this report, this subject became in 1948 an important new activity of the Institute. A thorough discussion of the subject took place on the basis of a report by the Institute's Committee on the subject and another report by the Inter American Statistical Institute for the American continent. It was at this session that the first of a series of seminars was held for students and other on statistical problems, as described, as well the subsequent developments in the field of statistical education, in a later section.

Statistical methodology and industrial applications again played a prominent part. A report was submitted on the work of the United Nations sub-committee (of the Statistical Commission) on sampling; various other papers were communicated on different aspects of sampling, and on various statistical problems (graphic representation, least square regression and trends elimination). The subject of industrial applications made a further step forward in a series of contributions, on physical sampling, on quality control and national reports on the development in this subject in Belgium, France, Netherlands, India, Sweden and Czechoslovakia. In the demographic section the chief feature was a discussion on "potential demography". This subject, first introduced by Hersch in an article in the Institute's "Revue" in 1940 (Potentiel-Vies) and continued in the 1942 and 1944 issues, introduced a new concept into the demographic study of population growth, based on estimating the length of time a population has to live. It was taken up again in the Review of the Institute in 1951 by several authors, and in 1952 again by Hersch, in which he replied to various criticisms. Depoid's contribution on the accuracy of demographic statistics is another contribution which may be mentioned, as it led later to the appointment of a committee to report further. The subject of municipal statistics was brought up again, which led to the great development in this field described in a later section. Finally at a meeting on recent developments in different fields, contributions from the United Nations, the International Labour Office, the Food and Agriculture Organization, the World Health Organization, the International Monetary

Fund, and from experts in the field of demography, econometrics and biometry were discussed.

Although no joint sessions were held with other international organizations, there was a certain amount of cooperation as the International Union for the Scientific Study of Population and the Biometric Society both arranged to hold their meetings immediately before the session of the Institute, thus facilitating the attendance of members of these societies at the Institute session.

The 27th session was held in India (New Delhi and Calcutta) in 1951 and formed part of the "International Statistical Conferences" arranged by the Indian Government and the Indian Statistical Institute. This meeting was a less ambitious one than the International Statistical Conferences of 1947 and its objects were not quite the same. Whereas the latter were held with the close collaboration of the United Nations and were intended to bring together all bodies and societies interested in the future development of statistics (governmental or private) the former were more concerned with bringing together around the Institute members of non-governmental organizations and other persons. Over 300 persons from 34 countries attended as well as many delegations from international organizations.

A new feature of this session was the introduction of what were termed "round table discussions" on various topics. One "contributed paper" was given as an introduction and was followed by a general discussion during which the views of experts on the subject were confronted. These discussions covered such subjects as the accuracy of statistics, development of system of population statistics, a system of agricultural statistics, a system of labour statistics, cultural and educational statistics, national statistical systems, and sampling. A large number of papers was presented, as is natural, by Indian participants and the members of the Conference were enabled to see at close hand the work of the Indian Statistical Institute.

The practice of holding joint meetings with other organizations adopted at Washington was resumed in India and the International Union for the Scientific Study of Population, the Biometric Society, the Econometric Society and the International Association for Research in Income and Wealth (all affiliated organizations) actively collaborated in the preparation of the programme of the session and in the proceedings of the Conferences. An International Biometric Symposium was arranged – the first time the Institute had actively taken up this subject – opening with two papers on crop prediction. Contributions on work in India (estimates of cinchona yield), on experiments in Australia, on recent advances in Japan, were also among those discussed.

In the demographic statistics section, a further report by Depoid on the accuracy of demographic data led to the decision to set up a committee on the subject to report to a future session.

The meetings on mathematical statistics had before them a number of papers on sampling: two-phase sampling, problem of distance in sampling, systematic sampling, sample selection etc. as well as technical papers on Wilk's criterion, on Hotelling's T^2, Pitman's test, and factorial experiments. The income and wealth section continued the work on this subject begun at Washington, special attention being paid to the problem of estimation in underdeveloped countries.

The meetings on industrial statistics (in the special meaning given to this term) had on their agenda about a dozen papers, one on industrial applications of statistics in various countries, others on their application in India and Australia, on cluster sampling, acceptance sampling and on statistical techniques. It was decided to set up a committee on the industrial application of statistics and to abandon the idea of setting up an industrial section within the Institute (see p. 104 later). Another meeting on agricultural statistics received reports on the development of a system of agricultural statistics in a series of papers presented by the Food and Agricultural Organization, the Indian Society of Agriculutural Statistics and the Indian Statistical Institute.

One of the great advantages of the Indian Statistical Conferences was that participants were able to study the Indian National Sample Survey, and to view it in operation. Both at Delhi and Calcutta, field trips were organized to villages and in the latter place, full explanations were given on the spot of the method adopted e.g. in sampling the rice harvest. Two sittings of the conference were also devoted to discussing problems arising out of the Survey.

Another advantage was that it was possible, as a result of the gathering together of a number of statisticians to hold a series of independent meetings. The United Nations sub-committee on sampling was able to hold a meeting immediately after the session, and the International Union for the Scientific Study of Population held a business meeting. The International Labour Office held a training seminar in labour statistics immediately before the session, and after the session, seminars arranged by the Institute were held at which 20 leading statisticians gave lectures on various branches of statistics, which have been published in a separate volume.

These International Statistical Conferences were noteworthy not only for the side range of the subject dealt with, the high quality of many of the papers,

the numerous and remarkable contributions of Indian participants but for the fact that it was held in the words of President, "in a country that has "made significant contributions to the world's development of statistical "theory, to the empirical use of this theory in pointing the way to needed "economic and social measures, and to the world's store of quantitive in-"formation" and in a city where the Institute had organized its first statistical education centre.

The 28th session of the Institute (Rome 1953) was from the point of view of number of participants and number of contributions, one of the most successful and well attended sessions. Over 600 persons participated, of whom about 160 were members (the highest ever recorded) and 440 were guests (of whom 270 Italian) and 150 papers were received. Eight scientific meetings were arranged which corresponded approximately to those of previous sessions but a new subject was added namely "statistical applications of standardization in industry". The meeting on general methodology and mathematical statistics was one of the most important, no fewer than 33 papers being submitted. A group of these dealt with sampling problems, the Italian statisticians contributing nearly half of the papers in this section. The meeting on economic statistics was of less importance, some fifteen papers being received, among these may be mentioned the one on recent developments on national income and social accounting and the one on aspects of the statistical study of business concerns. Ten papers were submitted to the meeting on statistical education; most of them described the work done in different countries. One paper however deserves special mention as it described a new and important activity of the Institute. This was the paper in which Kendall (M.G.) described the scope of, and the problems encountered in, a projected dictionary of statistical terms. This dictionary was ultimately published, as described in the later section on statistical education.

The demographic statistics meeting had 35 papers on its agenda. Two may be mentioned as they led to the adoption of resolutions by the General Assembly. Gini submitted a paper on an inquiry he had made in continuation of similar ones made before the war into the practice, very common in some countries, of registering end-of-year births in the first days of the new year. As a result of reports received from 20 countries he analysed by three different methods, the extent of this distortion which he found was especially high in Italy, Poland, Japan and Greece. The Institute adopted a resolution urging that efforts should be made to eliminate as much as possible these irregularities, and that the attention of the United Nations Statistical Office be drawn to the matter. A paper by Vincent on mortality at advanced ages in continua-

tion of one presented to the Berne session led to the adoption of a resolution by the General Assembly recommending that in countries where death registration has functioned effectively for at least 100 years, the deaths of persons declared to be centenarians should be the subject of a special inquiry. An ingenious method of correcting the tendency of persons in many countries to "round off" their age at the Census was submitted by Bachi; it is mentioned here because it formed part of a resolution adopted at the next session. The meeting on the application of statistics to the study of problems of productivity indicates the growing interest in this subject. The concept of productivity was discussed in half a dozen papers, and methods of measurement in an interesting piece of historical research was shown in a paper on the application of productivity measures to the British cotton industry (1806–1862) and to U.S. manufacturing industries (1919–1939).

The meeting on application of statistical methods to standardization in industry raised questions, which had rarely been discussed hitherto by the Institute. While connected with the subject of quality control discussed at previous sessions, the papers gave special attention to standardization of particular industrial products (paper, garments, electric power, adrenal cortex extract) and to the work of certain countries (U.S.A., U.K., South Africa, France, India, Netherlands) and of the International Standardization Organization. The assembly decided to cooperate closely with the technical committees of I.S.O. on this subject.

Another new subject was that of regional statistical cooperation, when papers were submitted dealing with the achievements in this domain of the Benelux countries, the Nordic countries, the British Commonwealth and colonies, the Economic Commission for Europe, the Organization for European Economic Cooperation, the Inter American Statistical Institute and the Economic Commission for Asia and the Far East.

The 29th session (Rio de Janeiro 1955) was the fourth session held on the American continent and was attended by about 260 persons, the majority of whom, as was natural, were from the countries of America. The chief features of this session were the great variety of subjects treated, no fewer than 20 scientific "meetings" (the term section having been discontinued) on different branches of statistics were organized and about 110 papers received; and the amount of collaboration in the form of joint meetings with other international institutions which were affiliated to the Institute. One of these, the Inter American Statistical Institute, also held a conference in Rio at the same time, and the International Population Union held one of its general assemblies. At this session the Bureau of the Institute had nominated the organizer of the different meetings well in advance, in order that they might prepare a particular topic.

Statistical education and teaching formed the subject of two separate meetings: one when the experience of United Nations and of the Inter American Statistical Institute was discussed and another on the experience of different disciplines: mathematicians, civil servants and economists.

A new subject, statistics of regions *within* countries led to a number of general papers, and national papers for U.S.A., Brazil, Yugoslavia, Canada and Japan as well as contributions from the Dutch and German statistical offices.

On demographic questions, the meetings took the form of three joint meetings with the International Population Union; two meetings on Latin American demography when demographers from eight countries in this area submitted papers on demography in their countries; one on the organization and methods of population statistics and on the report of the committee on the degree of accuracy of demographic data; and a third meeting on miscellaneous demographic questions (Vincent). The report on the accuracy of demographic data was a continuation of the work referred to above (Berne and Rome sessions) and led to the adoption of a resolution by the General Assembly, which recommended, inter alia, the use of sample surveys where complete counts are not practicable, the survey of gaps in demographic data, the publication of the percentage margin of probable error for such data, the elimination of errors in age records – a method recommended by Bachi at Rome (see p 96 above) was recalled – and also recommended that the United Nations Statistical Bureau be invited to extend its work on the verification of the quality of demographic data. Vincent's paper also led to the adoption of a resolution concerning the practice in many countries of publishing data referring to "non-reported" and "ill-defined" classes.

A joint meeting was also held with another affiliated organization, the International Association for Research in Income and Wealth, and another with the Biometric Society (also affiliated) with papers on bioassays, physiological effects of hot climates, and some medical topics. Outside the session there was organized independently by the Biometric Society, an International Symposium on Biometrics. Nine meetings were held with papers on genetics, on experimental designs for perennial crops, on bioassays, on medical statistics and on biological sampling and research.

Mathematical statistics were the concern of several meetings; one on the place of statistics in operations research (four national papers) one on miscellaneous sampling questions (six papers) one on statistical theory (twelve papers) and

one on econometrics (nine papers). Space forbids the enumeration of the wide variety and scope of all these contributions.

The position of statistics and statisticians in industry – a subject closely connected with that now known as "industrial statistics" – formed the topic for another meeting when three papers discussed ways and means of stimulating, infusing, and promoting the use of statistical techniques in industry and another on the Institute's new publication "International Journal of Abstracts "on Statistical Methods in Industry" (referred to in a later section).

A new subject for the Institute's sessions was that of the application of statistics to the physical sciences. Papers were submitted dealing with atmospherics, nuclear and cosmic ray physics, meteorology and oceanography as well as general papers on the physical sciences. This subject became an important one some years later when a Committee was set up on the subject (see p. 103).

The short meeting on economic and social statistics should be mentioned if only because the discussion of a paper on "internal goods transport by road" led to its adopting a resolution that "a committee to be especially charged with "studying the problems of highway transportation statistics be created within "the I.S.I.". It was not however accepted by the General Assembly which referred the matter to the Bureau for further study.

The session was followed by two seminars, one a round table discussion of quality control, the other a series of lectures on mathematical statistics and sampling econometrics and demography. Thirteen statisticians from a dozen countries gave their services, and the lectures have been published by the Institute.

While this session was in respect of attendance and of numbers of papers submitted, a smaller session than the previous ones, it nevertheless exceeded them in the scope and variety of subjects treated which now cover almost every activity which gives rise to measurable phenomena. Its special value was in fostering relations with statisticians in the countries of the American continent.

The 30th session (Stockholm 1957) was organized on somewhat different lines. The numbers of papers contributed to recent sessions had been found too large for them all to be discussed at the sections or meetings. The Bureau of the Institute and the chairman of these meetings had experienced some difficulty in deciding which papers should be discussed and in what order. At the Rio session some changes in procedure had been made, already mentioned, but these had not proved entirely satisfactory. Some important papers were not discussed owing to lack of time, some were received too late (even

circulated during the meeting) for participants to have become acquainted with them in advance. For this session the Bureau decided that for each programme meeting, an organizer should be appointed and that only five reports be submitted to each meeting. The other free papers submitted were circulated and, if time allowed, could be discussed. As at the previous session, a large number of meetings was arranged, 19 in number, each in charge of an organizer who was usually the chairman of the meeting.

The opening session was marked by an original address from President Darmois (unable unfortunately to be present). It was what he called

> "an approach from a philosophical point of view to the problems associated with scientific work in its pure and applied form, and with the position of the scientist within these domains. Until recently it was generally believed that the two fields of activity (the university with its pure scientists, and the world of business with particular demands and types of research personnel) were of too different a character to be united. For some 30 years, a trend may be noticed to bring these two fields of human activity closer together. Among the topics for the session in statistical control techniques, deterministic and stochastic linear programming and the general conceptions underlying operational research offer examples of this new area of research. The previous spirit of departmentalism is replaced by cooperation and there are many indications that cooperation between research workers and industrial leaders is developing."

Twenty meetings were provided for, two of them being joint meetings with the International Population Union, three with the Biometric Society, one with the Congress of Nordic Statisticians; two were organized by the Institute's committee on the statistics of large towns, and one by the committee on industrial and technological statistics; the others were organized by members of the Institute. About 125 papers were submitted but as pointed out above only about half of these were placed definitively on the agenda of the meetings; of the remainder some chosen by the Bureau were placed on the agenda of "meetings for the discussion of uninvited communications". An unusually large number of Institute members attended the session (150) as well as of guests (422, of whom 152 were from the Nordic countries).

The agenda, covered a wide range of topics though not quite so eclectic as at the previous session. Only two meetings deal with administrative or official statistics (a remarkable contrast with the early sessions of the Institute); these were on the 1960 World Census of Agriculture and on transport statistics. At the first of these representatives of the Food and Agricultural Organization as "producers" contributed papers on the aspects of this census and one paper gave the point of view of the "consumer" – one who is inclined to be neglected by the official statistician. The meeting on transport statistics dealt

principally with road transport statistics, in continuation of the work at the previous session.

Demographic statistics, as usual, played a large part in the programme of the session thanks to the active collaboration of one of the Institute's affiliated organizations, the International Union for the Scientific Study of Population. Meetings were held on survey techniques in population research with three invited communications, and three others dealing with Canadian, Lebanese and Indian problems respectively; and one on measurement of fertility. A report on the present results of a new study on fertility in the U.S.A. was also submitted. A large number of free communications was received on this subject and two extra meetings were arranged for their discussion.

Mathematical statistics were considered in two meetings on statistical theory, one meeting on linear programming, and another on sampling methods. The one on statistical theory discussed papers on distribution-free statistics, on growth curves, efficiency tests and Pearson's χ^2; the second had papers on Kolmogoroff–Smirnov's law, on the analysis of unimodal frequency curves by the method of probits, pseudo-linear regression, on the mode of the mid-range, probability matrices and on K-statistics; the one on linear programming had general papers on this subject, one on electric power production and tidal energy; the one on sampling methods discussed papers on replicated sampling in Mexico and in Germany, on probability sampling, on interpenetrating samples and on sampling errors.

Three series of meetings were held with the Biometric Society: one discussed statistics in relation to medical research where five technical papers were presented; one was on problems of experimentation with papers on statistical methods in the elucidation of basic mechanisms, design of screening tests in the pharmaceutical industry, statistical problems of plant selection and non-orthogonal designs; and one on statistical genetics with papers on the applications of population genetics theory to man, and on polymorphism and natural selection.

The joint meeting with the Congress of Nordic Statisticians took as its subject for discussion the statistical testing of national economic projections and programmes. Papers were submitted on the deviations between national budgets and national accounts in Norway, on testing of national projections for policy making in the U.S.A. and the testing of economic programmes and plans in Japan, on the economic plans of Bulgaria and on measuring plan fulfilment in Hungary.

The subjects of electronics which has come much to the fore in recent years was taken up for the first time at a meeting on the use of electronic equipment

in population censuses and other fields. Their use was described in France for the agricultural census, in the U.S. by the Census Bureau, and their proposed use in the United Kingdom by the Board of Trade.

Further questions of industrial applications of statistics were considered by two meetings organized by the committee on industrial statistics and technology. The first, on application in small plants, discussed the methods adopted in different countries; the second, on the application of statistics in administration, discussed papers on the application of statistical quality control in industrial administration; reports were also presented on their application in Denmark, Norway, Sweden and Germany.

Two meetings on municipal statistics were organized by the committee on statistics of large towns – a subject now forming an important part of the Institute's practical programme. The first (organizer Mewes) consisted principally of papers on the work of the Institute on this subjects; the second (organizer Wolff) on selected municipal statistical investigations discussed urban population densities, survey of housing requirements at Copenhagen, holiday spending by Amsterdam citizens and attendance statistics for cinemas, theatres and concerts in Amsterdam. It was suggested that a section be created on this subject. This proposal was approved by the General Assembly and an account of the setting up of this section, and its functions are given later. Other meetings were arranged on miscellaneous economic statistics and on statistics of regions within a country.

After the close of the session, a round table on the teaching of demography was organized by the Committee on Demographic Instruction of the International Union for the Scientific Study of Population. Two meetings were held, one on the subjects for an adequate elementary course in demography, and the other on the requirements for the training of professional demographers. These subjects are of particular interest to demographic statisticians and many attended these panel discussions, either as members of the Institute or of the Union (or usually of both bodies).

At the 31st session (Brussels 1958), the agenda did not cover quite so wide a field as at the previous session. It included however the subjects of statistical methods for the assessment of living conditions, the use of sampling methods, international aspects of the 1960 population censuses, statistical problems of astronomy, recent developments in experimental design, statistical problems in inter-dependent dynamic systems, the application of statistical methods in biology, and the applications of statistical methods in industry. The number of papers submitted was 60, considerably less than the number submitted to previous sessions. This was due partly to the limitation of the agenda to

fewer topics and partly to the adoption of the administrative measures mentioned in Part II.

On the subject of the statistical assessment of living conditions – one which had recently come into prominence as the result of a report of a special committee on the subject set up by the United Nations – invited papers were read on the influence of prices and incomes on household expenditure, on some indicators for comparison of level of living over time and between regions (with special reference to India). On the use of sampling methods, invited papers were contributed on the use of prior statistical information in problems of estimation and on training in sampling for a governmental statistical system. In view of the forthcoming population censuses to be taken around the year 1960 in most countries, the papers on international aspects of these censuses were very appropriate. They covered such aspects as the latest developments in demographic analysis of census results, on international cooperation in the field of population censuses, on the use of census results as source-data for economic planning and on the method of measuring the educational level of a population.

A new subject was the statistical problems of astronomy. Invited papers were submitted on statistical problems in the study of galaxies, on the statistics of overlapping images and their applications in radio astronomy, and on models of functional relationship illustrated on astronomical data. At the meeting on statistical problems in interdependent dynamic systems, invited papers were discussed on a case study of interdependent versus causal chain systems; on estimation, regulation and prediction in interdependent dynamic systems and on the statistics of systems of simultaneous economic relationships; and at the meeting on developments in experimental design, the papers submitted dealt with a basis for the selection of a response surface design, an analysis of fractionally replicated 2n3n designs and on simple scientific experiments on farmer's land. The meeting on the application of statistical methods in industry – on which subject the Institute has created a special committee which compiles an abstracting service – three papers were discussed, one on a program for the control and assurance of product quality, one on attribute sampling in operation, and one on the non-central t-test based on a range in place of standard deviation. This meeting was followed by the showing of a series of film on the subject. These films, all of U.S.A. origin covered process control, acceptance sampling, quality control, work sampling, etc.

The meeting on the application of statistical methods in the biological sciences was a joint meeting with the Biometric Society, following the precedent of previous sessions. Papers were discussed on the uses of variance component

analysis in interpretation of biological experiments, on a simple example of the external economy of varietal selection and on matrix inversion, its interest and application in analysis of data. Finally three meetings were held to discuss the contributed papers on mathematical statistics. Seventeen papers were discussed on a wide range and variety of topics in this field. The interest however aroused by one paper on "problems recently discussed regarding estimating the logistic curve" led to a request, from several participants that an informal meeting be held to discuss it further. A special evening meeting was accordingly arranged.

It was intended to hold a meeting on the historical development of statistics but the organizer was able to obtain only one paper on the international coordination of administrative statistics, which was discussed at a meeting covering "miscellaneous papers" where about half a dozen contributions on subjects which could not be classified under any of the other topics were discussed. Special facilities were granted to the participants to visit, and receive explanations of, the various systems of electronic computers, installed at the Universal Exhibition, at the National Institute of Statistics and elsewhere. It was also agreed to set up a committee on statistics in the psysical sciences.

A comparison of this account of the scientific work chiefly at the Institute's sessions in the last 25 years, with that given in Zahn's jubilee volume, shows a remarkable contrast. In Part II of this volume (L'activité scientifique de l'Institut) it was possible to divide contributions into two groups: "Statistique théorique" occupying a few pages only and "Statistique Pratique", (subdivided into "Statistique de la Population", "Statistiques Economiques", and "Statistiques Culturelles"). Many subjects mentioned in the preceding pages are not mentioned in this volume, and it is not possible to classify the contributions to the last eight sessions under two main and three subheadings as in 1934 owing to the great development in statistical theory and method and the extension of the application of statistical methods to all fields of knowledge. It is not possible to terminate this account of the scientific activities of the Institute, devoted almost entirely to the biennial sessions at this point, as was the case with the jubilee volume. Extra-sessional activities have now been considerably developed and it is to these that the remainder of this Part is devoted.

D. The Industrial Application of Statistics.

The promotion of the application of methods of statistical analysis to problems in industry and agriculture, is a relatively new development in the

field of statistics. The subject as such is not mentioned in "50 années de l'I.I.S.", nor in the index of papers communicated to the sessions of the Institute in the years 1887–1938, published by the Institute in 1941. The rapid development in this subject is due largely to the pioneer work of U.S.A. and British statisticians. In 1931 Shewhart of the Bell Telephone Laboratories (U.S.A.) published his book on "The Economic Control of Quality of Manufactured Products" and in 1932 Pearson read a paper to the Royal Statistical Society on "Statistical method in the Control and Standardization of the Quality of Manufactured Products". These contributions stimulated interest in what was largely a new field in the application of statistical methods. The Royal Statistical Society in fact set up in 1933 a special section the "Industrial and Agricultural Research Section" but by 1945 experience had shown that it was desirable to separate this section into two, a Research Section and one on Industrial Applications, which has held regular meetings ever since.

The growing interest in this subject is seen by the papers presented to the first session of the Institute after the war (1947) when a series of papers was contributed to the Statistical Methodology Section. At the Berne session (1949) for the first time a "group" was created on the applications of statistical method in industry under the chairmanship of Mahalanobis when valuable papers were submitted as well as reports on the development of statistical applications in industry in Belgium, France, Netherlands, Sweden, Switzerland, Czechoslovakia and India. The interest aroused by these communications resulted in the Bureau setting up a committee of three persons to consider the creation of a "Section" of the Institute on this subject in accordance with article 305 of the statutes (see page 94 above).

This committee (consisting of Tippett, Mahalanobis and Deming) reported that the creation of such a section was possible and recommended that a larger committee be set up to work out details. The aims of the section would be:

a) to facilitate personal contacts between statisticians working in industry,
b) to spread knowledge of the experience of different countries in applying statistics to industry, in the training of individual statisticians and in securing fruitful cooperation between statisticians, technicians, managers etc.
c) to provide means for encouraging the development of industrial application of statistics . . .
d) to make such proposals for the standardization of nomenclature and terminology as seems desirable.

The new committee, consisting either as members or consultants, of the leading authorities in this field concluded however that the idea of a "Section" of the Institute should be abandoned. The reason for this was primarily that under the statutes of the Institute such sections were to be open to all members of the Institute. The committee considered that the formation of such an "open society" would have little success without preliminary consultation with existing national societies, first among these the Royal Statistical Society with its active "Industrial Applications Section". To this end an international conference was organized by this Section of the Royal Statistical Society at Sheffield in September 1950 and the various structures of a society that seemed feasible were explained by Hamaker (Netherlands). There was lack of support for an international open society but the meeting was rather in favour of "organizing an annotated bibliography".

At the Delhi session (1951) the General Assembly adopted the proposals of this committee and decided to set up under article 306 a standing "Committee on Industrial Applications of Statistics" whose object would be to provide contributions on the subject to the sessions of the Institute, to set up and supervise a proposed annotated bibliography, to promote industrial applications of statistical techniques in underdeveloped countries and to advise the Institute in all matters relating to industrial statistics. The Committee under the name of "Committee on Statistics in Industry and Technology" was duly appointed and consisted of Shewhart, president (U.S.A.), Tippett, chairman (U.K.), Hamaker, secretary (Netherlands), Deming (U.S.A.), Hald (Denmark), Koyanagi (Japan) and Vaswani (Miss) (India) and its first activity was the establishment and supervision of an annotated bibliography. A general editor was appointed in the person of Butterbaugh (U.S.A.) and regional editors were appointed for the United States of America and Canada, the United Kingdom, France, the Northern Countries, the Benelux countries, Latin America and Spain, Italy, India, Japan, and Western Germany. These regional editors assisted where necessary by regional abstractors scrutinize the journals of their region, collect titles and prepare abstracts of important articles.

The first issue of the "International Journal of Abstracts on Statistical Methods in Industry" (Bibliographie internationale annotée des Applications Industrielles de la Statistique) was published in April 1954 and issues have followed at regular intervals since (three times a year). The scope of the abstract is to give a list of papers and books on the subject published in all parts of the world. Under each title is given a short description of the paper or book; whether it is theoretical or applied, original or expository; the field

of application (if any); whether it is general or deals with specific examples; the particular statistical techniques dealt with etc. All abstracts are in English and French. The field covered is defined as: "application of statis- "tics to problems of industrial production (called industrial statistics, engi- "neering and technological statistics, quality control and statistics for manage- "ment) also subjects such as application of statistics to market research, sales "administration, individual psychology and personnel administration. In- "dustry is interpreted broadly to cover transport, mining, electrical power "and (possibly) such features of agriculture as are common to industry."
The printing and publishing is carried out by the Permanent Office of the Institute at its headquarters. The Journal has been well received and up to the end of 1959, 1984 abstracts of selected books and papers have been made under the headings of (a) process control, (b) sampling and acceptance inspection, (c) research and development, (d) administrative applications and operations research, and (e) management applications. They are printed on one side of thin cardboard; three abstracts make up one page which can each be cut out for the purpose of arranging in a card index. In the meantime another object of the committee namely to provide contributions to the sessions of the Institute, has not been neglected. At the Rome session (1953), the Rio session (1955) the Stockholm session (1957) and the Brussels session (1958) meetings on industrial applications of statistics were organized and the subjects discussed have been mentioned in previous pages.
This new development in the activity of the Institute provides an excellent illustration of President Rice's plan in 1947 for the Institute's future rôle, (quoted on p. 45 above) and for the carrying out of its new aims. The part played by these industrial statistics and the importance of their application is growing rapidly and the new recruits to the Institute's membership in recent years contain many representatives of this new field of statistical activity. The Institute owes special thanks to those who encouraged this development in making the new venture possible in particular to the Committee's Chairman (Tippett) and Secretary (Hamaker) and the General Editor (Butterbaugh).

E. Statistical Education and Training.

The encouragement of statistical education and the training of statisticians is now one of the most important, if not the most important, of the new activities of the Institute. Prior to 1948, the statutes contained only a brief reference to this subjects, (in article 1 para 4) namely

> "En concourant, s'il y a lieu, par d'autres publications, par l'enseignement et par divers moyens, à propager les notions de statistique . . ."

and the work of the Institute was largely limited to discussing the scope of statistical education in various countries. After the first war, two reports on the teaching of statistics in high schools and colleges were submitted to the 16th (1925) and 17th (1927) sessions (Bulletin Vols. 22 & 23), but no *voeux* or recommendations were made on this subject.
In the new statutes, in force from 1948, definite place was assigned in the objects of the Institute to "promoting the training of competent statisticians" and to "establishing and maintaining professorships, lectureships and fellowships for advanced studies in statistics", (articles 101c, and d). The reason for this change was indicated by Rice, in his memorandum on the proposed new statutes (quoted on p. 46 above):

> "The Institute can no longer regard itself as a semi-official organization, collecting international statistics for governmental use, drafting conventions and the like. These are now functions of official international agencies . . . The Institute cannot live without a mission, an *action program* . . . The statement of objects in article 1 is an action program. It represents a new *raison d'être*."

An opportunity to implement this action program, arose immediately at the third meeting of the Statistical Commission of the United Nations 1948, to which Rice, as a member, submitted a paper entitled "An International Programme for Education in Statistics". The Statistical Commission had under consideration, the whole subject of the "development and improvement of statistical systems" especially in those "countries which do not now possess the present or potential resources of trained personnel". Rice in his memorandum surveyed the existing facilities for education and training, outlined a programme and concluded with the following pregnant words:

> "The Institute is the one organization consciously adopted by its character, its accumulated experience and its relation to other official and unofficial bodies to receive an assignment from the United Nations to undertake the programme here suggested. For many years before the first world war, it was the only existing instrument for international statistical collaboration. It formulated intergovernmental conventions and secured their adoption.
> Although the latter functions have now devolved upon agencies of the United Nations, the Institute still holds an unchallenged position as the progenitor of international statistics - - - Relieved of its direct responsibilities for inter-governmental action, the Institute is now freed for ancillary services of an advisory or contrastual character to the United Nations, its specialised agencies or member governments. The proposed international programme for education in statistics is of this character" ([15])

([15]) Document E/CN 3/43 p 6.

The Statistical Commission thereupon drafted a recommendation which was adopted by the Economic and Social Council with slight amendment and of which the relevant paragraphs read

> "That the Secretary-General in collaboration with U.N.E.S.C.O., other interested specialized agencies, the International Statistical Institute and other appropriate international organizations arrange for
> a) a survey of the needs for education and training in statistics and the formation of an international programme to meet these needs
> b) a report on the means by which such a programme may be put into effect.
> That the Secretary-General in such consultation take into account the views ... contained in a communication on this subject addressed to the Statistical Commission by the President of the International Statistical Institute". ([16])

This programme was submitted to the fourth session of the Statistical Commission in April 1949, as well as a report by the Institute on the "Furtherance of Statistical Education. A Provisional Programme of the International Statistical Institute". (E/CN3/W/10, also published in the "Revue de l'Institut International de Statistique Vol. 17, No. 1/2, 1949). The first of these reports considered that a distinction should be made between *education* and *training* in statistics:

> "Education may be regarded as the preparation of qualified candidates for university and college degrees. Training may be regarded as instruction in statistical skills and techniques for specific and more or less immediate application, imparted to those already possessing some knowledge of the fundamentals of statistical science. Hence statistical training was regarded primarily as an operating responsibility of the United Nations and its specialized agencies".

It added that

> "The Secretary-General does not however regard this distinction as a dichotomy since education and training in statistics shade into each other. Indeed, it may be true that in the promotion of improved statistics in statistically underdeveloped countries, education and training will be virtually indistinguishable". ([17])

The Commission agreed that

> "The International Statistical Institute is the preferred agency at this time, for carrying forward the work of promoting statistical education throughout the world". ([17])

The following resolution was adopted (1949):

> "The Economic and Social Council – notes the steps already taken by the United Nations Educational, Scientific and Cultural Organization and the International Statistical Institute to initiate an international programme of education in statistics. Urges the U.N.E.S.C.O. and the I.S.I. to take appropriate steps to further the improvement of education in statistics on an international scale".

([16]) Document E/795 p 25
([17]) Document E/CN3/56 pp 2 and 14

The "steps already taken" refer to the resolution of 20 March 1948 by which U.N.E.S.C.O., welcoming the initiation of the Institute in furthering one of the objects which U.N.E.S.C.O. was set up to achieve, committed itself

> "to assist and promote education in statistics, including financial help to the International Statistical Institute if a satisfactory agreement is reached".

This agreement was duly reached by a contract of 20 January 1949 and for the fiscal year 1949 a grant of $5000 was made to the Institute to enable it to make a

> "survey of existing facilities throughout the world for the education of statisticians, and of the need, if any, for improving and/or expanding such facilities". ([18])

This survey was duly completed and has already been referred to above under the title of "Furtherance of Statistical Education".
The administration of the Institute's programme on this subject was placed under the direction of a committee on statistical education under the chairmanship of Rice and later of Mahalanobis. Its first act was to organize seminars at Berne and Geneva on statistical questions for students and others. It next sent a questionnaire to the governments in certain areas on the need for statistical education. It was always intended that the programme should be applied primarily in the less developed or undeveloped countries, where the need was the greatest. The report drawn up by the committee after a full survey of the problem recommended that regional statistical education centres be set up in areas of general need; first in Calcutta to cater for countries in the Middle-, South- and Far-East. It also recommended the setting up of a system of fellowships to provide means of support for promising students and also advisory services, the provision of teaching aids (text books, glossaries, bibliographies etc.) and the holding of seminars at the end of each of the Institute's biennial sessions. The U.N.E.S.C.O. approved this programme in September 1949 and made a grant of $10,000 for its execution during the year 1950. In the following years, U.N.E.S.C.O. has continued its grant for this purpose amounting to $15,000 in 1951, $13,000 in 1952, $ 14,000 in the years 1953–54, and $10,000 p.a. for subsequent years.
The Calcutta centre was duly opened in October 1950. The choice of this city for the first centre was largely due to the fact that the Indian Statistical

([18]) Review of the International Statistical Institute Vol. 17 No. 1/2

Institute had its headquarters in that city and the necessary facilities in the way of rooms, staff etc. were available. The Indian Statistical Institute in fact became a joint operator of the centre with the I.S.I. The main purpose of the Centre is to provide courses in theoretical and applied statistics at various levels to selected participants from primarily Asian countries. The professors and teachers of statistics were engaged from different countries, as well as from the staff of the Institute. For the first term, 18 students attended, all statistical officers. The first ten terms were attended by 277 students coming from Afghanistan (2), Burma (27), Cambodia (2), Ceylon (9), India (90), Indonesia (12), Iran (2), Iraq (1), Japan (10), Malaya (1), Nepal (6), Pakistan (64), The Philippines (29), Singapore (2), Syria (1), Thailand (13) and Vietnam (6). For a full account of the plan of instruction, the curriculum, the list of teachers and other information, the reader is referred to Appendix V to this volume which gives the prospectus for the twelfth term of the Institute (1958–59).

In 1952 the Director of the Indian Statistical Institute (Professor Mahalanobis) approached the Government of India on the question of the future of the Centre and as a result the Government decided to assume financial responsibility of the Centre from 1953. It therefore made a grant to the International Statistical Institute to enable it to arrange and finance teachers' visits to the Centre, to pay for a fellowship and another grant to the Indian Statistical Institute to meet the expenses of the administration of the Centre. This arrangement has been continued up to the present time. Many distinguished professors of statistics from outside India have given courses of lectures at the Centre, as well as the equally distinguished staff of the Indian Statistical Institute.

The success of the Centre has been due in no small measure also to the generosity of the Government of India in granting fellowships under the Colombo Plan. These fellowships provided the holders with subsistence and book allowances as well as their travelling expenses. Up to the present, more than 120 fellowships have been awarded.

During the first six years of its existence grants for its maintenance were made by the Government of India on a year to year basis. The Government has now sanctioned grants up to the end of the second five year plan (1960–61).

In 1952, the State of Mysore expressed the desire for a short training course and one was arranged at Bangalore in May 1952, attended by 31 trainees.

In became clear however during the first term of the Calcutta Centre that the Middle East, which the Centre was also originally intended to cater for,

was not an area from which many students would be sent to Calcutta largely owing to the long distance to be travelled, and later experience has shown that very few students came from Middle East countries. It was therefore decided to study the possibility of establishing another centre specifically for this region. After a visit to the area by the Chairman of the Institute's Statistical Education Committee and after discussion with the Lebanese Government, the American University in Beirut, and others, it was decided to set up a centre in Beirut. As there was no institution in Beirut such as the Indian Statistical Institute in Calcutta, with academic and physical facilities at its disposal, different arrangements had to be made.

The Beirut Centre was opened in February 1953 with 40 students coming from 8 countries. The main aim of the Centre is to train persons who are doing or are expected to do statistical work in Government departments, commercial, industrial and financial organizations. The curriculum consisted of four basic courses (elementary statistical methods, auxiliary mathematics, statistical organization and census and survey methods); experimental work and laboratory practice, and assisted reading and seminars. The first, largely experimental, term was marked by a variety of difficulties but these were to some extent overcome in the second and third terms in 1953 and 1954 though the uncertainty of adequate financial support was a major limiting factor. In June 1954 however, the Ford Foundation (U.S.A.) agreed to make a grant to the Institute of "not more than $100,000 to be spent in not less than four years" and Leb. £6000, later increased to £20,000, were voted by the Lebanese Government. It thus became possible to appoint a full-time director (F. el Khuri). In the fifth term an additional course on applied statistics in special fields of work was introduced. During the first six terms (1953–59) 194 students attended the course, coming from Bahrein (2), Cyprus (2), Egypt (16), Ethiopia (7), Gaza (2), Iran (5), Iraq (25), Jordan (31), Kuwait (1), Lebanon (59), Libya (4), Saudi Arabia (16), Sudan (5), Syria (6), Tunesia (2), Turkey (10) and Yemen (1).

One of the chief difficulties in developing this Centre has been the language difficulty. Many of the students speak only or primarily Arabic, while the standard of English or French (in which language the lectures were mainly delivered during the first three terms) possessed by some of the students is not sufficient to ensure that they benefit from the higher standard of teaching available in the second part of the courses. It was therefore decided in 1955 that the main language of instruction be Arabic, in which language courses are now delivered during the first part of the term although non-Arab students are also taken care of. In the second half, devoted primarily to applied statis-

tics, lectures are also delivered in English and French, in addition to Arabic instruction. Lectures are published in English and Arabic, and the centre has compiled a glossary of statistical terminology in Arabic, English and French. The work of statistical education undertaken by the Institute described so far, has been confined to countries almost entirely "East of Suez". No attention has been paid to countries of the American continent because the Inter American Statistical Institute (an independent body and affiliated to the Institute) is promoting statistical education in this region. In 1958, it was decided to explore the needs for, and possibilities of a centre in tropical Africa, in view of the fact that the United Nations had recently set up an Economic Commission for Africa.

Statistical Seminars

The presence at the Institute's sessions of statisticians from different countries provides a favourable opportunity for enlisting their services to give lectures to students and others in the town at which the sessions take place and the Institute's Committee on Statistical Education decided to organise statistical seminars. The first one was held after the Berne session (1949) and took place in one week in Berne and another week in Geneva. Lectures were given by fifteen statisticians on statistical sampling, experimental design, labour statistics and industrial applications. The success of this seminar led to the organization of others and the next was held after the Calcutta session 1951 and was attended by students from 24 countries, when 20 prominent statisticians gave lectures on similar fields of statistics. After the Rome session in 1953, lectures were given by leading statisticians on theoretical and practical statistics. Persons attending the seminar represented 16 countries. At the Rio de Janeiro session in 1955, two seminars were organized, one on quality control for advanced students in collaboration with the Inter American Statistical Institute and one on demography and econometrics for other students. A further one was organized, together with a symposium on the teaching of statistics, in Calcutta in 1956 on the occasion of the celebration of the 25th anniversary of the Indian Statistical Institute to which a number of prominent statisticians had been invited.

All the lectures at these seminars were well attended. They were free and open, without formal inscription to any students who cared to attend and were followed by discussions. Summaries of the lectures given at the seminars of 1949, 1951, 1953 and 1955 have been published by the Institute.

Teaching Aids and Materials

Statistical tuition is not however, the only field in which the Institute has

engaged in carrying out its objects in statistical training and education. In its original survey of the subject already quoted it was pointed out that

> "a serious lack has been reported of some of the basic tools for the instruction of students in statistical science. Among these needed instrumentalities are common glossaries of statistical terms, text-book translations, monograph series in many languages and library materials". ([19])

and the Institute's Committee drew up a programme of proposed work in this field. The first task was the preparation of a Dictionary of Statistical Terms. Professor Kendall of the London School of Economics agreed to supervise this work, with Dr. Buckland as research associate. In collaboration with a number of organizations and individuals in various countries a first list of 1600 terms was drawn up. The English version of the Dictionary which took five years to compile and now covers about 2200 titles was published early in 1957. ([20]) Four glossaries giving the terms in French, German, Italian and Spanish with their equivalents in English are appended to the Dictionary. This volume is without doubt an outstanding contribution to statistical education and training.

In September 1958, the Statistical Education Committee approved a proposal from the Union of Japanese Scientists and Engineers to prepare a Japanese version of the Dictionary of Statistical Terms. An editorial committee under the chairmanship of Morita has been set up to undertake the work. The Committee also agreed that the Institute should collaborate in the preparation of a list in English and French of statistical terms used in official statistics; a preliminary list of about 1000 terms had already been prepared by the Secretariat of the (U.N.) Conference of European Statisticians which requested the Institute to continue the work. The Committee decided that a list should be drawn up in the first instance in one language only which would be circulated to the United Nations and its specialized agencies, certain national statistical offices which had offered collaboration, and other bodies; and that this list when finally drawn up would be translated into other languages. A list of about 3000 terms has been prepared with the collaboration of several national and international statistical bodies and with the cooperation of Derksen (Netherlands).

These dictionaries of statistical terms are however merely the beginning of this series of new activities. Another is the preparation of several glossaries

([19]) Document E/CN 3/56 par 25

([20]) Kendall and Buckland. A Dictionary of Statistical Terms, prepared for the I.S.I. with the assistance of U.N.E.S.C.O. pp 493. Published for the I.S.I. by Oliver and Boyd, London 1957.

of statistical terms and the task of finding equivalents of the terms in other languages is being considered. The manuscript of an English-French dictionary and glossary has in fact been prepared by Morice, and the preparation of a provisional limited glossary of statistical terms in Arabic has been completed at the Institute's Statistical Education Centre at Beirut under the supervision of the Director Faiz el Khuri, and the United Nation's Statistical Seminar for Arab States held at Cairo in 1955,

> "recommended the adoption of the glossary as one measure of promoting co-ordination and uniformity of statistical work in the region".

Bibliographies on statistical text-books in different languages have also been prepared. In 1951 a "Bibliography of Basic Texts and Monographs on Statistical Methods", covering the main non-periodic literature in the English language was issued, prepared by Buckland under the direction of Kendall. This was followed in 1952 by a "Bibliographie sur la méthode statistique et ses applications", prepared by Darmois and Morice, of French literature.

A volume on Italian literature has also been issued by the Italian Statistical Society, under the supervision of Gini and under the joint auspices of the International Statistical Institute and the University of Rome (Bibliografia sui metodi statistici e le loro applicazioni), and following a recommendation of the Statistical Education Committee, a bibliography of publications in the German language has been issued in 1955 by the German Statistical Society on "literature in bookform on theoretical statistics and their applications".

In 1954, the compilation of a series of bibliographies on special topics was started and the first volume "Bibliography on Index Numbers" by Buckland, under the direction of Allen was issued in 1956, who also wrote an introductory chapter. This bibliography covers about 600 entries in eleven west European languages, covering principally the last 90 years. A second volume in this series devoted to time-series and stochastic processes and sponsored by U.N.E.S.C.O. has been compiled at the Institute of Statistics of the University of Uppsala under the direction of Wold (a vice-president of the Institute), and will be issued in 1960.

Mention should also be made of the "International Journal of Abstracts: Statistical Theory and Methods", on the lines of the existing "International Journal of Abstracts on Statistical Methods in Industry" already referred to, the compilation of which was approved by the Statistical Education Committee in 1957. The aim of this new journal is to give complete coverage of papers in the field of statistical theory and new contributions to statistical methods as published after 1 October 1958. For five important journals on mathematical statistics, *all* contributions are being abstracted and for six

other technical journals, the great majority; in addition appropriate papers will be abstracted from about 200 other journals. The abstracts are in English and in adopting an abstract of up to 400–500 words, the Institute hopes to fulfil a long-standing need in this important field. A flexible scheme of classification has been developed for the abstracts and the pages are colour-tinted according to the main sections of the classification. The general editor (Buckland) works in conjunction with the Research Techniques Unit of the London School of Economics and the managing director (Anderson) is on the staff of the Institute of Statistics of North Carolina State College. Initial financial support has been given by the National Science Foundation of America. The new journal is quarterly and contains approximately 1000 abstracts per year. The first issue of this new publication was dated July 1959 and issued in September 1959.

Finally, it should be added that at each of the sessions of the Institute in 1949, 1951, 1953 and 1955 meetings were organized on the subject of statistical education and training when papers were contributed by specialists in this field. Among these may be mentioned the reports presented on the work of the committee on statistical education of the Inter American Statistical Institute, various papers on international experience in statistical education, on the content of statistical teaching, on training in biometry, on nomenclature in biometry, on the rôle of mathematical statistics in secondary education, on professional training in statistics and on problems of teaching of statistics in South-East Asia.

This account of the new rôle of the Institute – a rôle which would perhaps have surprised the original foundation members of the Institute – is necessarily brief. In fact, the reports, documents and papers on this subject which have appeared in the last ten years are sufficient for a special volume to be written on the subject of international statistical education and training. It is sufficient however to show that the Institue acted wisely in 1947 when it decided to enter the "operational field". Its work in this field when taken in connection with the programme of the United Nations and its specialised agencies in the field of statistical training expecially for the underdeveloped countries – a vast programme which falls outside the scope of this volume – has had undoubtedly large effect in increasing the number and quality of statisticians throughout the world, and, as many of those who have benefited by this service were or will become government officials, the effect on official statistics will be of great importance.

Finally reference should be made to the survey of statistical teaching undertaken originally by the Institute at the request of U.N.E.S.C.O., and with

the cooperation of the Indian Statistical Institute. The original arrangement provided for a survey covering a defined and limited list of countries viz U.S.A., U.K., France, Sweden, Yugoslavia, Mexico, U.S.S.R., Poland and India, but reports on fifteen other countries have now been collected. An analytical study of the information available has been prepared by Mahalanobis with the assistance of the staff of the Indian Statistical Institute and has been published by U.N.E.S.C.O. in its series of publications on the Teaching of Social Sciences. ([21])

F. International Municipal Statistics.

This subject has a long history behind it, dating from the International Statistical Congress of 1872, and its development in the first 50 years has been given by Zahn (pp 74 and 75) and up to more recent times in two communications, by Bunle and Zwingli, to the 1957 session of the Institute. The work of the Institute in this field has considerably developed and is now one of its important activities. As frequently pointed out in the course of this history, the work of the Institute in compiling and publishing international statistics was taken over by other international organizations to a great extent after the war of 1914–18, and almost entirely after the war of 1939–45. One exception was that of the statistics of large towns. No other official organizations claimed competence in this field as their publications dealt almost exclusively with statistics of countries as a whole and not in general for smaller geographical units. The way was thus open for the Institute to carry on its former work and to develop it, without trespassing on the work of others.

As a result of the joint committee set up in 1931 with the International Union of Local Authorities, the Permanent Office compiled and published four volumes in a series entitled "Statistique Internationale des Grandes Villes" namely "Territoire et Population 1928-1934" covering 173 towns of more than 100,000 inhabitants (1939); "Statistique des Logements 1928–1934" covering 141 towns (1940); "Electricité, Gaz et Eau, 1934" (1939); and "Tourisme, 1929-1934" (1938). Of the 280 towns to which questionnaires were addressed, 173 sent replies which could be used.

After the war, the Bureau in 1949 expressed the view that "if funds were "available, further publication by the Institute of 'International Statistics

([21]) The University Teaching of Social Sciences. Statistics; a survey prepared and edited on behalf of the International Statistical Institute by P. C. Mahalanobis with the help of the Indian Statistical Institute and on the basis of national reports. U.N.E.S.C.O. pp 209, no date (but issued in 1957).

"of Large Cities' would without question be universally welcomed and "acclaimed" and an ad hoc Advisory Committee of three directors of the municipal statistical offices of Brunswick (Mewes), Zürich (Senti, later replaced by Zwingli) and Amsterdam (Wolff) was set up in 1951 to prepare a scheme for an annual publication. Through the intermediary of the International Union of Local Authorities, an appeal was addressed to European cities of over 100,000 inhabitants and a scheme of financial support with a contribution based on the size of the town (one florin per 1000 inhabitants with a maximum of 500 florins) was worked out. It was decided to limit the project initially to European cities because it was felt that it would be difficult to obtain financial support from other parts of the world without first showing concrete results in the form of a publication. This ad hoc Committee made considerable progress and in 1953 recommended that an official committee on municipal statistics be set up, whose task would be not only that of supervising the publication of comparative municipal statistics but dealing with methodological questions and standardization, and at the Rome session (1953), a committee was duly established of six persons, the representatives of the three municipalities mentioned above, together with Maroi (Italy), Johansen (Denmark) and Davis (United States). This committee met in the years 1953 to 1957, and at the first meeting a plan of publication was drawn up covering the following subjects:

A. Population (by age and sex, vital statistics)
B. Housing (dwellings by size and number of occupants, equipment of dwellings, building construction)
C. Economic characteristics (occupations, unemployment, tourism, telephone, radio, motor vehicles)
D. Public utilities (gas, electricity, water; transport)
E. Education and Culture (schools, theatres, libraries, museums, cinemas)

It was intended to publish one volume of statistical data each year and to give later analytical studies of the material.

The first volume "Population and Vital Statistics of Large Towns (International Statistics of Large Towns, Series A Population No. 1)" was published in a bilingual edition (French and English) in 1954. It was compiled under the direction of van den Brink (Netherlands) and covered 156 towns of over 100,000 inhabitants, covering 18 countries (17 in Europe plus Egypt). In this volume of 126 pages, a series of 12 tables gives data on population, area, sex and age distribution, marital status, births, deaths and causes of death. A Supplementary volume on Population was published in 1958.

In 1956, a second volume was published under the direction of Zwingli

(Switzerland) "Housing and Building Statistics (I.S.L.T. series B Housing No. 1)" covering 230 towns (of which two extra-European in Egypt). This volume of 68 pages – also bilingual – gives data on inhabited and vacant dwellings, on normal dwellings classified by ownership, by date of construction, by number of rooms, and by facilities. It also gives data on newly constructed dwellings in 1946–1953 and changes in the stocks of dwellings in the same period. Technical notes on the tables, on the definitions adopted, are included. In this case also, an analysis of the statistical material is being prepared by Zwingli of the Zürich statistical office.

The volume "Economic Data of Large Towns (I.S.L.T. series C No. 1)" was published in 1958 under the direction of Mewes of the Brunswick Statistical office. It gives the latest data on active population and its distribution by economic activities and social status as well as statistics of the number of motor vehicles since 1950, telephone subscribers, radio and television licenses and "radio pirates". A special section is devoted to statistics of tourism, and daily migratory movement.

The volume on "Public Utility Services and Transport in Large Towns, 1950 and 1955" (I.S.L.T. vol. D 1) was published in 1959 under the direction of Johansen of the statistical office of Copenhagen. It covers production and distribution of gas, water en electricity, urban transport and distance heating. A volume on Cultural Statistics (theatre, cinema, concerts etc.) is in preparation. These six volumes thus will give a complete survey of municipal statistics in nearly all the towns of Europe of over 100,000 inhabitants. They are a considerable advance on the four volumes published in the years 1938–1940. It is intended to repeat the volumes at regular intervals, possibly every three or five years. The carrying out of this work is too ambitious a programme for the Permanent Office of the Institute and it is due largely to the financial assistance of the Local Authorities in the different countries and the active collaboration of the directors and the staff of certain municipal statistical authorities that it has been successfully accomplished.

The success of this programme led to further developments. At the 1957 session the Bureau reported that the Committee on the Statistics of Large Town "had discussed the possibility of going more deeper (*sic*) into the prob-"lems of municipal statistics with a view to improving their presentation and "their international comparability". The Committee had also discussed the possible preparation of a bibliography on municipal statistics, together with an index of papers on methodological questions relating to such statistics. The Committee felt however that a larger number of experts should cooperate in the execution of such a programme.

It also considered the possibility of setting up a "Section" on municipal statistics. In the new statutes of 1948, an article was included (art. 305 a) which states that "to promote the objects of the Institute in ... particular "fields of statistical specialization, the General Assembly may establish "associations ... known as sections of the Institute whose members need not "be limited to members of the Institute" and the statutes also lay down the conditions to be fulfilled by such sections and their relations with the Bureau.

The object of such sections was clearly set forth in the explanatory memorandum on the proposed new statutes, submitted to members in 1947. It stated that

> "one part of the Institute's dynamic rôle should be to discover the statistical problems which need to be and have not yet been approached through scientific organizations of a regional type or of a type which is specialised as to subject matter. To cope with such problems the Institute should establish associations to be known as sections of the Institute, whose membership would not need to be limited to members of the Institute. The sections being founded by the Institute would have an even closer relationship to it than would the affiliated organizations. By establishing such sections and thus meeting various needs, the Institute would preclude the divisive effects of the establishment of numerous international statistical societies operating within narrow spheres of interest". (22)

No effective use had yet been made of this article of the statutes; the Bureau endorsed the committee's proposal in 1956 and invited it to submit proposals to the 1957 General Assembly. These proposals were duly submitted and the General Assembly decided

> "to establish, in accordance with section 305 of the Statutes, a Section for municipal statistics, the aims of which should be the development and improvement of the application of statistical methods in municipal administration, in particular by propagating in towns applications of statistical methods, by promoting the international comparability of municipal statistical data and by advising on its publications of municipal statistics". (23)

The great interest in municipal statistics was shown at this session by the fact that two of the "meetings" were organized by the Committee on the Statistics of Large Towns, at which papers were submitted on such varied and interesting subjects as urban population densities, on a sample survey of housing requirements in Copenhagen, on expenditure on holidays by Amsterdam citizens, on statistics of public entertainment in Amsterdam, on great cities and their surroundings a problem of statistical determination, on "l'autonomie

(22) see page 45 above
(23) Bulletin Vol. 36 Part I p. 159

municipale et la statistique", on the organization of statistical services in European large towns and on the development of the statistics of large towns. The Section for municipal statistics was duly set up and decided to adopt as its title "the International Association of Municipal Statisticians" with as its objects:

a) to promote in towns the use of statistical methods
b) to further international comparability of municipal statistical data
c) to advise the I.S.I. on publications in the field of municipal statistics.

In accordance with the Institutes statutes, members of the Institute may become members without formality and without payment of subscription; other persons, not exceeding 60 may be appointed members by the Board of the Association. The membership in 1959 was 35 of whom 13 were Institute members.

The first meeting of the Association was held in Geneva in October 1958 under the chairmanship of the provisional president (de Wolff). The chief papers submitted were on the applicability of population registers for census and population statistics, and on the possibility of computing the regional social product; papers on other subjects of municipal statistics were also discussed. The meeting also approved a proposal to issue an international bibliography of municipal statistical publications. The second meeting was held in Barcelona in September 1959 when papers were discussed on "urban agglomerations", population censuses and large towns; and group meetings held to discuss the volumes of the International Statistics of Large Towns. The first president of the Association to be elected under the statutes is Dr. Zwingli, Director of the Zurich (City) statistical office.

Although it has been in existence only two years, this Association has had a successful start and will no doubt contribute much to a field of statistics – that of municipalities – which has considerably developed in many countries and in which many practical administrative statisticians are interested. Hitherto, municipal statisticians unlike statisticians of national offices have had no international statistical forum although many municipalities have large and well-organised statistical offices especially in certain countries of continental Europe. They now have at their disposal a body in which their different problems can be discussed, and a series of publications in which the statistics of their activities can be collated and usefully compared. The Institute in the past, has contributed notably to the improvement of national statistics and now that this function has been largely taken over by other bodies its new field in promoting comparability and development in the municipal sphere holds out much promise. Its activity is still not world-wide,

XXI. *28th Session, Rome 1953*
The President of the Italian Republic, Luigi Einaudi, addresses the participants

XXII. *28th Session, Rome 1953*
Participants received in special Audience by H.H. Pope Pius XII

XXIII. *29th Session, Rio de Janeiro 1955*
President Georges Darmois plants an I.S.I. tree in Teresópolis (Brazil)

XXIV. *29th Session, Rio de Janeiro 1955*
Honorary President, Walter F. Willcox, member of the Institute since 1899, blowing out the candle at the 70th anniversary dinner

having been confined almost entirely to the countries of Europe, and one of the first tasks of the Association will be to consider a possible extension of the municipal programme to countries outside Europe.

G. Statistical Intelligence.

To conclude this Part of the History, some account should be given of the work of the Institute in diffusing information on statistical activities of all kinds. The first of the new objects of the Institute adopted in 1947 refers "to the exchange among statisticians of professional knowledge and the "growth among them of a collective interest in the advancement of such "knowledge". Many activities of the Institute in this field have already been described, in particular the publications of the two International Journals of Abstracts, one on Industrial Applications of Statistics and another on Statistical Theory and Methods. There are however several other activities of the Permanent Office whose object is to give to the members information on what is going on in the statistical field. The Review of the International Statistical Institute is the main channel for the diffusing of what may be described as "statistical intelligence". From the outset this Review has contained an International Statistical Bibliography which lists in each issue all statistical publications, books, articles, pamphlets, etc. which have come to the knowledge of the compilers since the previous issue. A detailed scheme of classification has been drawn up under fifteen main headings and a large number of sub-headings. Author, title, data, source and place of publication, number of pages, and, in the case of books, the price are given as well as a translation of the title into English for items published in languages other than French and English. The latest number of the Review lists almost 2000 titles. This bibliography is also off-printed and a collection of these offprints constitutes a valuable and comprehensive guide to statistical literature published throughout the world. The Review also gives reviews of important books.

It also contains in each number a rubric (Communications on statistical organization and administration) which gives a summary of the recent statistical activities of international bodies (both governmental and non-governmental) and of national statistical offices; information supplied in most cases by the bodies concerned. Another important rubric is that which gives a summary of the activities of the different national statistical societies, dates of meetings and a short account of the papers discussed at these meetings. Also, at irregular intervals, a full list of these statistical societies with date of foundation, name of president, number of members, periodicity of meetings

and title of publications. Finally the Review contains a section entitled "statistical news" in which general information is given on such subjects as new appointments of members, programmes of meetings which have been recently announced, changes in the composition of important bodies (e.g. the U.N. Statistical Commission). Lists of members (alphabetical and by country), obituary notices on deceased members, personal notes on the activities of certain members are also given. The scientific articles in the Review have been mentioned elsewhere.

Unfortunately in recent years, the Review has suffered considerable delay. In principle issued 3 times a year, it has appeared only once a year in the last five years and even then some six months after the close of the year to which it relates. As a result much of the information is no longer current by the time it reaches the members. Partly in order to remedy this, the Director of the Permanent Office instituted in May 1959 a newsletter, sent to each member at irregular intervals giving items of current interest.

In all these ways, the Institute thus provides what it calls a service of "documentation internationale" to enable members and other readers of the Review to be fully informed on current statistical publications, activities, and other aspects of international statistical development throughout the world. ([24])

([24]) Although not strictly relevant to this section, other examples might be given of the possibilities of the Permanent Office of the Institute to render assistance in the field of statistics. In 1934, the Permanent Office compiled a "Répertoire International des Institutions Statistiques"; in 1938 it published an "International Abstract of Economic Statistics" (in English and French) and originally compiled (for the years 1919 to 1930) by the International Conference of Economic Statistics. In 1936, at the request of the International Chamber of Commerce, the office collaborated in an enquiry undertaken by a committee of this Chamber, and, on the basis of a questionnaire in the preparation of which a member of the Institute (Molinari) assisted, the Permanent Office assembled information on the censuses of establishments and of distribution in the different countries. A report on the subject was presented by Molinari to the Paris Congress of the International Chamber of Commerce. This was published in 1937 by the Chamber in a volume in three languages under the title of "Distribution in 26 countries". A final example is that in 1949, the Population Division of the United Nations asked the Permanent Office to make a study of the population of Ruanda-Urundi, a West African territory under U.N. trusteeship. For this purpose a Dutch demographer (Godefroy) was attached to the Permanent Office and his report was published in 1953 as "The Population of Ruanda-Urundi" (Population Studies No. 15 U.N New York).

PART IV. CONCLUSIONS

When President Zahn's account of "50 années de l'I.I.S." appeared in 1934, the *aims* of the Institute, as set out in its statutes of 1887, had remained unchanged; the frequent modifications of the statutes were confined to matters of administration, organization and elections. It was therefore possible for the author to show how the Institute had stood the test of time (in his words "fait ses épreuves") in consistently carrying out its aims as a "free society independent of governments". These *aims* were limited to four points which may be summarized as promoting the progress of administrative and scientific statistics by (1) recommending uniform methods in statistical enquiries in order to increase their comparability (2) calling the attention of governments to questions to be solved by statistics (3) preparing international statistical publications and (4) encouraging an interest in statistical science by governments and others. The author concluded (p. 181) that the Institute had "fait ses épreuves" in each of these respects, and – to translate his final paragraph –, that "the Institute will continue to cultivate high and noble "thoughts aimed at an international unification of intellectual interests and "thus stand for an important factor in scientific international policy devoted "to the work of civilization of different nations and to their intellectual "collaboration". Some twenty five years later, it is hardly necessary to refer to the Institute in such idealistic terms. Its main object is still to promote the progress of statistics, or as it is now expressed, "the development and im-"provement of statistical methods and their application throughout the world", but the ways and means of doing this have changed, and it is perhaps useful, at the cost of some repetition, to summarise them in this final part. The first of the objects mentioned in the previous paragraph has now taken a less important place, the second has been abandoned, the third has also been abandoned with one exception and the fourth has been considerably developed. New objects have been added which reflect the enlargement of the concept of "statistics" and "statisticians" which has occurred since these first objects were adopted in 1885 and new methods of furthering the general objects of the Institute have been adopted. The effect of these changes as shown in Parts II and III of this volume has been reflected in the structure of the Institute and the composition and character of the membership, in the organi-

zation and scope of its sessions, and in the activities of the Institute outside the one of holding sessions. These are summarized in the following pages, which are followed by a final appraisal of the Institute.

Changes in membership.

Unlike some other scientific bodies, both national and international, the Institute has always kept its numbers small and has fixed "ceilings" for membership; rules for election have been rigid and actual election often difficult to attain. The elected membership of the Institute (i.e. honorary and ordinary members) is given in the jubilee volume up to 1933 and for each year since 1934 in the Statistical Appendix VII; and the following table gives the figures for those years in which a change in the maximum permitted membership was made.

Elected members

Year	Statutory maxima		Actual (end of year)		
	Ordinary[1]	Honorary	Ordinary[2]	Honorary	Total
1885 (provisional)	100 (100)[3]	no limit	56 (27)[3]	23	106
1887 (statutes)	150	no limit	69 (48)[3]	37	154
1901 „	200	no limit	143	22	165
1909 „	200	20	191	21[5]	212
1934 „	225	25	175	11	186
1948 „	300	30	188	12	200
1952 „	(360)[4]	30	244	14	258

At the present time, February 1960, the total elected membership is 337 (329 ordinary members and 8 honorary).

It will be seen from this table and from appendix VII that the maximum membership has never been reached, that since 1887 ordinary membership has doubled, and honorary membership much decreased. The total member-

(1) Known as titular members until 1948.

(2) Including honorary presidents who were not honorary members.

(3) Figures in brackets are "associates" who were abolished in 1887 and added to ordinary members.

(4) Maximum number abolished in 1952 and a system of "controlled intake" substituted which will ultimately limit the total ordinary membership to round about 360 (see p. 59).

(5) No explanation of this exceeding of the maximum is now available; possibly there were already 21 when the new rule came into force.

ship at the end of 1947 (161) was however little more than in 1887 (154) (no elections took place between 1939 and 1946), but since 1947 over 270 new members have been elected. (6)

This policy of keeping the Institute a small selected body of statisticians originated in 1885 when as we have seen, it was proposed that its members limited to 100 should be "recruited from the heads of Statistical Commissions, "Bureaux or Societies and from the distinguished representatieves of scientific "bodies and others possessing special qualifications" and at the outset and for many years, the principal government statisticians of the different countries formed the nucleus of its membership. In spite of the continuous growth of statistical science and the corresponding extension of the subjects dealt with by the Institute at its sessions, the notion of a small and select body of individuals has been maintained.

In 1948 the maximum number of ordinary members was fixed at 300, (or double the number fixed in 1887); in this year it was realised that if the Institute was to discharge adequately its new functions, it must be brought into close touch with the large and increasing number of statisticians and statistical bodies of all kinds. Hence the addition to the statutes which provided for the nomination (up to 150) of ex-officio members consisting of occupants of positions in national statistical offices and international governmental statistical organizations. Under this provision, there are at present about 70 positions the occupants of which are entitled to ex-officio membership. Moreover it was provided that scientific organizations which substantially further the objects of the Institute may become affiliated to the Institute and have an ex-officio member and under this provision 5 international and 15 national bodies have been accepted. Many of these are important bodies; the aggregate membership of the international group is about 5000, and of the national group around 15,000.

This is not however the only noteworthy change in membership; the composition and character of the membership has changed. As regards composition by age, the tendency was in former years to elect persons who had already acquired a certain status or pre-eminence in statistics and the election of persons over 60 years of age was more common than it is today. Statistics

(6) This evolution of membership is very different from that shown by many national statistical societies. The Royal Statistical Society increased its number of fellows from 357 in 1863 to 1024 in 1923 and to about 3000 in 1960; the American Statistical Association increased its membership from 75 in 1872 to 699 in 1916, and 7000 in 1960 (See Annals, op. cit. passim; Journal of the Royal Statistical Society, passim; and Journal of the American Statistical Association, passim, in particular vol. 35 p. 2, March 1940).

are not available showing the ages at different dates of members on election but it seems highly probable that the younger members have now increased at the expense of the elder. The following table gives the age-distribution of all elected members at a recent date and of those elected since 1947, who are still on the rolls.

Analysis of membership by year of birth

Year of birth	Total membership (1958)			Members elected since 1947 and still members in 1959
	Ordinary	Honorary	Total	
Before 1886	37	5	42	5
1886–1895	66	3	69	37
1896–1905	94	—	94	83
1906–1915	91	—	91	101
1916–1925	28	—	28	31
1926 and later	1	—	1	1
Total	317	8	325	258

The figures do not of course show the year of birth of all members elected but only of those who were still members in 1958 and 1959 respectively. For those elected since 1947 deaths and resignations are probably relatively small so that they give a rough picture of the distribution by ages at election of recent members: their median year of birth is about 1905; whereas the median is about 1900 for the first group.

A further change in composition is that by nationality or country of origin. Appendix VII gives the distribution of members by countries in 1938, 1948 and 1958 (the figures by countries for alternate years from 1887 to 1933 are given in "50 années" p. 20) and their distribution by continents is given in Part II p. 67. Whereas up to 1938 the Institute was primarily a European body with 80 % of its elected members drawn from 23 European countries (including USSR) and only 20 % from 12 other countries, in 1959, the percentage of European members had fallen to 60 in 21 countries and the percentage of extra-European members had risen from 20 in 12 countries to 40 in 24 countries. Even this does not show the full extent of the wider international sphere of the Institute since in addition to these 45 countries with elected members there are ten countries (three European and seven extra-European) with an ex-officio member but no elected member. Thus the

Institute's total membership now covers 55 countries compared with 21 in 1887 and 36 in 1934.

Finally the membership of the Institute has changed in character. This has already been mentioned when attention was called to the diminishing importance, among the elected membership, of official governmental statisticians who formed the backbone of the Institute on its foundation. This question has recently been discussed by a former vice-president, Geary, in his article on the Stockholm session of 1957 (7) (at which he acted as president in the absence of the titular president) in which he analyses the membership in 1938 and 1957 according to professional affiliation. "The most striking change" he says "is the increase in the proportion borne by (persons who "were attached to) non-profit organizations; the compensating decline is most "marked in the case of general government from 40 to 33 percent between "1938 and 1957". It should be added that ex-officio members (largely "general government") are included in the figures for 1957. If those ex-officio members who are not elected members were excluded, the proportion of general government among the covered group of elected members (who alone have the right to vote at elections of members or changes in the statutes) would be even smaller and would show to an even greater extent, how the elected members of the Institute now seem to tend to give their votes to the non-government candidates. It should be added however that some of the ex-officio members would be candidates for ordinary membership and probably elected if the category of ex-officio membership did not exist.

Another group of members, the Bureau, or the officers, has also considerably changed during the period. They numbered five from 1885 to 1893, six from 1893 to 1934 and seven from 1934 to the present time. Formerly elected for indefinite periods, they under the rules now in force can hold office for only two biennial terms, resulting in a much more frequent rotation. These changes were necessistated by the increase in membership and in its geographical distribution. During the first 50 years of the Institute, 26 persons held office, almost exactly the same as the number (27) who held office in the last 25 years. The Bureau no longer comprises persons who hold office for long

(7) La Trentième Session de l'Institut International de Statistique. Review of the I.I.S. Vol. 25, No. 1/3, 1957, pp. 1–6.

(8) The way things are moving can be seen by a study of the elections of 1956 to 1959 at which 69 members were elected; of these 21 only described themselves as primarily official or government statisticians; and 34 described themselves as professors of statistics, mathematics etc. Research workers (industrial application of statistics, operational research etc.) 14 in number now figure much more frequently among the persons elected.

continuous periods (e.g. Secretaries General: Methorst 36 years and Bodio 20 years; vice-presidents: Levasseur 26 years, Lexis 22 years and Willcox 24 years). The maximum period of office is now approximately four years.
These changes have the advantage of enabling the nationals of a greater number of countries to have representation in the Bureau but the disadvantage that there may not be the same continuity in administration, a quality desirable especially in the office of Secretary General. Since 1907 however the Secretaries General have always been Dutch citizens, resident at the seat of the Institute and since 1948, the duties of this office have been much diminished and to a large extent taken over by a permanent Director, also Dutch, which ensures the Institute of continuity in administration and organization, and who, being a full-time official can devote all his energies to his work in a way that was not possible for the former part-time and voluntary Secretaries General.
With regard to the first two of its new objects (sections 101a and b of the statutes) the encouragement of the international association of statisticians etc., and the establishment of relations among societies and organizations having statistical interests, the Institute can be said to have succeeded, although the second of these objects has not yet been fully or satisfactorily achieved.

Changes in the organization and activities of the sessions.

As regards the holding of the sessions, the Institute has shown practically no change in its 75 years existence. Invitations have always been received at one session for the holding of a subsequent session; in all cases but two, the invitation has come from a government. The 31 sessions of the Institute have been held in 24 countries (three times in one country, Italy, and twice in Austria, Belgium, France, Switzerland and the United Kingdom). Three of these were special sessions with limited functions (Tokyo, Mexico DF and Brussels). In later years it was hoped to hold the biennial sessions alternately in Europe and out of Europe but this was not always possible. Sessions outside Europe were held in 1893, 1927, 1930, 1933, 1947, 1951 and 1955. The practice of setting-up an organizing committee in the host country, which issues invitations to governments to send official "delegates" has remained practically unchanged though invitations are now issued to various international bodies (both governmental and non-governmental). The Daily Bulletin of the session is also issued by the organizing committee of the host country as well as the proceedings of the session in the form of "Bulletin of the I.S.I.". These "traditions" relieve the Permanent Office of many duties and

of the expenditure attached thereto and are a privelege obtained by few, if any, other unofficial international societies. ([9])
As regards the scope and organization of the sessions, many changes have taken place. In the first place one of its early and long cherished functions that of "appelant, par des voeux, l'attention des gouvernements" to statistical problems in administrative statistics has been dropped, as explained in Part II of this history. These *voeux* covering all branches of statistics form an impressive series of recommendations on methods for improving the quality of administrative statistics and ensuring their greater comparability and have undoubtedly exercised much influence. ([10])
This dropping of one of the most important functions of the Institute during its first 50 years is due not only (though primarily) to the emergence of other international bodies for discharging this function but to the changes in the character of the membership and to changes in the concept of the term statistics.
The great development in the science of statistics has led to the growth of a large body of statisticians to whom the earlier concept of statistics as largely a product of governmental and administrative activities was too narrow. Statistical methods were increasingly applied to almost every field of activity, in agriculture, industry, mental and physical sciences. Terms such as "operational research", "quality control", "design of experiments" – terms

([9]) They have however certain disadvantages. Thus the proceedings of the 28th session (Rome 1953) – Bulletin Vol. 35 Part I – and those of the 29th session (Rio 1955) – Bulletin Vol. 36 Part I – have not yet been published (February 1960).

([10]) Although *voeux* were adopted at the first session in 1887 and at nearly every subsequent session up to 1936, it is not now possible to discover from the archives of the Institute, the procedure adopted in "calling the attention of governments" to its *voeux*. The Bulletin of the session of 1901 states that the Bureau "pris acte d'une proposition" that these voeux should be brought officially to the attention of all states in order that they be communicated by the Governments to its competent offices, so presumably before this date, the Institute relied on its members – largely official statisticians – to take any steps they thought appropriate to call the attention of their governments to them. No information is now available as to whether all voeux were so transmitted or only those (the majority) appropriate for governmental action, as to how the term "tous les Etats" was interpreted, nor whether any action was taken on the replies which governments made to this communication. The last occasion on which voeux were transmitted to governments was in 1937 (voeux of the 1936 session). They were sent to the foreign offices of certain states (list not available) with the request that they would "après examen, en recommander la mise en exécution aux Départements ministériels ou aux Directeurs intéressés". Thus closed an interesting chapter in the Institute's history. It has moved a long way from the time when it could adopt a *voeu* "insisting vigorously that this system ... be adopted in principle and without revision by all the statistical institutions of Europe" (see page 78 above).

which many of the early members of the Institute had never heard of and, if they had, would not perhaps have understood – became of current use in statistical discussions. ([11])

The extent to which the subjects discussed at the sessions of the Institute has changed since 1887 can be well illustrated by comparing the agenda of the various sessions. It is impracticable to reproduce the agenda of each of the 31 sessions of the Institute but for purposes of comparison, the agenda at the first session in 1887 and at the last ordinary session in 1957, together with the agenda for two intermediate sessions separated at approximately twenty-five years interval namely the sessions of 1911 and 1934 are given in appendix VI (administrative items are omitted).

It will be seen that at the first session of the Institute (Rome) the number of subjects on the agenda was fifteen. No grouping of the items into subject-groups was attempted and all were discussed at plenary meetings. The subjects were almost all those relating to subjects of a social and economic character and demographic problems, and then related especially to international comparability. Some of these topics were treated at great length in substantial papers; some had been prepared in advance by committees, and some were discussed in the form of an actual meeting of a committee on the subject. The number of members of the Institute present was 56 and of invited persons 36. Nearly twenty-five years later at the 1911 session, (the Hague) the agenda is very different. Contributions were grouped into the 3 headings of demography and methods, economic statistics, and social statistics – a classification which existed for many years – and were discussed at separate sections; a few were discussed at plenary sessions. The number of subjects on the agenda was about 30 of which the majority were allotted to the section on economic statistics. On some of these subjects *voeux* were adopted. Attendance had increased to 72 members and 53 invited persons. At the session of 1934 (London) twenty-three years later, the same grouping by sections was still in force though the section formerly called "démographie et méthodes" had now become "statistiques démographiques et mathématiques". No papers were discussed in plenary session; though each of the three sections submitted accounts of their proceedings to a plenary session. Only two papers were

([11]) In this connection, it is interesting to note that E. S. Pearson, Professor of Statistics in the University of London, Biometrician, ex-President of the Royal Statistical Society, in speaking on a paper read by Campion to this Society in 1958 on Recent Developments in Economic Statistics stated that "the founders of this Society would have approved most highly of this work and address today while I fancy they would not have recognized your last President (i.e. the speaker) as a statistician at all" (see Journal of Royal Statistical Society, Vol. 121, Part I, 1958).

contributed on mathematical statistics: one on the discordance between indexes of variability and concentration and another on the present position of the theory of two factors in statistical methods of psychology. Of the 59 papers submitted a large proportion was the work of committees of the Institute, work carried on between the sessions. 75 members of the Institute attended this Session and 38 invited persons. At the 30th session (Stockholm), 23 years later, the agenda shows a complete change. No "sections" were set up but the papers submitted (on subjects selected in advance by the officers of the Institute) to "meetings" were grouped under 20 headings and 3 papers were invited on each of these subjects; in addition there was a number of free communications which took second place and were discussed only if time was available. Demographic statistics again played a prominent part due largely to the close collaboration of and joint meeting with the International Population Union, and joint meetings were held with other international bodies. Topics such as linear programming, use of electronic machines, and statistical problems in genetics appeared on the programme for the first time and a large number of free communications was received on statistical theory. Administrative statistics were not forgotten though they related not so much to national statistics as to municipal and regional statistics and were submitted principally by members of the Committee on Statistics of Large Towns. About 125 papers of which about half were invited papers were submitted to the session which was attended by 150 members, and 425 invited persons.

These four agenda of sessions at approximately equal intervals show how the Institute has adapted itself to the ever-widening field of statistics and to changes in the type of members, and collaborated with other international bodies interested in some special branch of statistics.

The organization of the sessions has also undergone many modifications. In the early years, a considerable amount of work was done by committees, which did their work in between the sessions by correspondence or occasional meetings and which depended for their achievements almost entirely on the initiative and activity of the "rapporteurs". It is not possible to say without a great deal of research how many of such committees have been appointed but nearly thirty were "in existence" (though many were moribund), in 1947. Some of these committees did excellent work; their reports were discussed at the Institute's sessions and usually led to the adoption of the *voeux* which have been often mentioned in these pages. Since 1948 most of the committees have been wound up: only two or three are still in existence and the setting up of new committees, though proposed from time to time at the sessional

meetings, has generally been opposed by the officers of the Institute.
The practice grew up that a member of the Institute could submit a paper on any subject he chose to a session of the Institute. This was usually circulated to the members present and included in the volume of proceedings but not necessarily discussed. Whether it was discussed depended largely on the subject, the time available, the discretion of the officers etc. As a result the papers received were too many and of very unequal value. It became necessary to "plan" the agenda and now after the broad headings of subjects to be treated have been drawn up by the officers, organizers are appointed for the different subjects, papers are "invited" from usually three members on each item, and other papers though still accepted, if relevant to the subjects on the agenda, are not necessarily discussed or even circulated, depending on the time available and the discretion of the "organizers". "Discussants" are also appointed who open the discussion on a particular paper or group of papers. In this way, more order is introduced into the proceedings, time is more equitably distributed among the different topics, and discussions reach a higher level. This question of organizing the sessions in order that the Institute and the persons attending can derive the maximum of profit from the meetings, has been a constant preoccupation of the officers of the Institute and various attempts have been made in the last 12 years to make them more efficient, and it is probable that further changes will be necessary before a fully satisfactory system is adopted.
The changes in the character of the sessions under the new statutes, though accepted by the votes of the majority of members have not been welcomed in all cases by some of the older members of the Institute, e.g. the discontinuance of its former function of forwarding recommendations to governments on the scope, methods of compilation etc., of statistics. It is considered that the creation of international governmental statistical organizations need not necessarily involve the suppression of this former role of the Institute. Just as national statistical societies exist in many countries, one of whose functions is to make recommendations to their national governments on statistical matters, so an international body of statisticians could, it is maintained usefully make recommendations to international governmental organizations. The analogy is not however quite the same: These international governmental organizations rarely compile direct statistics. Their so-called "international statistics" consist primarily of the presentation of nationally collected statistics in as uniform and internationally comparable manner as possible. They have no power to modify the national statistics they collect, (otherwise than by making them more internationally comparable, e.g. by computing them

on a uniform base-year or re-arranging them according to standard definitions and groupings); they can only make recommendations to governments. Any recommendations on national statistics adopted by the Institute and addressed to these interational governmental bodies could only be transmitted by the latter to the national authorities. Prior to the creation of these international governmental bodies, (i.e. before 1920), the Institute had a definite role in this field which it discharged with zeal and competence, but this rôle has now been taken over by the international agencies, which have greater influence and greater resources than the Institute could ever hope to have. This does not imply that the Institute should completely disinterest itself in the improvement and greater comparability of national statistics, and as the records of the sessions since 1947 show, it has in fact adopted resolutions in which the attention of the United Nations is invited to certain problems, but only that it is no longer necessary for it to assume the rôle of an "independent and impartial adviser of governments", which was the predominant theme of the volume "50 années de l'I.I.S.", nor is it necessary to include such an aim in the statutes.
Other changes in the Institute's sessions since 1947 are the presence of ex-officio members and the large increase in the number of invited persons. The former group is well represented at the sessions (owing largely to the fact that unlike most other members their expenses for attending the session are defrayed by the governments or other bodies whom they represent) and contribute a useful part to their proceedings by submitting papers or taking part in the discussions, although government statistics now play a much smaller rôle on the agenda of the sessions. They now represent over 50 countries and can thus play an important part in strengthening relations with official statistical offices. Their appointment, only since 1948 however, has had, so far, little if any effect on that of the traditional official "delegations" which are always invited to the sessions. Some countries do not include their ex-officio members in their official delegations, some countries with ex-officio members do not even appoint official delegations ([12]). The duties, functions and responsibilities of an official delegate are at the "meetings" during the session exactly the same as those of an ex-officio member (and, in fact as those of an ordinary member) and it might be desirable to group them both together as "official representatives". The ex-officio members of a country unlike the official delegates receive the publications of the Institute (Bulletin and Review) free of charge though they are exempt from paying dues. The

([12]) At the 1957 session, one "official delegation" comprised 26 members of whom 15 were not members of the Institute.

anomaly that they may vote at an election of honorary presidents (now no longer confined to ex-presidents) but may not vote at an election of honorary members should also in the writer's view receive re-consideration.
Invited persons were up to 1947 confined to "personnes chargées d'un service de statistique" who were not members, and were invited by the Bureau but this rule was often more "honoured in the breach than in the observance" and other persons were frequently invited, especially nationals of the country in which the session was held. Under the new statutes "the Bureau may invite persons who are not members". Up to 1913, the number of invited persons was not very large: in some cases less than and in some cases (with one exception) not many more than the number of members present. After 1947 however the numbers increased considerably and reached at times, much more than double the number of members. At the last ordinary session (1957), there were 422 guests as against 150 members. The Institute has always welcomed guests who have contributed valuable papers to its proceedings and some of the activities of the Institute particularly the one connected with the industrial application of statistics (Journal of Abstracts on Statistical Methods in Industry) could not be carried on without the collaboration of non-members. Some concern has however been expressed by some members at recent sessions at the growing number of guests and it has been asserted that they have been accorded privileges and that their communications have been given priority over those of members. It is intended under the new rules for the organization of sessions to limit the number of papers to be submitted by non-members and it may become desirable in the writer's view to limit the number of guests in some way. It is anomalous that the "intake" of new members is strictly "controlled" and their number attending the session cannot even, if all attend, possibly exceed about 330 – in practice it is rarely half the membership – while the number of invited persons is without limit and reached 571 at Washington (1947) (an exceptional occasion), 440 at Rome (1953) and 422 at Stockholm (1957). Invited persons, it might be added, though indistinguishable from members as regards privileges at scientific meetings of the sessions cannot participate in any business transacted at meetings of the General Assembly.

Changes in extra-sessional activities.

As important as the change in the scientific work of the Institute at its biennial sessions, has been the development of other activities outside the sessions. Up to 1913, by far the greatest part of the Institute's work was connected with the holding of regular sessions for the discussion of statistical problems,

and the carrying out of certain tasks arising from these sessions.
From 1913 to 1947, the publication of various statistical yearbooks was undertaken by the Permanent Office of the Institute, as well as since 1934 the, on principle quarterly, Review of the Institute. Part 2 (Scientific activity) of the volume "50 années de l'Institut" thus consisted almost entirely of an account of the work of the sessions of the Institute and of the publications of the Permanent Office. The new constitution adopted in 1948 while relieving the Institute of certain activities, added new ones of which the most important perhaps were the encouragement of statistical education and the training of competent statisticians. Thanks to the assistance of the United Nations Educational Scientific and Cultural Organisation, certain governments, and the Ford Foundation, the Institute has, through its staff at headquarters, been able to organize training centres in the Near and Middle East and in India, to arrange for the preparation and publication of various "teaching aids" such as bibliographies, dictionaries. A full account of this task of the Institute, which now forms one of its principal activities has been given in Part III above.
In 1954 another activity in this field was added, namely the publication at regular intervals of the "International Journal of Abstracts on Statistical Methods in Industry", thanks to collaboration of regional editors in a number of countries. Another publication "The International Journal of Abstracts-Statistical Theory and Methods" has been started in 1959.
Finally in this connection the work of the Institute in the field of municipal statistics, described in Part III above may be recalled. As a result of a new article in the statutes providing for the setting-up of sections, a section for municipal statistics was formed in 1957, which held its first meeting in 1958 and took the title of the "International Association of Municipal Statisticians". A proposal for a section on the application of statistics to the physical sciences is now being considered by a special committee. The "Statistical Intelligence Service" (or "Service de documentation") of the Permanent Office should also be recalled.
These activities, almost unknown before the war, are independent of the sessions of the Institute. They are largely the work of a few devoted members of the Institute with the collaboration of non-members and outside bodies, and of the staff of the headquarters of the Institute under the direction of the permanent director.

The Institute is thus no longer only "une académie scientifique". Its academic work is still important, its sessions are more varied and more largely attended

and their scientific work has been considerably extended, away from administrative aspects and towards mathematical aspects.

The "new look" which the Institute adopted in 1948 has had hardly twelve years to show itself and it is too early to say how permanent and successful these features wil prove to be. Certain developments such as its relations with other bodies interested in statistics, in particular with its affiliated organizations have not yet perhaps shown the promise hoped for, nor has the setting-up of semi-independent "sections" been carried very far; further time and experience are necessary before the value of these new activities can be appraised. In its new "operational" aspects (statistical education, training, abstracting services etc.) and in its long-established function as a forum for the discussion of statistical problems and the meeting of statisticians of all kinds it has "fait ses preuves", and it continues to hold the respect and confidence of statisticians, statistical organisations (both private and governmental, national and international) and of governments. Membership of the Institute is still eagerly sought after, not easy to obtain and considered an honour.

Successive presidents have described the Institute in different and sometimes rather inconsistent terms. Our first president (Rawson) stated (1886) that "it was purely a private and scientific body. It has no official character. It "seeks to exercise no official authority or influence". In 1920 President Delatour referred to the Institute "as an independent body, entirely free of political influences", able to "offer the guarantees of competence, independence and impartiality". In 1933 however although President Zahn described it "une association scientifique libre" and "une académie scientifique autonome pleinement indépendente des gouvernements", he also described its mission as "contrôleur de la statistique officielle". ([13]) In 1947 President Julin urged that it should maintain "son caractère fondamental d'Académie "internationale autonome" and should now be "prêt à occuper dans le monde "nouveau la place que répond le mieux à son noble but: favoriser le progrès "de la statistique dans tous les pays et son application dans tous les domaines "de la science". In the same year the new President Willcox referred to the "Institute's rôle as a semi-governmental organ". In 1949 President Rice referred to "the impairment of the Institute's traditional rôle as a semi-govern-"mental institute".

These differences in appreciation and emphasis though throwing an interesting light on the views held about the Institute at different times are no longer of great importance. Its semi-governmental character has now disappeared and though it still retains close connection with governments

([13]) Zahn, op. cit. p. 180

through the invitations it receives for its sessions and their close collaboration at these sessions, through its ex-officio members, and the presence of official delegations at its sessions, it is now, as Presidents Julin and Rice proposed in 1947, truly an "autonomous society devoted to the development and improvement of statistical methods and their application throughout the world" (to quote from our statutes) and the reader will, it is hoped, be able to judge from the preceding pages how far the Institute is fulfilling this aim.

APPENDIX I. Text of provisional rules (1885) and foundation statutes (1887) of the Institute.

"Rules and Regulations" adopted provisionally at the foundation meeting 24 June 1885, London.

Article I

The International Statistical Institute is an international association having for its object the development of the progress of administrative and scientific statistics:

1. By introducing, as far as possible, uniformity in the methods of compiling and abstracting statistical returns and by adopting it in the compilation of statistical publications with a view to a comparison of the results obtained in different countries;
2. By inviting the attention of governments to the various problems capable of solution by statistical observation, and by applying for information on those subjects which have not hitherto been adequately subjected to statistical treatment;
3. By preparing international publications as a means of bringing into communication the statisticians of various countries;
4. By endeavouring through the medium of publications and, if practicable by public instruction and other suitable means, to promote and foster the general appreciation of statistical science and to stimulate the interest of governments and individuals in the study of social phenomena.

Statuts de l'Institut votés par l'assemblée dans la séance du 12 avril 1887, Rome.

Article I

L'Institut international de statistique est une association internationale qui a pour but de favoriser le progrès de la statistique administrative et scientifique:

1°. en recherchant et en recommendant les méthodes propres à obtenir, autant que possible, l'uniformité dans les cadres et dans le dépouillement des relevés de la statistique, afin de rendre comparables les résultats obtenus dans les différents pays;

2°. en appelant, par des voeux, l'attention des Gouvernements sur les questions à résoudre par l'observation statistique;

3°. en faisaint des publications internationales destinées à élucider les questions de statistique et à établir des rapports permanents entre les statisticiens de tous les pays;

4°. en concourant, s'il y a lieu, par d'autres publications, par l'enseignement et par divers moyens, à propager les notions de statistique et à intéresser les hommes d'Etat et les savants à l'exploration des faits sociaux.

Article II

As a general rule, a session to be held every second year. At each sitting the date of the next session and the place of meeting to be determined by the Institute. This question may be referred to the Council.

Article III

The Institute to be composed of members, associates and honorary members.

Article IV

The members to be chosen from among persons of different countries who have distinguished themselves in the domain of administrative or scientific statistics, such as the heads of official statistical bureaux, members of Central Statistical Commissions, Municipal Statistical Bureaux and Statistical Societies and others of reputation in this branch of science. The total number of members is not to exceed one hundred but this limit need not necessarily be reached.

Article V

The associates to be chosen by the members from among those whose special knowledge or technical quali-

Article II

En règle générale, l'Institut international tient sa session tous les deux ans. A chaque session il désigne le lieu et l'époque de la session suivante. Dans le cas où l'assemblée n'aurait pas pris de décision à cet égard, la désignation appartiendrait au Bureau.

Article III

L'Institut international se compose de membres titulaires et de membres honoraires.

Article IV

L'Institut international choisit ses membres parmi les hommes de diverses nations qui se sont distingués dans le domaine de la statistique administrative ou scientifique, tels que chefs de la statistique officielle, membres des Commissions centrales ou des Bureaux de statistique des Etats et des grandes villes, membres des Sociétés de statistique et autres savants. Le nombre des membres titulaires ne peut dépasser 150; mais il ne doit pas nécessairement atteindre ce chiffre.

Article V

Avant chaque session, les personnes chargées d'un service de statistique, dans le cas où elles ne seraient pas

fications may be considered of service to the Institute. They may be present at the sittings and vote on all occassions and on all objects, with the exception of the following:

1) The rules and regulations;
2) The elections or finances of the Institute.

The total number of associates not to exceed the number of members.

Article VI

In the event of an election occurring to fill up a vacancy, the number of representatives to be elected from any individual state or federation of states, not to exceed the fifth of the number of members existing at the time of the election. The same rule to be observed in the case of associates.

Articles VII

The title of honorary member may be conferred on members and associates, or on any persons who have distinguished themselves in the domain of statistics. Honorary members to enjoy the privileges of receiving all the publications of the Institute and to participate in all the advantages enjoyed by other members.

Article VIII

At the end of each ordinary session, a president and two vice-presidents to be elected, who shall enter at once upon the duties and with the general

membres de l'Institut international, pourront être invitées par le Bureau à prendre part à la session et auront voix délibérative, excepté pour les questions d'administration intérieure et pour les élections.

Article VI

Il ne peut jamais être attribué à un même Etat ou à une confédération d'Etats un nombre de membres dépassant le cinquième du nombre total des membres élus.

Article VII

Le titre de membre honoraire peut être conféré:

1°. à des membres titulaires;
2°. à des personnes qui se seraient distinguées dans le domaine de la statistique.

Les membres honoraires reçoivent gratuitement les publications de l'Institut international et jouissent de tous les droits et prérogatives des membres titulaires.

Article VIII

A la fin de chaque session ordinaire, il est procédé à l'élection d'un président, de deux vice-présidents, d'un secrétaire général et d'un trésorier,

secretary shall constitute the council for the coming session.

Article IX

At the end of each session, a general secretary to be appointed by the Institute from among its members and his appointment to last for two years. Authority to be given him to appoint one or more secretaries or clerks to assist him in carrying out the duties of his office. The general secretary to be entrusted with the duty of drawing up the reports of the meetings and in concert with the president of carrying on the necessary correspondence, the editing of the publications and the execution of the decisions of the Institute, unless the Institute should have decreed otherwise. He is to take charge of the archives and his house to be considered as the office for the time being of the Institute.

Article X

The president, the two vice-presidents and the general secretary to form the council and in the intervals between the meetings to attend to any special questions demanding the immediate attention of the Institute.

lesquels entrent immédiatement en fonction et constituent jusqu'à la clôture de la session suivante le Bureau de l'Institut international de statistique. Les membres du Bureau sont rééligibles.

Article IX

Le Bureau est chargé de l'administration de l'Institut international. Le président prend, en cas d'urgence, les mesures qu'il juge nécessaires, sauf à communiquer ensuite sa décision aux autres membres du Bureau.

Article X

Le secrétaire général est chargé de la rédaction des procès-verbaux des séances et, de concert avec le président, de la correspondance, les publications et de l'exécution des décisions de l'Institut international, exepté le cas où l'Institut lui-même y aurait pourvu autrement. Il a la garde des

archives. Son domicile est considéré comme le siège de l'Institut. Le secrétaire général peut s'adjoindre un ou plusieurs secrétaires ou employés, chargés à l'aider dans l'exercice de ses fonctions.

Article XI

A treasurer to be nominated for a period of two years by the Institute who shall be charged with the management of the finances and be responsible for the accounts of the Institute. He is to prepare and present a financial report in each session.

Two members to be appointed as auditors at the opening of each session whose duties will be to examine the treasurer's account. A separate report to be made by them during the course of the session.

Article XI

Le trésorier est chargé de la gestion financière et de la tenue des comptes. Il présente à chaque session ordinaire un rapport pour les années financières écoulées. Deux membres sont désignés, à l'ouverture de chaque session, en qualité de commissaires-vérificateurs, pour examiner le rapport du trésorier. Ils font eux-mêmes un rapport dans le cours de la session.

Article XII

As a general rule at the meetings of the Institute votes on the subjects of the various resolutions submitted will be given verbally and after discussion. In all cases where it may be necessary to take a poll the names of the members or associates who voted for or against or who abstained from voting to be mentioned in the report. Officers to be elected by ballot and only those members actually present to be allowed to take part in it. But in the case of the election of new members or associates, abstentees may send their votes in writing and enclosed under cover.

Article XII

Lorsqu'il y a lieu d'élire des membres de l'Institut international, le président fait distribuer, un mois avant le commencement de la session, une liste de tous les noms dont les candidatures lui ont été proposées avec la signature de cinq membres de l'Institut au moins.

L'élection a lieu par scrutin de liste, à moins que cinq membres ne réclament le scrutin individuel. Le vote par correspondance est admis; dans ce cas il se fait toujours par bulletin de liste.

L'élection a lieu à la majorité des trois quarts des suffrages exprimés.

Dans le cas où deux candidats auraient obtenu le même nombre de voix pour la même place, il y aurait scrutin de ballottage auquel les membres présents prendraient seuls part.

L'élection des membres du Bureau se fait au scrutin secret par bulletin individuel et à la majorité des suffrages exprimés. Les membres présents ont seuls droit de suffrage.

En règle générale, dans les séances de l'Institut international, les résolutions, sauf le cas d'élection des membres, sont prises, après discussion, à la majorité des voix.

Toutes les fois qu'il y a vote par appel nominal, les noms des membres qui ont voté pour et contre ou qui se sont abstenus, sont mentionneés au procès-verbal.

Article XIII

In exceptional cases, where the Council may be unanimous in considering it desirable, the votes of absentees may be obtained by correspondence.

Article XIII

L'Institut international nomme parmi ses membres des rapporteurs ou constitue dans son sein des commissions pour l'étude préparatoire des questions qui doivent être soumises à ses délibérations et pour la composition et la rédaction de publications spéciales dans le domaine de la statistique internationale. Dans l'intervalle des sessions, la même prérogative appartient au Bureau; en cas d'urgence, le secrétaire général, d'accord avec le président, prépare lui-même des rapports ou des conclusions.

Article XIV

The Institute to appoint from among

Article XIV

L'Institut international publiera:

its members and associates, chairmen, and committees, to consider the questions which are to be submitted to the deliberation of the Institute and to assist in the preparation and compilation of special international statistical publications. During the interval between the sessions, these duties to be undertaken by the Council and in case of necessity the general secretary is himself to prepare the reports and conclusions of the Institute.

Article XV

The Institute will publish:

1) A quarterly Bulletin;
2) An International Statistical Annual;
3) Special international statistical publications;
4) Reports of the meetings.

The quarterly Bulletin will contain:

a) Reports on the organization and reforms in the official statutes of different countries, changes in the staff etc.;
b) A *précis* of the more important results obtained by recent observation;
c) An international manual of statistics, giving a review of recent publications and the contents of statistical journals and periodicals.

The Annual will contain any international comparative statistics that may be prepared on the basis of information supplied by the various states.

1) Un Bulletin trimestriel.

Ce Bulletin contiendra:

a) le compte-rendu des sessions de l'Institut international de Statistique;
b) des rapports sur l'organisation et les réformes de la statistique officielle des différents pays, sur les changements du personnel, etc.;
c) des travaux de statistique internationale;
d) un résumé des ouvrages récents et les plus importants sur la statistique;
e) une bibliographie internationale de statistique donnant le répertoire des publications récentes, le contenu des revues, annuaires et bulletins périodiques de statistique.

2) Un Annuaire de statistique internationale.

Cet Annuaire contiendra les comparaisons internationales de statistique qui pourront être établies d'après les renseignements fournis par les différents pays.

Article XV

Les ressources financières de l'Institut sont:

1. Les cotisations des membres titulaires fixées à 1 livre st. = 20 marks = 25 francs. Ces cotisations sont dues dès et y compris l'année financière d'élection. Elles donnent droit à toutes les publications de l'Institut à partir de l'année de l'élection. L'année financière date du 1er juillet et finit le 30 juin.

   Un retard de deux ans non justifié dans le paiement de la cotisation pourra être considéré comme équivalent à une démission.

   La cotisation annuelle peut être rachetée par une somme de 10 livres sterling = 200 marks = 250 francs.
2. Les cotisations et abonnements des Commissions centrales des Bureaux officiels et des Sociétés de statistique des divers pays, qui acquerront ainsi droit à un certain nombre d'exemplaires de toutes les publications de l'Institut international pour l'année courante.
3. Les fondations et autres libéralités. Il sera pourvu à la formation d'un fonds de réserve dont les revenus seront appliqués aux dépenses de l'Institut international.

Article XVI

The expenses of the Institute to be met as follows:

1) By subscription from members and associates at the rate of £1,— sterling = 20 marks = 25 francs. Subscriptions are to be due from the date of election. They entitle subscribers to all the publications of the Institute. Any member being two years in arrear with his subscriptions without sufficient cause, will be considered as no longer belonging to the Institute;

Article XVI

Les présents statuts ne pourront être revisés par l'assemblée générale que sur la demande écrite de vingt-cinq membres. Cette demande devra être adressée au Président, avec motifs à l'appui, trois mois au moins avant l'ouverture de la session.

2) By subscriptions received from Central Commissions, Statistical Bureaux and Societies of different countries who *(sic)* will thus become entitled to a certain number of copies of all the publications of the Institute;
3) By donations and other gifts.

Provision to be made for the gradual formation of a fund sufficient to defray the clerical expenses, and also to meet the charge of publications, meetings and general expenses of the Institute.

Article XVII

The present rules are provisional: they shall be revised and definitely settled during the next sitting of the Institute, after which they can only be changed on the application of twenty-five members. Such application to be made to the Council, giving reasons for making it, three months at least before the commencement of the session.

APPENDIX II. Views of the founders of the Institute on its purpose and structure.

It is of historical interest to refer, in more detail than given in Part I, to the ideas current in 1885 to 1887 on the structure and purpose of the Institute, so that they may be compared with the position at the present time. The following notes refer to the views expressed 75 years ago on (a) the meaning given to the term "statistics"; (b) the application of the term "international"; (c) the purpose of the Institute; (d) the types of membership and (e) their recruitment. A short note is added on the origin of the Institute's title.

a. *The term "statistics"*. In 1885 statistics were viewed largely from their official or administrative aspects. Yule and Kendall (1) in discussing the history of the word "statistics" state:

> "After the commencement of the 19th century the word acquired the signification of "the exposition of the characteristics of a state by numerical methods",

and the Statistical Society of London stated in 1838 that

> "Statistics may be said to be the ascertaining and bringing together of those facts which "are calculated to illustrate the conditions and prospects of society" (2)

and this view prevailed throughout the period of the International Statistical Congress (1853–1876) and was predominant at the discussions on the foundation of the Institute in 1885. Neumann-Spallart's proposal at the jubilee meeting of the Statistical Society of London was in effect "an association which would endeavour to establish a basis for the uniformity of *official* statistics" and this was reflected in article I of his proposed rules. The great majority of those present at this foundation meeting and also of the original members were official statisticians. No mention is made in the rules directly of statistical methods or techniques; a reference is made, it is true, to "l'observation statistique" but only in reference to governmental activities. Seventy-five years later the aims of the Institute are defined as "the development and improvement of statistical methods" and eight methods of attaining this aim are enumerated; in none of them is any reference made to official or governmental statistics.

(1) Yule and Kendall: Introduction to the Theory of Statistics 1951 p. 5.
(2) Journal of the Statistical Society of London Vol. I. p. 1 1838.

b. *The application of the term "international"*. In 1885, the word international had a restricted meaning. The countries attending the jubilee meeting were almost entirely European and of the 22 founder members 21 were European and one American (U.S.A.).

Neumann-Spallart, (see the quotation on p 12) even stated that "the members "composing it (the Institute) ... should be drawn from the various European "States", though this should not be taken too literally as in his suggested distribution of membership he mentioned the U.S.A. and Argentina. Bodio at the same meeting suggested that "persons in Europe or America" should be elected. These proposals were no doubt an echo from the International Statistical Congress and its Permanent Commission all of whose meetings were held in Europe, whose members were drawn almost entirely from European countries, and one of whose tasks was the publication of "La Statistique de l'Europe". The difficulty of communication and the less developed nature of many extra-European countries 75 years ago accounts no doubt for this attitude but not entirely, as the protests of certain participants at the jubilee meeting confirm (see page 13).

In this connection it is of interest to compare the proposed distribution of Neumann-Spallart with the actual distribution of the original membership by countries. Three sources are available:

A. The distribution of the 81 members and 81 associates proposed by Neumann-Spallart which he described as "the maximum number of members and associates of each nationality to be fixed in the following proportions for the first election" ([3]);
B. The distribution of the 106 members and associates and proposed members and associates made by the Special Committee in 1885 ([4]);
C. The distribution of the actual 154 members and associates after the first elections in 1886 ([5]).

These are given in the following table to which a summary by continent and class of membership is added.

The significant features of this table are that although the Special Committee "dropped entirely from the rules the section respecting the partition of mem- "bers among the different States" (i.e. Col. A) (the criticisms of this made in respect of Greece, Spain, the "English colonies" and other countries have been cited on page 13 and Palgrave had said of this proposed distribution "How

([3]) Jubilee Volume op. cit. p 311.
([4]) Compiled from Jubilee Volume op. cit. pp 327–329, and Bulletin Vol. I, Part I, p 29, 1886.
([5]) Compiled from Bulletin Vol. I, Part 2, pp 298–311.

Geographical distribution of proposed and actual members and associates of the Institute

Country	A (proposed) 1885 (23 countries)		B (actual) 1885 (18 countries)	C (actual) 1886 (21 countries)
	members	associates		
Germany	12	12	19	25
France	9	9	11	17
Italy	8	8	13	23
United Kingdom	8	8	9	17
United States	8	8	10	10
Russia	5	5	11	14
Austria	5	5	7	10
Hungary	4	4	7	8
Belgium	3	3	4	6
Netherlands	2	2	4	5
Sweden	2	2	2	2
Denmark	2	2	2	2
Norway	2	2	2	4
Switzerland	2	1	1	3
Spain	1	1	1	1
Portugal	1	1	—	1
Servia	1	1	—	1
Finland	1	1	1	—
Greece	1	1	1	—
Argentina	1	1	—	2
Brazil	—	—	1	1
Other countries (one each)	3 ([1])	3 ([1])	—	2 ([2])
Total	81	81	106	154

Continent	Countries	Members and associates	Countries	Members and associates	Countries	Members and associates
Europe	21	72 + 72	16	95	16	139
America	2	9 + 9	2	11	3	13
Asia	—	—	—	—	1	1
Africa	—	—	—	—	—	—
Oceania	—	—	—	—	1	1
Class of member:						
Members	—	81	—	56	—	69
Honorary members	—	—	—	23	—	37
Associates	—	81	—	27	—	48

([1]) Bulgaria, Rumania, Turkey.
([2]) Australia, India.

could they accept a proposition of that kind?") yet when it submitted the names of the original members (Col. B), their distribution (allowing for the increase in membership) was very similar to that proposed by Neumann-Spallart. (6)

In fact, the proportion allotted to the "great powers" was increased and few changes were made in the numbers allotted to the other countries. Even in 1886 after the first elections and nominations (Col. C) the position was not seriously modified. It is true that one person from India was elected but he was a British subject. The proportion of European members even increased slightly. It seems strange now that not a single eligible person was discovered, for example, in Canada although one was found in Brazil and two were found in Argentina. Neumann-Spallart's view as to how the immediate membership could be distributed, seems to have been very shrewd. He gave no reason as to how he arrived at his suggested distribution; it was based perhaps on his experience as a participant at the International Statistical Congress.

At the beginning the Institute was entirely Europe-American, predominantly European; 70 % of the members came from six European States. The large contingent from Russia should be noticed. The Institute remained largely Europe-North American, and predominantly European for about 50 years; in 1935 80 % of the members were European. With the exception of a short period in 1893 to 1896, when a citizen of U.S.A. became a vice-president, all the officers from 1885 to 1923 were European.

Seventy-five years later, the Institute's members are spread over 55 countries and of these only 60 % are European, 25 % American, and 10 % from countries in Asia (see page 67).

c. *The purpose of the Institute.* The original aims of the Institute (which remained unchanged until 1948!) were four. Briefly the first concerned the attainment of uniformity in the compilation and tabulation of statistical returns between different countries; the second was to call the attention of governments, by means of *voeux,* to matters capable of solution by statistical observation; the third, the issue of international publications for bringing into communication, the statisticians of the different countries; and the fourth the

(6) The only limitation of the number of members of a given State was a provision that the "number of representatives to be elected from any individual State or confederation of States was not to exceed one-fifth of the total number of members at the time of election" (article VI). The phrase "any State or confederation of States" which still occurs in the present statutes was introduced apparently to cover the case of the German Empire which consisted then of various kingdoms etc. possessing their own statistical offices. It has now a wider application.

encouragement of statistical science and the stimulation of interest therein. The first of these caused little difficulty as can be seen by the valuable papers on all aspects of international standardization and uniformity submitted to the early sessions. The second caused some difficulty at the outset, as the chief German statisticians feared that it might encroach on the prerogatives of governments. They were however reassured by the first president (Rawson) who declared (see p. 14) that the Institute

> "as a purely private body ... seeks to exercise no official authority or influence" but added that "it is now without hope that the results (of its deliberations) may by their "merits obtain the attention of Governments and may often lead to the adoption of "methods which will promote the advancement of statistical knowledge ... While the "direct object of the Congresses was to influence Governments, that of the Institute is "to acquire and perfect statistical knowlegde and to furnish information which may be "useful to those Governments who may pay attention to its proceedings".

If the word "influence" is here used in the sense of "pressure", this statement is unexceptionable, but if it implies "persuasion" or "having some effect on", it seems to the writer that it minimises too much the aim of the Institute. There seems to be no doubt that "by inviting (appelant) the attention of governments to various problems ...", the founders of the Institute did intend the influence of the Institute to be felt, and at its first session it adopted a *voeu* on population census statistics and at nearly every session afterwards *voeux* on other subjects. These remained in the records of the sessions as it was, apparently, (the Bulletins of the Institute are silent on the subject) felt that the official statisticians attending the session would call the attention of their governments to them. These *voeux* ranged from wishes, requests, suggestions and recommendations (of various degrees of emphasis) to elaborate schemes of compilation with proposed standard and classification tables, and even to one *voeu* (1899) "insisting vigorously that this system be adopted "in principle and without revision by all the statistical institutions of Europe" (see p 78).

In 1901 the session decided to communicate the *voeux* adopted, to all governments and this was done (via the Foreign Offices) hereafter and up to those adopted in 1936 when the letter of transmittal asked that "vous voudrez bien, "après examen, *en recommander la mise en exécution* aux Départements "ministériels intéressés". This sentence goes beyond the view expressed by the first president and conforms more closely to the views expressed at the foundation meeting by Neumann-Spallart, when he proposed in his draft rules that the attention of governments should be *called* to statistical problems.

Seventy-five years later, all references to governments are omitted from its aims. Recommendations may still be adopted at the Institute's sessions, though they are now rare, but they are no longer communicated to governments; an activity to which the Institute has in its first fifty years attached considerable importance was abolished in 1948 (its last application was in fact in 1937 after the 1936 session).

As regards the third aim, the preparation of publications, article XIV of the rules gave further details. The Institute was originally to publish (1) a monthly bulletin, (2) an international statistical annual, (3) special international statistical publications and (4) reports of the meetings, but this was modified in 1887 to read (1) a quarterly bulletin (2) an international statistical yearbook. It was added that the former would contain a) the proceedings of the session, b) reports on the organization and changes therein, of the official statistics in different countries and on changes in staff etc. c) the results of international statistical inquiries and d) summary of recent books on statistics; and that the yearbook should contain international statistical comparisons based on information supplied by different countries.

How this ambitious programme (even as reduced in 1887) could be carried out by a body which had no permanent seat, no permanent staff and no income beyond that of the annual dues of its small membership was not explained and it was in fact never carried out. No quarterly bulletin was ever issued. The "Bulletin de l'I.I.S." issued irregularly, after some early numbers which did contain some material on (b) (c) and (d) above, became almost entirely the official record of the biennial sessions. The international statistical yearbook never materialized except in the form of a few international surveys by members on certain subjects which have been mentioned in Part III Section A of this History. It was not until 1920 that the Permanent Office of the Institute began the publication of a somewhat meagre "Bulletin Mensuel" (de Statistique) which gave way in 1933 to the Revue de l'Institut International de Statistique, and not until 1916 that it began the publication of an "Annuaire International de Statistique".

Seventy-five years later all references to publications are omitted from the statutes: even the publication of a bulletin on the proceedings of the sessions is not mentioned (this is, in practice, issued by the host government of the session). The Institute has now a free hand in this matter and its publications consist not only of the "Review" but also of the series "Statistics of Large Towns", publications on statistical education, bibliographies, two journals of statistical abstracts and other documents.

The fourth aim, the promotion of the appreciation of statistical science and

the encouraging of interest in statistical study by education and other means was neglected in the early years, at any rate in its direct application. The holding of regular sessions to which both members and non-members statisticians are invited and the discussion of papers and the publication of the proceedings of the sessions have certainly encouraged an interest in statistics. As regards statistical education, nothing was apparently done other than the submission of a few reports on the practice in different countries, and the adoption of a mild *voeu* in 1928 on the teaching of statistics in institutions of higher education.

Seventy-five years later, this aim forms one of the principle activities of the Institute. Statistical training centres, teaching aids, bibliographies, dictionaries of statistical terms, and seminars etc. have contributed greatly to forstering an interest in statistics and forming qualified statisticians.

Although three of the four original aims have now been either completely abandoned, or considerably modified in the letter or in the spirit the underlying purpose of the Institute is little changed. Its original general objects was "the development of the progress of administrative and scientific statistics"; its general object today is "the development and improvement of statistical methods and their application throughout the world". The methods only of encouraging this development have changed.

d. *Types of membership.* The rules of the Institute in 1885 provided for three types of participants: members, associates and honorary members. The distinction between these types is not very clear; members are those "who have "distinguished themselves in the domain of administrative or scientific statistics, "members of central statistical commissions, municipal statistical bureaux and "statistical societies and others of reputation in this branch of science" (article IV). Honorary membership may be conferred on members or associates or "any persons who have distinguished themselves in the domain of statistics" (article VII). Associates are chosen by the members from among "those whose "special knowledge or technical qualifications may be considered of service "to the Institute" (article V). They have the full privileges of members except that they may not vote on the rules, on elections or on financial matters. The number of members is limited to a maximum of 100, the number of associates is not to exceed the number of members, and the number of honorary members is unlimited.

In examining the list of the first members of the Institute, it is difficult to see on what criterion the classification into these three groups was made. The members consist largely of official statisticians while honorary members contain these and retired official statisticians. Professors, most of them

professors "tout court", (although a few are described as professors of statistics, political economy, philosophy etc.) are found in all the three groups. The statistical qualifications are not obvious in some cases; e.g. one member is described simply as "Consul-General (of his country) at Genoa", another as "avocat-général". It was perhaps inevitable that the first list of members and associates should be rather mixed; most of them were originally nominated in London in 1885 and the rest elected by correspondence (no minimum number of votes and no sponsors being required).

The rule fixing no limit to the number of honorary members was proposed by Neumann-Spallart presumably in order that a certain prestige could be given to the Institute at the outset by nominating persons who held, or had held, important posts. It appears that many members of all three classes were chosen or elected, rather for the positions they held than for any contribution they may have made to statistics. In 1886, there were no fewer than 48 honorary members out of a total of 154. This anomaly however did not last long. Associates were abolished in 1887; the "ceiling" for honorary members was reduced, but they were still "nominated".

Seventy-five years later, the membership consists of two types: elected members (honorary and ordinary) and nominated members (ex-officio); a category of associated or collective membership, namely affiliated organizations, has also been created. The number of honorary members has been much reduced, the maximum number of ordinary members increased, and the number of "vacancies" each year is now fixed by the General Assembly. Although details of the "specialization" of members at different dates are not available, it is clear from inspection of the lists of members that the official element has been drastically reduced.

e. *Recruitment of members.* The original rules are very vague on the subject of election of members and associates. The only reference is in article XII which states "in the case of the election of new members or associates, absen-"tees may send their votes in writing", although article XIII adds that this must be resorted only in exceptional cases. This implies that members and associates are first voted on, by those present at the sessions of the Institute. The rules are silent as to the nominating procedure, the declaration of titles and qualifications of the candidates, and the majority or quorum for election. It was probably felt that the officers of the Institute could be relied on to submit only names of persons whom they considered suitable. This was soon changed and in 1887, a complicated system was evolved by which candidates required five sponsors and a three-fourths majority and later on candidates had to submit in some cases to three successive votes, to secure election. Some

of the persons who became members in 1885 and 1886 would not have easily secured election under the drastic procedure of later years. This new procedure did not however provide the Institute with the necessary new blood. Seventy-five years later a new scheme is in force by which one-third of the votes may secure election and which provides the Institute annually with the number of new members considered desirable for a gradual annual increase.

These historical references to aspects of the original statutes and membership of the Institute are now perhaps of little importance. Whatever their anomalies the pioneers of the Institute did a remarkable piece of work; no precedents existed for the formation of such a body as was contemplated for the new Institute; international contacts, especially between European and non-European countries were not developed to the same extent in 1885 as they are some 75 years later. It was in the nature of things that the Institute should be primarily a European body and should start with a nucleus of well-known statisticians as that term was understood in 1885. Zahn in his "50 années de l'Institut International de Statistique" states "Il (l'Institut) eut ainsi dès le début un caractère oecuménique". ([8]) This is an exaggeration; it was truly "international" in the sense that it included members from several nations and was open to persons of all countries, but it was not oecumenical in the sense that it was universal or embraced all countries, or at least most civilised countries. Subsequent chapters have shown how the Institute corrected this and other weaknesses in its construction, gradually extended its membership and became a World Academy embracing statisticians of all kinds in over 50 countries.

Note on the origin of the title "Institut International de Statistique".

It is of interest to recall how the International Statistical Institute came to be so called. Previous international gatherings of statisticians had been known usually as *Congressess.* (To be accurate the title was the International Statistical *Congress* holding different sessions.) Such meetings had no list of members; they were assembled from time to time by invitations issued from the inviting country. The standing body which issued from this Congress was known as the Permanent Commission – a small body whose functions have been described in Part I. Both of these ceased to exist in 1878 and when the Statistical Society of London in 1884 decided to celebrate its jubilee meeting by initiating discussions on methods of future international cooperation among statisticians, it originally proposed that the "form of the Celebration

([8]) Zahn, op. cit. p 11.

be a *Congress*" to discuss, inter alia, "a proposal to establish an International Statistical *Society*". A few months later, the Council of the Society decided that it should be a *Conference* ("this term being subsituted for that of Congress") and should "consider the possibility of establishing an International "Statistical *Association*". ([9])

The term Society was originally adopted, probably, because the London, Paris and other statistical bodies were known as Societies. It is not clear why the change was made from Society to Association ([10]). The term was used by Neumann-Spallart for the paper he was invited to submit to the Conference and perhaps chosen by him. In this paper however, he rejected the term Association in favour of that of Institute. He said:

> "In order to mark the aims and aspirations of this Association, I would suggest that it "be known by the designation of 'Institut International de Statistique' recalling in this "connection the excellent work performed by that most justly celebrated scientific body "the 'Institut de France', as well as that performed by the 'Institut de Droit Inter-"nationale' *(sic)* which during its comparatively short career has won for itself so high "place in the public estimation and I have been guided in the sketch I have drawn up "for the management of a future Association by the Oxford revised statutes of this "latter 'Institute' " ([11])

This proposal was adopted and the official title became "L'Institut International de Statistique" known in English (unofficially until 1948) usually as the International Statistical Institute, sometimes as the International Institute of Statistics. This title was eminently suitable at the time for a free association of statisticians, one of whose objects was to promote and foster the "general appreciation of statistical science" and is very appropriate at the present time when the Institute has become, more than in 1885, an independent scientific and world-embracing body.

([9]) Jubilee Volume, op. cit. pp VIII and X.

([10]) In the case of the American body, the situation was the reverse. It was originally founded under the title of American Statistical Society (A.S.S.) but the title was almost immediately changed to American Statistical Association (A.S.A.) for alphabetical reasons! (Willcox: International Statistical Conferences Vol. 1 p 164).

([11]) Jubilee Volume, op. cit. p 306.

APPENDIX III. Officers and honorary presidents 1885-1960; biographical notes of recent presidents and honorary presidents; list of veterans.

A. Alphabetical list of officers and honorary presidents 1885-1960 with titles and nationality. ([1])

Allen, Roy George Douglas (United Kingdom).
Treasurer (1949–55).
Professor of statistics at the University of London.

Bateman, Sir Alfred E. (United Kingdom).
Treasurer (1897–1909).
Comptroller General of the Commercial, Labour and Statistical Department of the Board of Trade, London.

Bodio, Luigi (Italy).
Founder member (1885); first Secretary General (1885–1905); President 1909–20).
President of the Superior Council of Statistics of Italy.

Boldrini, Marcello (Italy).
Vice-President (1953–60); President (1960).
Professor of statistics at the University of Rome.

Bowley, Sir Arthur L. (United Kingdom).
Treasurer (1929–34 and 1947–49); Honorary President (1949–57).
Professor of statistics at the University of London.

Cohn, Einar (Denmark).
Vice-President (1947).
Director of the Central Statistical Office of Denmark.

([1]) The principal statistical office or function held has been indicated, and the latest name of the member is given. For some British members, the title has changed owing to the conferring of a knighthood or a peerage.

Cox, Gertrude M. (U.S.A.).
Treasurer (1955–).
Director of the Institute of Statistics of the University of North Carolina.

Craigie, Patrick G. (United Kingdom).
Secretary-General (1905–07); Treasurer (1909–13).
Assistant Secretary of the Board of Agriculture, London.

Darmois, Georges (France).
President (1953–60).
Member of the Institut de France. Professor at the Faculty of Sciences of the University of Paris.

Delatour, Albert (France).
Vice-President (1913–23); President (1923–31); Honorary President (1931–38).
Member of the Institut de France. Member of the Superior Council of Statistics of France.

Fisher, Sir Ronald A. (United Kingdom).
Honorary President (1957–).
Professor at the Department of Genetics of the University of Cambridge.

Foville, Alfred de (France).
Founder member (1885); Vice-President (1911–13).
Member of the Institut de France, Minister of Finance.
Member of the Superior Council of Statistics of France.

Geary, Robert Charles (Ireland).
Vice-President (1951–57).
Director of the Central Statistical Office of Ireland.

Goudswaard, Gijsbert (Netherlands).
Secretary-General (1957–); Director of the Permanent Office of the Institute (1948–55).
Professor of statistics at the Free University of Amsterdam.

Huber, Michel (France).
Vice-President (1931–47).
Director of "La Statistique Générale de la France". Member of the Superior Council of Statistics of France.

Idenburg, Philippus Jacobus (Netherlands).
Secretary-General (1951–57).
Director General of the Central Statistical Office of the Netherlands.

Inama-Sternegg, Karl von (Austria).
Founder member (1885); President (1899–1908).
President of the Imperial and Royal Central Statistical Commission of Austria–Hungary.

Jahn, Gunnar (Norway).
Vice-President (1947–51).
Director of the Central Statistical Bureau of Norway.

Julin, Armand (Belgium).
Vice-President (1929–36); President (1936–47); Honorary President (1947–53).
Secretary-General of the Ministry of Industry and Labour, Brussels.

Kingston, Jorge (Brazil).
Vice-President (interim) (1956–57).
Professor at the University of Brazil, Rio de Janeiro.

Levasseur, Emile (France).
Founder member (1885); Vice-President (1885–1911).
Member of the Institut de France. Professor at the Collège de France.

Lexis, Wilhelm (Germany).
Founder member (1885); Vice-President (1889–1911).
Professor at the Universities of Breslau and Freiburg.

Mahalanobis, Prasanta Chandra (India).
Vice-President (1947–53); Honorary President (1957–).
Director of the Indian Statistical Institute.

Marshall, Herbert (Canada).
Vice-President (1953–60).
Dominion Statistician.

Martin, John Biddulph (United Kingdom).
Founder member (1885); Treasurer (1885–97).
Honorary Secretary of the Royal Statistical Society.

Mataja, Victor (Austria).
Vice-President (1923–27).
President of the Federal Statistical Office of Austria.

Mayr, George von (Germany).
Founder member (1885); Vice-President (1911–23).
Professor of political science at the University of Munich.
Under-Secretary of State.

Methorst, Henri Willem (Netherlands).
Secretary-General (1911–47); Director of the Permanent Office (1913–47); Honorary President (1947–55).
Director of the Central Statistical Office of the Netherlands.

Meyer, Robert (Austria).
Vice-President (1913–14).
Minister of Finance.

Morita, Yuzo (Japan).
Vice-President (1957–).
Technical Consultant, Statistical Bureau, Office of the Prime Minister, Tokyo.

Neumann-Spallart, Franz von (Austria).
Founder member (1885); Vice-President (1885–88).
Professor of statistics at the University of Vienna; Member of the Imperial and Royal Central Statistical Commission of Austria–Hungary.

Rawson, Sir Rawson W. (United Kingdom).
Founder member (1885); First president (1885–99); Honorary President (1899).
President of the Royal Statistical Society.

Rew, Sir Henry (United Kingdom).
Treasurer (1913–29).
Assistant Secretary of the Ministry of Agriculture and Fisheries.

Rice, Stuart A. (U.S.A.).
President (1947–53); Honorary President (1953–).
Assistant Director for Statistical Standards, Bureau of the Budget.

Rueff, Jacques Léon (France).
Vice-President (1947–53).
Professor at the Institute of Statistics of the University of Paris.
Inspector General of Finance.

Sauveur, Maurice (Belgium).
Vice-President (1923–29).
Director General of the General Statistical Administration of Belgium.

Savorgnan, France Rodolfo (Italy).
Vice-President (1934–47).
President of the Central Statistical Institute of Italy.

Stamp, Lord (United Kingdom).
Treasurer (1934–41).
Director of the Imperial Chemical Industries. Director of the Bank of England.

Szturm de Sztrem, Edward (Poland).
Vice-President (1947–51).
Director of the Central Statistical Office of Poland.

Teixeira de Freitas, Mario Augusto (Brazil).
Vice-President (1951–56).
Honorary President of the Inter American Statistical Institute.

Tinbergen, Jan (Netherlands).
Secretary-General (1947–51).
Professor at the Netherlands School of Economics Rotterdam.

Troïnitsky, Nicolas (Russia).
Founder member (1885); Vice-President (1897–1913).
President of the Statistical Council of Russia.

Verrijn Stuart, Coenraad Alexander (Netherlands).
Secretary-General (1907–11).
Director of the Central Statistical Office of the Netherlands.

Wagemann, Ernst (Germany).
Vice-President (1936–47).
President of the Statistical Office of the Reich.

Walker, Francis A. (U.S.A.).
Founder member (1885); Vice-President (1893–97).
President of the Massachusetts Institute of Technology, Boston.

Willcox, Walter F. (U.S.A.).
Vice-President (1923–47); President (1947); Honorary President (1947–).
Professor of Economics at Cornell University.

Wold, Herman Ole Andreas (Sweden).
Vice-President (1957–).
Professor at the Institute of Statistics of the University of Uppsala.

Zahn, Friedrich (Germany).
Vice-President (1927–31); President (1931–36); Honorary President 1936–46).
President of the Statistical Office of Bavaria.

B. Biographical notes of recent presidents and honorary presidents.

In the volume "50 années de l'Institut", short biographies are given of the first five presidents of the Institute during the years 1885–1935. In the years 1936–1960, the Institute has had five more presidents three of whom became honorary presidents on retirement; short notices of these as well of the other honorary presidents are given below, and their photographs are given at the end of the volume.

I. PRESIDENTS

Armand Julin (1865-1953).

Armand Julin, the sixth president, was elected a member of the Institute in 1895 at the age of 30; he had been a member 58 years and was the "doyen" of the Institute. Before the second world war he attended most of the sessions of the Institute and contributed frequently to its proceedings. He was a member of the Preparatory Committee on Economic Statistics set up in 1922 by the League of Nations and the Institute, and prepared reports on international trade and industrial production; chairman of the first International Conference of Labour Statisticians (I.L.O.) in 1923 and of the mixed committee of the Institute and the International Labour Office on labour statistics in 1924. He was elected vice-president 1929, and president 1936, a post which he held until 1947 when he was elected an honorary president.

In 1892 he entered the Ministry of Agriculture, Industry and Labour and became Deputy Secretary of the Superior Labour Council, and in 1895, became a chief in the statistical section of the newly created Labour Office.
He became Professor of Statistics at the School of Political Science Louvain (1901–1905), Antwerp Commercial College (1905–1919), Ghent University (1920–1924) and Liège University (1924–1935). In 1921 he published his "Principes de Statistique théorique et appliquée". In 1919 he was appointed General Secretary of the Ministry of Labour and Industry. It is due to his initiative that the Belgian Statistical Society was founded of which he was president and later honorary president. He was twice awarded the quinquennial Heuschling prize for statistics, in 1910 and 1924. Almost his last work was a contribution to the Institute's Revue 1943, parts 1/2 and 1/3 where, in collaboration with Lesoir appeared a valuable study on "les facteurs moraux et matériels du recul de la natalité".
Julin was Grand Officer of the Order of Leopold, holder of many foreign decorations and honorary member of numerous statistical societies in different countries. President of the Institute during the critical session at Prague in 1938 which adjourned after two days, he carried on the duties of his office as best he could while his country was in enemy occupation but his health prevented his attending the Washington Session in 1947. In his report to this session, in which he declined to allow his name to be put forward again as a candidate for the presidency on account of ill health, he spoke of his lifelong work for the Institute and expressed the "hope that my successor will surpass me in many things, but my dearest wish is that he will equal me in one thing by devotion to the Institute. ([2])

Walter Francis Willcox(1861-).

Professor Willcox the seventh president was born twenty-four years before the Institute was founded and at the age of 30 he became Professor of Economics and Statistics at Cornell University, a post he held for 40 years when he became Professor Emeritus. From 1899 to 1901 he was Chief Statistician for the 12th. Census of U.S.A. and diplomatic agent of the U.S. Census Bureau 1902–1931. He was President of the American Statistical Association in 1915. Elected member of the Institute in 1899, he became vice-president from 1923 to 1947, president for a short period in 1947 and honorary president from 1947. He is an honorary member of numerous foreign statistical societies.

([2]) Based on an obituary notice by Lesoir in the Review of the International Statistical Institute, Vol. 20 No. 2/3, 1952.

Professor Willcox has attended many sessions of the Institute since 1893 and contributed numerous papers to its proceedings, chiefly on demographic questions and to other publications on the history and work of the Institute. He rendered valuable service to the Institute at the time of the revision of the statutes in 1933/34 and again at the time of the re-organization of the Institute in 1946/47. At the age of 96, he crossed the Atlantic to attend the 30th session at Stockholm in 1957, and at the time of writing (February 1960) is still with us, and "doyen" of the Institute.

Stuart A. Rice (1889-).

Dr. Rice, the eighth president of the Institute was elected a member in 1935. He was appointed Professor of Sociology and Statistics at the University of Pennsylvania in 1926; elected president of the American Statistical Association in 1933; and was Assistant Director for Statistical Standards, Bureau of the Budget, Washington for nearly two decennia until 1954, and Chairman of the Central Statistical Board. In 1940 he initiated the creation of the Inter American Statistical Institute now affiliated with the International Statistical Institute. He played a leading part in reactivating the Institute from 1945 onwards, in drafting its new statutes and reorganizing it on a new basis and his successful efforts in this direction were recognized by his election as President in 1947 and re-election in 1949 and 1951. In 1953 he was elected Honorary President.

He was the Chairman of the United Nations Nuclear Commission on Statistics in 1947 and a member of the Statistical Commission until 1954. In this capacity he initiated the work of the Commission on Statistical Education and Training and it was largely due to his efforts that the Institute was able to launch in collaboration with U.N.E.S.C.O. the extensive programme of education and training in statistics of the Institute which is now one of its main functions. The tribute paid to him by the Secretary-General of the Institute on his retirement expresses the feeling of all members of the Institute who know Rice, and it should be put on record:

> "It was Stuart Rice who took the lead in reviving the Institute, who drafted new statutes and who showed us its task under changed conditions. In short, it was he who rebuilt the Institute. We are indebted to him for his rare administrative efficiency, for his qualities of tact understanding and good humour, and for his supreme disinterestedness".

In the annals of international cooperation in statistics, two names have stood out, hitherto: Quetelet who founded in 1853 the International Statistical

Congress, the forerunner of the Institute, and Neumann-Spallart who drafted the first statutes of the Institute in 1885. A third name should now be added, Stuart Rice, who by his vision and inspiration saw in which direction the future of the Institute lay, and by his zeal and tenacity helped to make the Institute, the world academy of statisticians which it has now become.

Georges Darmois (1888-1960).

The ninth president of the Institute was born in 1888 and specialized at an early date on mathematical studies with special reference to the calculus of probabilities. After serving in the war of 1914–18, when he was awarded the Croix de Guerre he entered the Faculty of Sciences at Nancy in 1919 where he collaborated with Croze and others in the study of the general theory of relativity and where he became professor a post he held until 1933. In 1923 the Institut de Statistique of the University of Paris was set up and Darmois gave weekly lectures in succession to Borel. In 1928–29, at the request of the governing body of the Institut Henri Poincaré, he gave a course on the statistics of stellar dynamics the first systematic exposé in France of the application of statistical methods to the structure of the stellar universe. In 1934 he published his book "Statistique et Applications" of which the fifth edition appeared in 1959. In 1935 he was elected member of the Institute. Mobilised again during the war of 1939–45, he took up in 1944 the teaching of the calculus of probabilities and mathematical statistics and became director of studies and general secretary of the Institut de Statistique in succession to Huber. In 1947 he was appointed Director of the Centre d'Econométrie of the Centre National de la Recherche Scientifique. Until 1959 he held the chair of calculus of probability and mathematical physics of the Faculty of Science of the University of Paris, in succession to Fréchet.

Professor Darmois was an "officier de la Légion d'Honneur" member of the Académie des Sciences de l'Institut de France, former president of the Société mathématique de France, Société de Statistique de Paris, Société météorologique de France, Société française de biométrie, Société internationale de biométrie, honorary fellow of the Royal Statistical Society. The large number of books and contributions on mathematics, physics, statistical theory etc. testify to his eminence in this field, in recognition of which he was elected president of the Institute in 1953.

Marcello Boldrini (1890-).

Marcello Boldrini, the tenth President of the Institute, was born in Italy in 1890. He is at present Professor of Statistics at the University of Rome, after

being Professor in other Italian Universities. He has also held courses and given lectures in various foreign Universities. At the beginning of his scientific activity he devoted himself to studies of Biometric and Demographic Statistics and afterwards concentrated chiefly on theoretical statistics. He has written a large number of books and papers, mainly in Italian but also in other languages.

He is also Academician of the "Pontificia Academia Scientiarum"; National Member of "Accademia dei Lincei"; Effective Member of the "Istituto Lombardo di Scienze e Lettere" and of other Academies; Member of the "Consiglio Superiore di Statistica"; Former Vice President of the International Union for the Scientific Study of Population; Professor honoris causa at the National University of Brasil, Rio de Janeiro; President of the "Istituto Italiano di Antropologia".

II. HONORARY PRESIDENTS

Henri Wilhelm Methorst (1868-1955).

Professor Methorst was appointed Secretary General of the Institute at the Copenhagen session of 1911 and held the post until 1947, i.e. for 36 years. As Secretary General he was also under the statutes Director of the Permanent Office from 1913 to 1947.

In 1895, he entered the Dutch statistical service and rose with its development till he became Director-General of the Central Statistical Bureau – a post he held until his retirement in 1939. Elected a member in 1907, he succeeded Verrijn Stuart as Secretary-General of the Institute in 1911. Largely owing to his activity, and the contributions of governments and firms (especially Dutch) which he secured, the Permanent Office developed into an important international statistical office, with many valuable publications to its credit especially the volumes of the Annuaire International de Statistique. He had the difficult task of "keeping the flag flying" during the two world wars when international communication largely broke down, and especially during the second war when his country, his town and his office were in military occupation. He described himself then as a "lonely sentinel at his post".

After the first world war, he played a prominent part in re-establishing the Institute, and, together with the Vice-President (later President) Delatour, endeavoured to establish close collaboration with the new League of Nations, which was about to undertake international statistical activities. Preparatory Committees were set up jointly by the League and the Institute and these

committees made a valuable contribution to international economic statistics. His greatest services to the Institute and those by which he will be long remembered are those of an indefatigable secretary and organiser of the sessions of the Institute and as an authority on international demographic statistics. The volumes of the "Annuaire International de Statistique" on Population questions and the "Aperçu de la Démographie des divers pays du monde", prepared under his direction, were pioneers in this field. His devotion to the Institute was deep. For many years he refused the renumeration to which he was entitled as Director of the Permanent Office and would have retired in 1940 had not his sense of duty kept him at his post for seven difficult years more until the Institute sessions were resumed in 1947, when he was elected Honorary President.

No officer of the Institute has served the Institute so long and so conscientiously. In his last message to the Institute in July 1947 when nearly 80 years of age he says:

> "During my career, statistics have become instead of the pastime practised by a few which it used to be, an indispensable and highly valued aid both among government administration and in the scientific world. Now the Institute sees a new era opening before it. May it also, in this new period, remain faithful to its aims and contribute successfully to perpetuating the development of statistics, not as an end in itself, but as an element of the general progress of the world, a world which does not work for its own destruction but for the welfare of humanity".

Sir Arthur Lyon Bowley (1869-1957).

Dr. Bowley was elected a member of the Institute in 1903, was elected Treasurer for the period 1929 to 1934, and again from 1947 to 1949, when he was elected Honorary President. "Few statisticians have had as great an inter-
"national reputation. He will be long remembered in many countries by all
"those who met him during his active life of fifty years and by the even
"greater number who came to know him through his workings on statistics
"and on economic and social affairs. He served the Institute in many ca-
"pacities and attended no fewer than 12 sessions of the Institute. Outstanding
"among his contributions to the proceedings of the Institute was his work in
"connection with the Commission sur l'application des méthodes représen-
"tatives, in particular his memorandum on Measurement of the Precision ob-
"tained in Sampling, appended to the report of the commission (1925). He was
"one of the original members of the staff of the London School of Economics
"in 1895. He taught statistics there on a part-time basis for nearly 25 years.
"A full-time professorship in statistics was established in the University of

"London in 1919 and Bowley occupied this chair until 1936. He was fully and "adequately honoured during his life-time. The Royal Statistical Society "elected him to their Council as early as 1898, a Vice-President in 1907–09 "and 1912–14, and President for the period 1938–40. He was created a C.B.E. "(Commander of the British Empire) in 1937 and a Knight in 1950." (3)

A complete list of his contributions to statistics would fill many pages; a list of about 150 items (books, pamphlets, articles and reports) is given in the Journal of the Royal Statistical Society Vol CXX, Part 2, 1957. His contributions to the transactions of the Institute though not very numerous were all of outstanding quality; in addition to the report on sampling cited above there may be mentioned: the Comparaison internationale des salaires à l'aide de la médiane (1909); Rapport sur les salaires comme éléments du coût de production (1936); and Statistiques en vue des Prévisions Economiques (1929 and 1931).

Prasanta Chandra Mahalanobis (1893-).

Professor Mahalanobis appointed lecturer at Calcutta University in 1917 became in 1922, head of the department of physics at the Presidency College, Calcutta, and principal of the College in 1945. From 1941 to 1945 he was also head of the post-graduate department of statistics of Calcutta University; and from 1945 statistical adviser to the Government of Bengal and from 1949 statistical adviser to the Government of India. In 1931 he founded the Indian Statistical Institute, and is the founder editor of its Journal, Sankhya. Since 1949 he has been chairman of the Indian National Income Committee. In 1946 he was appointed member of the United Nations Statistical Commission and became its chairman in 1954 and when this Commission appointed a subcommission on sampling in 1947 he became its chairman. At the present time he is chairman of the Committee of Statistical Education of the Institute. The organization and successful development of the Institute's statistical training centre at Calcutta (at the seat of the Indian Statistical Institute) is largely due to the efforts of Professor Mahalanobis. At the International Statistical Conference held at New Delhi and Calcutta in 1950/1951, he was the general secretary of the Indian National Committee.

His degrees and honours are too numerous to mention in detail. Among them are foundation fellow of the National Institute of Sciences of India, fellow of the Royal Society (London), fellow of the Indian Academy of Sciences

(3) Taken from the obituary note by R.G.D. Allen in the Review of the International Statistical Institute, Vol. 25 No. 1/3 1957.

and of the National Academy of Science, foundation vice-president of the Biometric Society, president of the anthropology section (1925) and of the mathematics and statistics section (1942) of the Indian Science Congress, its general secretary in the years 1945 to 1947 and president in 1950. In 1944 he was awarded the Weldon medal and prize of the University of Oxford. He has given lectures and made scientific tours in most countries of Europe, in U.S.S.R., and North America and his research papers on scientific subjects run into three figures.

In 1937 he was elected a member of the International Statistical Institute, a vice-president in 1947, and as a fitting tribute to his outstanding work in the field of statistics, honorary president in 1957.

Sir Ronald Aylmer Fisher(1890-).

Sir Ronald Fisher, after some years in teaching and in statistical research became in 1933 Galton Professor of Eugenics at University College (University of London) and in 1943 Arthur Balfour Professor of Genetics at the University of Cambridge, a post from which he retired in 1957. He was elected a fellow of the Royal Society, London in 1929, was awarded the Weldon medal (University of Oxford) in 1953, the Guy medal in gold of the Royal Statistical Society in 1946, the Darwin medal of the Royal Society in 1948, and its Copley medal in 1955. He is also an honorary member or associate of the American Academy of Arts and Sciences, of the U.S. National Academy of Science, of the Royal Swedish Academy of Sciences and Letters and of the Royal Danish Academy of Sciences and Letters.

Professor Fisher has made many contributions to both British and foreign scientific journals and has published various statistical text-books of which may be mentioned: "Statistical Methods for Research Workers" (now in its 12th edition) and the "Design of Experiments" (6th edition), both of which have had a profound effect on statistical methodology.

He was elected a member of the International Statistical Institute in 1931, an honorary member in 1950, and an honorary president in 1957.

C. Veterans of the Institute.

By "veterans" is understood here those who have been members of the Institute for at least 50 years. There are in the last 75 years only seven, three of them being citizens of the U.S.A.. This small number is due partly to the fact that in the early days of the Institute, members were elected more often on the basis of past achievement rather than present performance or future

promise and the average age at election tended to be high and few were elected sufficiently young to enable them to complete 50 years' service. Also certain members on reaching an advanced age and no longer able to take part in its activities resigned before completing 50 years' service. At the time of writing, February 1960, the Institute has only one living veteran, W. F. Willcox, who has also the longest membership, 61 years.

The list is as follows:

Benini, Rodolfo. Elected 1902. Professor of Statistics and Economics, University of Rome, and President of the Italian Superior Statistical Council. Honorary member 1929. Died 1956. Member for 54 years.

Bowley, Sir Arthur Lyon. Elected 1903. Professor of Statistics, University of London. Treasurer 1929–1934 and 1947–49. Honorary member 1937. Honorary President 1949. Died 1957. Member for 54 years.

Ely, Richard. Elected 1885. Professor of Economics, Wisconsin University, U.S.A. Died 1943. Member for 58 years.

Földes, Bela. Elected 1886. Professor of Economics and Statistics, University of Budapest. Honorary member 1928. Died 1945. Member for 59 years.

Ford, Worthington C. Elected 1889. Head of the Statistical Bureau of the Treasury, Washington D.C. Died 1941. Member for 52 years.

Julin, Armand, Elected 1895. Professor of Statistics at Louvain, Antwerp, Ghent and Liège, Vice-President 1929. President 1936. Honorary President 1947. Died 1953. Member for 58 years (see notice above).

Willcox, Walter Francis. Elected 1899. Professor of Economics and Statistics at Cornell University, U.S.A. Chief Statistician, U.S. Census Bureau. Honorary member 1935. Vice-President 1923–47. President 1947. Honorary President 1947. Still a member 1960 (see notice above).

APPENDIX IV. Affiliated Organizations (February 1960).

International

Biometric Society
Econometric Society
Inter American Statistical Institute
International Association for Research in Income and Wealth
International Union for the Scientific Study of Population

National

Egyptian Statistical Association
Sociedade Brasileira de Estatística
American Statistical Association
Indian Statistical Institute
Indian Society of Agricultural Statistics
Deutsche Statistische Gesellschaft
Verband Deutscher Städtestatistiker
Société Belge de Statistique
Société de Statistique de Paris
Società Italiana de Economia, Demografia e Statistica
Vereniging voor Statistiek (Netherlands)
Royal Statistical Society
Société Suisse de Statistique et d'Economie Politique
Jugoslovensko Statističko Društvo
Statistical Society of New South Wales.

APPENDIX V. International Statistical Education Centre, Calcutta.

Prospectus for the Twelfth Term July 1958–April 1959

Introduction.

The International Statistical Education Centre was opened in 1950, under the auspices of the U.N.E.S.C.O. and the Government of India and is operated jointly by the International Statistical Institute and the Indian Statistical Institute.

Objects.

The main purpose of the Centre is to provide courses in theoretical and applied statistics at various levels to selected participants from the countries of the Middle-, South-, and Far-East.

Courses.

The Centre normally provides courses for three distinct types of persons.

Course A – teachers of statistics;
Course B – officials (from government departments or commercial, financial etc. organizations) who have experience in statistical work; and
Course C – officials without experience in statistical work.

Qualifications.

In view of the varying needs of countries in Asia for trained statisticians, the Centre has not set any formal prerequisites for admission. Trainees who have a bachelor's degree, including some specialization in mathematics, will get the most out of the Centre, but flexibility in the instruction provided ensures that others with less background knowledge but with some experience in statistical work will also profit. The main consideration it that the candidate is alert and serious about his career in statistics, that he has done some work in a statistical office or as a teacher, and that he be capable of assuming increased responsibilities on his return. A good working knowledge of the English language is absolutely essential. To ensure the selection of candidates who will benefit most from the Centre it is recommended that applicants are first approved by a local selection committee set up by each country.

Time schedule.

The twelfth term will open on 14 July 1958 and will last approximately 9 months. Participants are expected to arrive in Calcutta during the previous week in order to make personal arrangements.

Teachers.

The teaching at the Centre is undertaken by members of the staff of the Indian Statistical Institute, visiting teachers provided by the International Statistical Institute and other international organizations and by collaboration with the statistical offices of the Government of India through the Central Statistical Organization, and of such bodies as the Reserve Bank of India.

Teaching facilities.

The teaching programme is arranged by collaboration between the Indian Statistical Institute and the Central Statistical Organization of the Government of India. All the facilities of the Indian Statisical Institute in Calcutta are made available to the Centre, including class-rooms, study rooms, calculating machine room, machine tabulation equipment, and a library of 60,000 volumes, past and current professional journals, and government reports from all over the world. The Centre is in close touch with all branches of work of the Indian Statistical Institute including the National Sample Survey. Participants at the Centre may elect to have work-experience in any of these branches or in statistical offices of the Government of India.

Plan of Instruction.

While the training can be varied to meet special needs, it typically starts with a three to four months basic instruction consisting of refresher classes in mathematics, lectures and laboratory work on statistical theory and lectures and demonstration on organization of large scale statistical projects including censuses and sample surveys. This is followed by visits to, and in-service training in, statistical offices of the Government of India, and also visits to households and farms for the collection of actual data. In the second half of the course, the trainees are given statistical theory at more advanced levels, if necessary, and allowed to specialize in the application of statistical methods in Economics, Industry, Labour, Foreign Trade, Manufacturing and other sectors of Production, Railways and other Transport, Banking, National Income, the making of Price and Volume Index Numbers, and the taking of censuses of Population and Agriculture. The student interested in sampling can avail himself of the continuing National Sample Survey to do actual work

in sample design, enumeration, tabulation, and interpretation. In this he can choose among the fields of socio-economic, demographic and agricultural investigation. A large mechanical tabulation installation is available to provide instruction and practice in all aspects of data processing, including the programming and operation of an electronic computer. If the application of statistics in biological experimentation or in psychology is part of the trainee's prospective work, arrangements can be made for him to take part in research in those fields within the Indian Statistical Institute.

The Institute also operates three Industrial Quality Control Centres – in Bombay, Bangalore, and Calcutta – and through these the trainee may have access to industrial establishments where he may himself collect data and analyse them. If, on the other hand, his interests are in mathematical statistics, he may spend a large part of his time in the Centre taking courses in this subject.

Curriculum.

The curriculum of the basic part of instruction for the three courses A, B and C are grouped as given below. Normally, a student going through any of the three courses will have to cover at least two out of groups I to IV.

I. *Statistical Organizations and Procedures*

1. The role of statistics in government and business.
2. (a) Statistical reporting systems – special consideration will be given to the problems arising in the countries served by the Centre. Repetitive reporting systems, censuses, special surveys, independent reporting programmes and those that are by-products of, or an integrated part of administrative activities.
   (b) Specific technical problems – legal basis and public relations, definitions, reporting period, questionnaire design, collection of data, scrutiny and editing, coding, tabulation, publication.
   (c) Problems peculiar to underdeveloped countries and primitive populations.
3. Repetitive statistical reporting in specific fields, covering for each field, 'scope and use' (e.g. population and health, agriculture, production, prices and wages, foreign trade, banking and finance, transport, labour and employement, housing and rehabilitation, legal and political administration).
4. Censuses in various fields – population, agriculture, industry.

5. Special surveys – demographic, agricultural, socio-economic, multi-purpose.
6. Sources of statistical data for national economic policy purposes – national income and social accounts, input-output analysis, balances of payments.
7. Internal organization, management, staffing, training, control of clerical processes, budgeting, accounting, and cost analysis of statistical offices, relations with non-statistical organizations.
8. National statistical systems – centralised and decentralised systems.
9. Statistical responsibilities and organizations of the United Nations, Specialized Agencies, and other international organizations.

II. *Statistical Theory*

1. Auxiliary Mathematics:
   Analytical geometry; elements of combinatorial mathematics; differential and integral calculus; simple solution of equations and interpolation formulae.
2. General Principles and Methods:
   Statistical concepts; presentation of data in tables and charts; frequency distributions, averages and measures of dispersion; elements of distribution theory; relations between two or more variables; index numbers; analysis of time series; interpretation of statistical data.
3. Principles and Practice of Sampling:
   Basic ideas of statistical inference; bias in sampling, non-sampling errors; sample characteristics and sampling errors; types of samples and their use; large sample methods and the planning of sample surveys.

III. *Statistical Theory (Advanced)*

1. Auxiliary mathematics: (a) Elements of mathematical analysis, (b) Determinants and matrices, (c) Numerical calculus, interpolation, quadrature solution of equations.
2. Elements of theory of probability, Binomial, Poisson and Normal distributions with important properties and applications.
3. Small sample theory: Chi-square, t, F distributions with applications, tests of regression coefficients and correlations.
4. Analysis of variance and covariance with applications.

5. Elements of the theory of estimation.
6. Elements of the theory of testing hypotheses.
7. Tests of significance in large samples.
8. Types of sampling, methods of estimation of population characteristics, calculation of sampling errors, relative efficiency of different types of samples.
9. Determination of sample unit, size of sample, designing of sample surveys.

IV. *Statistical Procedures in Particular Fields of Application*

1. Economic problems – use and construction of index numbers of different types, analysis of family budgets; income distribution; national income computation; analysis of economic time series.
2. Industrial problems – basic concepts of quality control; control charts; sampling inspection; industrial experimentation.
3. Agricultural experiments – basic concepts; randomised blocks; Latin squares, factorial experiments; confounding.
4. Population problems – births and death rates; net reproduction rate; life tables.
5. Educational problems – intelligence and achievement tests; intelligence quotient.
6. Biometric methods – Mendelism, linkage, blood groups.
7. Official Statistics, Statistics relating to Agriculture, Prices, Trade, Transport, Finance, Production, Labour etc.

Expenses of Participants.

Class-room, laboratory, and field instruction are provided free of charge, but participants must meet their costs for travel to, from, and within India, and their living costs and other necessary items, with such assistance as may be needed from their governments or other sources. Living costs in Calcutta are now estimated at 350 Indian rupees per month, as a minimum; this sum should be available to participants in advance of the month of expenditure. Participants should also be provided with at least 150 Indian rupees per term for the purchase of books, which they can retain as the nucleus of a professional library upon returning to their countries. Adequate arrangements, moreover, should be made for the care of dependents at home. Students will be assisted in finding suitable living quarters in Calcutta. The Indian Statistical Institute maintains hostels in the Institute premises in which limited number of seats wil be reserved for I.S.E.C. students.

Fellowships.

(a) *Colombo Plan fellowships.* The Government of India have been making available a number of Fellowships for students of the Centre. Most of the fellowships are offered as part of their contribution to the Technical Co-operation Scheme (Colombo Plan). Such fellowships will almost certainly be offered to the students of the Twelfth Term also; only officially sponsored candidates are eligible for the fellowships. A total of about 20 fellowships are expected to be awarded, but the actual number would depend on the suitability of candidates and other circumstances. Fellowships under the Colombo Plan cover the following items of expenditure in respect of the candidates selected:

1. Fares	Air fare from the port of embarkation in the home country to Calcutta and back.
2. Incidentals	Rs. 20/– for the entire journey each way.
3. Living allowance	Rs. 380/– per month each.
4. Cost of books etc.	Rs. 150/– each.

5. Medical expenses and travelling allowance for journey in India according to the rules in force.

(b) *Other fellowships.* A limited number of fellowships (about two or three per year) of approximately the same value as the Colombo Plan fellowships, are also likely to be awarded by the Government of India to candidates sponsored by countries outside the Colombo Plan.

Number of participants.

A limitation upon the number of enrolments in the Centre is desired in order to assume adequate attention to the educational needs of individual students. Previous terms have been attended by about 30 students on the average. These students were selected from a large number of applicants and came from the following countries:

Afghanistan, Burma, Cambodia, Ceylon, India, Indonesia, Iran, Iraq, Japan, Malaya, Nepal, Pakistan, The Philippines, Singapore, Syria, Thailand, Vietnam, and statisticians from government departments and business and financial institutions.

Certificates of satisfactory accomplishment.

Periodical examinations will be held in the course of the teaching for assess-

ment of progress by the students. A final examination at the end of the term will be held, which however is optional.
Candidates passing the final examination will be awarded a Certificate of Merit. Candidates who satisfactorily complete the course but do not pass the final examination will be awarded a Certificate of Attendance.

Application procedure and closing dates.

Application for admission to the Twelfth Term should be made on the prescribed form, of which copies are circulated together with this annoucement.

(a) *Admission.* Applicants for admission should fill in the form in duplicate and send one copy to the *Director of Studies*, International Statistical Education Centre, Indian Statistical Institute, 203 Barrackpore Trunk Road, Calcutta 35, India, and the other to the *Director*, Permanent Office, International Statistical Institute, 2 Oostduinlaan, The Hague, The Netherlands.

(b) *Colombo Plan fellowships.* Applicants who are eligible, and wish to apply for Colombo Fellowships, should *in addition* to sending in the application forms for admission as indicated above, simultaneously apply in forms A. 2 and A. 3 (specimens enclosed), to *the Director, Bureau for Technical Co-operation* in South and South-East Asia, P.O. Box No. 596, Colombo, Ceylon, with a copy of the application to *Mr. Nasib Chand*, Under Secretary, Ministry of Finance, Department of Economic Affairs, New Delhi, India, and another copy to the *Director of Studies* of the Centre at Calcutta.

(c) *Other fellowships.* Applicants from countries outside the Colombo Plan assistance scheme, who wish to be considered for any special fellowships available, should clearly state to that effect in the application for admission.

APPENDIX VI. Agenda of the Sessions of 1887; 1911; 1934; and 1957.

1st Session 1887 (Rome).

La consommation comme mesure du bien-être des individus, des familles et des nations.
Etude sur le budget d'alimentation de la population hongroise.
La statistique des prix (rapports du comité).
La statistique de la propriété foncière (rapports du comité).
Sur la meilleure méthode pour apprécier l'état social et économique d'un pays.
Des moyens pour développer la statistique historique.
Etude de l'état et du mouvement de la population en France du XVIII-me siècle.
Sur les moyens de procurer des renseignements comparables sur la statistique du travail dans les différents pays (réunion du comité).
Des divergences qui existent entre les publications relatives aux dénombrements et des moyens de les rendre comparables (réunion du comité).
Examen des difficultés particulières que rencontre la statistique du mouvement des métaux précieux dans le commerce international.
De la diminution de la mortalité et de l'accroissement de la durée de la vie moyenne en Europe.
Sur la possibilité et les moyens de rendre mieux comparables les résultats de la statistique officielle du commerce extérieur dans les différents Etats (réunion du comité).
Des moyens de préparer pour chaque pays un catalogue des publications officielles ou autres contenant des renseignements exacts pour chacune des branches importantes de la statistique.
Des difficultés qui s'opposent à l'établissement d'une statistique comparée des dettes des Etats.
Essai sur la consommation en Europe des excitants modernes: alcools, café, thé, cacao, sucre et tabac, et sur les recettes de l'Etat par les impots levés sur cette consommation.

13th Session 1911 (La Haye).

Ie Section: Démographie et méthode.

La fécondité des mariages.

Die familienweise Statistik der ehelichen Fruchtbarkeit und der Kindererhaltung.
Die Familienstatistik der Stadt Zürich.
Mortalité suivant le mode d'allaitement des enfants placés en nourrice en France.
Mortalité et morbidité des nourissons nés à la Haye en 1908, en rapport avec la manière de les nourrir et les circonstances sociales.
De la mesure des agglomérations urbaines.
Documents concernant la statistique de la population des pays sans recensements.
Die Sterbeziffer und der Frauenüberschuss.
Rapport sur les moyens de rendre comparables les courbes statistiques.

IIe Section: Statistique Economique

La base du contrôle statistique.
Report on fishery statistics.
Internationale Finanzstatistik.
La statistique internationale des forces motrices.
Documents concernant la statistique internationale de la répartition des revenus privés.
Mouvement des prix de dix articles de consommation courante à Bruxelles de 1881 à 1910.
La production agricole, la production de l'or et les prix.
Le bilan des payements internationaux entre Italie et l'extérieur.
Les salaires et les conditions du travail des ouvriers des entreprises municipales de la ville de Paris et d'une Compagnie française de Chemins de fer.
Rapport sur la statistique des prix des grains.
Méthode de représenter l'état des cultures des différents pays pour la statistique agricole internationale.
La statistique internationale du chômage.

IIIe Section: Statistique Sociale

Statistique des exploitations industrielles des Etats et des municipalités.
Causes determinantes des crimes et des délits.
La criminalité des grandes villes.
Assemblée Générale
Napoléon Statisticien.
La statistique internationale des valeurs mobilières.

Communications sur les progrès de la nomenclature internationale des professions et de celle des causes de décès.

22nd Session 1934 (London).

Première Section: Statistiques Démographiques et Mathématiques.

La statistique de la population éparse.
La courbe de la fécondité matrimoniale de la femme d'après l'âge.
Les causes de la mortinatalité en Italie en 1931.
Le calcul du taux de nuptialité.
Certains aspects démographiques en Italie, avec quelques comparaisons internationales et particulièrement en ce qui concerne les caractéristiques sociales de la population.
L'uniformité dans les limites de certains groupes statistiques.
Les statistiques dans les pays tropicaux.
Sur les inégalités statistiques.
Comparaison internationale des agglomérations urbaines.
La normalisation des tableaux statistiques.
L'usage du coefficient de corrélation.
La discordance des indices de variabilité et de concentration.
Les méthodes statistiques en psychologie.

Deuxième section: Statistiques Economiques.

Statistique internationale des consortiums et des trusts.
Rapport de la commission sur la statistique du marché intérieur.
Statistique de la petite industrie selon ses formes d'organisation.
Le développement de la capacité de production et son influence sur les mouvements de la vie économique.
La statistique de la répartition des charges d'impôts.
Le taux de capitalisation des actions pendant les années 1930–1933.
L'équilibre économique et la statistique en matière des fluctuations économiques.
La statistique économique générale et la statistique dans l'économie des entreprises.
Uniformité dans les statistiques des accidents de la circulation.
De certaines circonstances qui, à l'époque moderne, tendent à faire paraître l'augmentation du revenu national plus grande qu'elle n'est en réalité.
Problèmes courants dans la mesure du revenu national.

L'inclusion de la dette publique dans les évaluations de la richesse nationale.
Classification des navires à vapeur et à moteur du Royaume-Uni.
Le nouveau cadastre agricole et forestier en Italie.
Sur les statistiques d'émission de capitaux et du taux d'intérêt.

Troisième Section: Statistiques Sociales

La migration et le mouvement alternants.
Note sur la suite à donner aux résolutions concernant la statistique intellectuelle.
Tâches envisagées et tâches à envisager pour la commission des recherches statistiques historiques.
L'intelligence surnormale considérée comme phénomène collectif.
La méthode et les résultats principaux d'une enquête sur les budgets d'ouvriers et des employés en Belgique.
Réflexions sur la sociographie des maisons et logements.
La migration et le mouvement alternants (suite).
Le rôle de la confession et de la nationalité (langue maternelle) dans la statistique du mouvement de la population.
Les aspects statistiques du problème de l'alimentation nationale.
La statistique des villes allemandes après la guerre.

30th Session 1957 (Stockholm).

La théorie et la pratique de la programmation linéaire, en égard en particulier aux aspects stochastiques.
Techniques d'enquête dans la recherche démographique (réunion mixte avec l'Union Internationale pour l'étude scientifique de la Population).
L'emploi de machines électroniques pour les recensements de la population et pour d'autres objects.
Vérification de prévisions et plans économiques nationaux.
La statistique des régions à l'intérieur d'un pays.
L'élaboration d'un programme pour le recensement mondial agricole de 1960.
La statistique du transport, statistique de la sécurité routière.
L'application des méthodes statistiques dans les petits entreprises.
L'application de la statistique dans l'administration.
La place de la statistique dans l'administration municipale.
Quelques investigations de statistique municipale.

Mesure de la fécondité (réunion mixte avec l'Union Internationale pour l'Etude Scientifique de la Population).
Génétique statistique (réunion mixte avec la Société de biométrie).
La statistique dans ses rapports avec les sciences médicales.
Problèmes d'expérimentation.
Méthodes de sondage.
Théorie statistique.
Démographie.
Statistiques économiques et sociales.
} communications libres.

APPENDIX VII. Statistical Tables.

1. Membership (honorary and ordinary) of the Institute 1934 to 1959

Date (1)	Honorary (2)	Ordinary	Total
1934	11	175	186
1935	14	194	208
1936	13	188	201
1937	16	206	222
1938	14	197	211
1939	16	197	213
1940	16	188	204
1941	14	181	195
1942	14	176	190
1943	14	168	182
1944	13	164	177
1945	12	159	171
1946	11	150	161
1947	11	150	161
1948	12	188	200
1949	12	181	193
1950	14	201	215
1951	13	226	239
1952	14	244	258
1953	14	260	274
1954	15	279	294
1955	13	294	307
1956	10	307	317
1957	8	321	329
1958	8	324	332
1959	9	331	340

(1) on 31 December.
(2) Honorary members and honorary presidents.

2. Total membership of the Institute, by countries, 1938, 1948 and 1958

Pays	Country	Elected members			Ex-officio members
		1938	1948	1958	1958
		on 31 December			
					1) 2)
Afrique du Sud	South Africa	1	—	2	1
Allemagne	Germany (3)	24	16	23	1 + 2
Argentine	Argentina	1	1	2	1
Australie	Australia	2	2	7	1 + 1
Autriche	Austria	—	1	4	1
Bulgarie	Bulgaria	3	1	—	1
Belgique	Belgium	5	8	8	1 + 1
Birmanie	Burma	—	—	1	1
Brésil	Brazil	3	5	8	2 + 1
Canada	Canada	4	5	9	1
Chili	Chile	—	—	1	1
Chine	China	1	3	4	—
Colombie	Colombia	—	—	—	1
Danemark	Denmark	4	2	2	1
Egypte	Egypt	3	2	3	1 + 1
Equateur	Ecuador	—	—	—	1
Espagne	Spain	2	2	7	1
Etats-Unis	United States	21	24	46	4 + 1
Finlande	Finland	3	5	5	1
France	France	23	16	31	1 + 1
Grèce	Greece	2	3	6	1
Guatemala	Guatemalá	—	—	—	1
Haïti	Haiti	—	—	1	—
Hongrie	Hungary	9	5	6	1
Inde (4)	India (4)	3	4	12	2 + 2
Iran	Iran	—	—	1	—
Irlande	Ireland	2	2	3	1
Israël	Israel	—	1	2	1

(1) Number of positions in official national statistical agencies and in international governmental organizations, the occupants of which are entitled to ex-officio membership.
(2) Representatives designated by the affiliated organizations.
(3) Western and Eastern Germany including Saar, and including Austria in 1938.
(4) Including Pakistan in 1938.

2. Total membership of the Institute by countries 1938, 1948 and 1958 (continued)

Pays	Country	Elected members			Ex-officio members
		1938	1948	1958	1958
		on 31 December			
Italie	Italy	22	20	32	1 + 1
Japon	Japan	5	3	7	1
Kénya	Kenya	—	—	1	1
Liban	Lebanon	—	—	2	—
Mexique	Mexico	2	3	4	1
Norvège	Norway	4	5	8	1
Nouvelle-Zélande	New Zealand	1	1	1	—
Pakistan	Pakistan	—	—	2	—
Panama	Panama	—	—	1	—
Pays-Bas	Netherlands	8	6	12	1 + 1
Philippines	Philippines	—	—	—	2
Pologne	Poland	6	2	4	1
Portugal	Portugal	1	2	2	1
Rép. Dominicaine	Dominican Rep.	—	—	—	1
Roumanie	Romania	4	3	—	1
Rhodésie du Sud	Southern Rhodesia	—	—	1	1
Tchécoslovaquie	Czechoslovakia	4	3	—	1
Royaume-Uni	United Kingdom	23	25	31	5 + 1
Singapour	Singapore	—	—	—	1
Suède	Sweden	4	7	9	1
Suisse	Switzerland	4	7	8	1 + 1
Thaïlande	Thailand	—	—	1	—
Turquie	Turkey	1	1	3	1
U.R.S.S. (5)	U.S.S.R. (5)	5	3	4	1
Uruguay	Uruguay	—	—	—	1
Venezuela	Venezuela	—	—	1	1
Yougoslavie	Yugoslavia	1	1	2	1 + 1
Emigrés	Emigrants	—	—	2	— —
International	International	—	—	—	12 + 5
	Total	211	200	332	69 + 20

(5) Including Estonia and Latvia in 1938.

3. Participation at Sessions of the Institute (1887 to 1959)

	Session	Members	Non-members			Grand total
			foreign	national	total	
I	Rome, 1887	56	3	33	36	92
II	Paris, 1889	39	6	21	27	66
III	Vienna, 1891	62	11	8	19	81
IV	Chicago, 1893	22	8	49	57	79
V	Berne, 1895	46	15	45	60	106
VI	St. Petersburg, 1897	46	18	30	48	94
VII	Christiania, 1899	35	34	39	73	108
VIII	Budapest, 1901	59	34	45	79	138
IX	Berlin, 1903	80	46	119	165	245
X	London, 1905	65	22	10	32	97
XI	Copenhagen, 1907	69	25	6	31	100
XII	Paris, 1909	80	35	34	69	149
XIII	The Hague, 1911	72	31	22	53	125
XIV	Vienna, 1913	80	44	42	86	166
XV	Brussels, 1923	55	43	21	64	119
XVI	Rome, 1925	68	73	62	135	203
XVII	Cairo, 1927	60	42	60	102	162
XVIII	Warsaw, 1929	58	56	55	111	169
*XIX	Tokyo, 1930	42	32	83	115	157
XX	Madrid, 1931	51	32	40	72	123
*XXI	Mexico City, 1933	38	36	21	57	95
XXII	London, 1934	75	31	7	38	113
XXIII	Athens, 1936	71	38	17	55	126
XXIV	Prague, 1938	52	50	43	93	145
XXV	Washington, 1947	43	320	251	571	614
XXVI	Berne, 1949	84	130	72	202	286
XXVII	New Delhi and Calcutta, 1951	62	84	126	210	272
XXVIII	Rome, 1953	164	170	270	440	604
XXIX	Rio de Janeiro, 1955	97	75	95	170	267
XXX	Stockholm, 1957	150	270	152	422	572
*XXXI	Brussels, 1958	121	118	53	171	292

(*) Special Session.

4. Summary of Income and Expenditure 1949 to 1958.

	1949-50	1951-52	1953-54	1956	1957	1958
	U.S. dollars					
INCOME						
Subventions:						
a. non-earmarked	4,300	6,150	6,850	8,400	9,050	10,250
b. earmarked	5,000	10,050	29,350	33,850	35,850	34,450
Members' subscriptions, fees etc.	1,500	1,650	2,250	2,250	2,200	2,550
Sales of publications	500	550	900	2,750	2,500	2,800
Interest and dividends	2,100	2,200	2,700	3,850	4,300	4,600
Other income	50	—	50	2,700	1,900	5,450
Total	13,450	20,600	42,100	53,800	55,800	60,100
EXPENDITURE						
Salaries and social security payments	8,150	16,800	27,850	33,300	38,000	43,900
Travel	4,350	2,300	8,000	3,400	5,500	7,350
Printing	2,000	1,950	2,550	4,100	4,900	5,600
Office expenses and postage	500	800	1,450	2,450	2,950	2,900
Fellowships	—	450	950	1,500	1,050	200
Other expenditure	350	950	400	8,400	4,600	4,950
Total	15,350	23,250	41,200	53,100	57,000	64,900
Excess of income over expenditure	—	—	900	700	—	—
Excess of expenditure over income	1,900	2,650	—	—	1,200	4,800