

ANNUAL REPORT OF THE PRESIDENT OF THE INSTITUTE

(For 1945)

I. DEVELOPMENT OF PUBLIC APPRECIATION FOR MATHEMATICAL STATISTICS

The aims of the Institute, as stated in the constitution, are to promote the interests of mathematical statistics. First and foremost, research must go on. The *Annals* must be published and its position maintained as the world's leading journal in mathematical statistics. Meetings must be held to provide for further dissemination and discussion of research. But this is not all. We should fall short of our opportunities for promoting the interests of mathematical statistics if we were to lose sight of the need for creating an environment in which mathematical statistics and statisticians can thrive and take their proper place for rendering the service that they are capable of rendering in the political, industrial, and scientific life of the nation.

A fair share of the efforts of the officers and committees of the Institute this past year has been devoted to the creation of this environment. The Institute has assumed leadership in several movements of importance in this direction and has lost no opportunity to cooperate with other organizations toward the same ends. Momentum has thus been given to important developments which are bound to affect the scientific advancement and employment opportunities of all people engaged in statistical work of any kind, whether it be mathematical research, consulting, teaching, major or minor roles in large-scale statistical projects, preparing questionnaires, designing experiments, analyzing results, formulating conclusions and recommendations, or taking part in any other way in the collection or use of statistical data. Briefly, these developments fall under three main headings.

(i) *Setting standards of professional competence.* The Description of the Profession of Statistics, put out by the National Roster this year, has gone a long way as a first step toward setting standards of professional competence. The officers and many members of the Institute assisted the Roster, particularly Professor Harold Hotelling and his Committee on the Teaching of Statistics, together with Dr. C. I. Bliss representing the American Statistical Association. Although the Roster Description is not intended to represent the official attitude of the Institute, it does represent cooperative effort toward cultivation of public understanding of statistical work.

(ii) *Raising the standards of teaching.* Standards of teaching go hand in hand with standards of professional competence. The Institute can proudly point to the accomplishments of its Committee on the Teaching of Statistics, which under the chairmanship of Professor Hotelling, has persistently set forth standards of teaching which are bound to bring about important changes in the arrangement of statistical courses and organization of statistical teaching. An inevitable result will be greater competence in statistical theory, better research, and expanding avenues for more effective application of theory.

(iii) *Promoting public understanding and appreciation for the statistician.* More adequate public appreciation of statistical theory can be brought about in several ways. The first two of these are being actively pursued by the officers of the Institute. The third constitutes a proposal; and the fourth, an obligation incumbent on every member of the Institute.

First, through joint meetings with other professions such as sociologists, economists, psychologists, engineers, biometricians, etc. The Cleveland meeting is an example; the St. Louis meeting of the AAAS to be held in March is another. These joint sessions give opportunity for other groups to become aware of the impact of mathematical statistics on their own work, and for mathematical statisticians to hear of the statistical problems in other fields. Opportunities for such diffusion of knowledge exist in local chapters as well as in national meetings, and every member of the Institute should be on the lookout for opportunities to explain how problems in administration, management, economics, and manufacturing, are going to require modification in the future owing to new work in sampling techniques, acceptance procedures, quality control, and other developments of mathematical statistics.

The federation of statistical societies (see Part III) will afford better means than existed heretofore for an admixture of mathematical statistics with fields of application, both in national and local meetings.

Second, through the work of committees whose responsibility is to advise professional groups, and government and private research agencies, concerning the use of mathematical statistics. A notable example is the Joint Committee for the Development of Statistical Applications in Engineering and Manufacturing, of which Dr. W. A. Shewhart is chairman. The Institute has two representatives on it. Much of the recent advancement of statistics in industry is traceable to the work of this committee.

Third, through the establishment and publication of colloquium lectures as recommended by Dr. Shewhart in his report for the preceding year, or of an annual Rietz lecture of broad interest as recommended by this year's Committee on Development (cf. Appendix A, Part V).

Fourth, information through expository nonmathematical articles and lectures delivered by leading mathematical statisticians before gatherings of nonstatistical groups of professional and business men. Such activity is of course informal and without record, carried on by individuals as opportunity permits and not by official announcement from the office of the Institute.

II. LONG-RANGE PLANNING

Through the work of several of the Institute's committees, each tackling specific areas of enquiry, the Institute is being provided with long-range policies and planning. In particular, the reports of the following committees should be cited in this connection:

The Committee on Development (Appendix A)

The Committee on the Teaching of Statistics (Appendix B)

The Committee on Finance (Appendix C)

The Committee on Policy in Regard to Local Chapters (Appendix D)

These committees are obviously alive to the recent rapid expansion of mathematical statistics in industry and government, and to the opportunities that lie ahead for developing proper environment for greater expansion and service of mathematical statistics.

III. FEDERATION OF STATISTICAL SOCIETIES

A movement of extreme importance to all statistical workers is the proposed reorganization of the American Statistical Association as the central organization for all statistical societies. This movement owes its impetus largely to the recommendation made by our Committee on Development a year ago, and to the active part that our officers and representatives played in organizing and assisting the Inter-Society Committee. This movement is centripetal and replaces the centrifugal forces that were splitting statistical organizations. Under the new arrangement, statistics will possess a united front on matters of common interest, yet each organization will maintain its autonomy. Nothing is to be sacrificed in the way of standards of membership, meetings, or publications. Economies will be effected through combined office operations. Much will be gained through coordinated effort; wide distribution of a journal of general methodology and applications; development of public appreciation for statistical work through dissemination of reliable information concerning statistical science and its contributions; cooperation with local and international statistical groups; promotion and development of professional standards of statistical work; and through cooperation with other professional groups in fields of application.

This federation is not yet accomplished; it is still in process of formulation, but it is probably safe to say that agreement on general aims has been reached, as well as on many items of detail. The proposition will in time be put up to each statistical organization for acceptance.

IV. GROWTH AND EXPANSION

During the year the membership increased from 606 to 777. The work of the Institute, vitally affecting many thousands of statistical workers through its efforts to enhance public confidence and appreciation for theoretical statistics as well as to improve the quality of statistical work, extends far beyond the environment of its nearly 800 members. Concerted drives for membership should continue, but should not be expected to take the place of personal invitation in the form of explanation, one man to another, of what the Institute stands for. The outlook is encouraging. Year by year as the work and influence of the Institute receive wider success and recognition, more and more people will be found ready and desirous of joining.

V. ADMINISTRATIVE AFFAIRS

As with any active organization, there are certain chores to be done and internal affairs to be administered. The chief burden falls on the executive officer, our Secretary-Treasurer, Paul S. Dwyer, who is expected

- i. To keep the list of members up to date with addresses and titles. Furnish information to the Board regarding increases and decreases in membership, and issue the Directory.
- ii. To send out notices, to keep the membership informed concerning meetings and other items of interest.
- iii. To send out bills, and keep the books showing payment of dues and subscriptions.
- iv. To fill orders for back numbers of the *Annals*.
- v. To estimate the probable demand for copies of the *Annals*, current and past, and to place orders with the printer to be able to supply the demand.
- vi. With the Committee on Finance, to keep the Board posted on the expected expenditures and income for the year ahead.
- vii. To answer correspondence from other organizations and individuals who desire information concerning the Institute.
- viii. To keep a record of proceedings of the Board and business meetings of the Institute.
- ix. To work with the various committees of the Institute, keeping them informed and in line on policy, constitution, by-laws, and other commitments.
- x. With the Committee on Programs, to arrange sessions of contributed papers, and to find space in hotels or elsewhere for holding meetings and housing members.
- xi. To keep the Board informed concerning recommendations and reports of committees, and other matters brought to his attention requiring action by the Board.
- xii. To conduct continuous membership and subscription drives with or without the aid of committees.

It is obvious that when an organization reaches the size and activity of the Institute, these duties are too onerous to carry on without proper assistance. Our Secretary-Treasurer should be freed for proper performance of important functions which only he can render toward the growth and vitalization of the Institute. Consideration is being given to two possible plans, either of which will call for some increase in expenditure. One plan is to provide competent and sufficient assistance in the office of the Secretary-Treasurer, and the other is to transfer some of his duties (e.g., Items i, ii, iii, iv, x, and xii) to the American Statistical Association on a cost basis. A cooperative arrangement of this kind between the A.S.A. and the Institute has been discussed informally with Mr. Lester Kellogg, Secretary of the A.S.A., who will be able to provide us with cost estimates a little later. This kind of arrangement would be a first step and serves

as a pilot study in cost-accounting for the ultimate federation of statistical societies (Part III).

The constitution must be revised, and a committee has been formed to undertake the task. The one we have has served well, with minor revisions, over the first ten years in the life of the Institute, but conditions are now different and thorough reconsideration is needed. Among other things, it needs to be revised to permit federation with other statistical societies. As it stands it is totally deficient in specifying responsibilities between local chapters and the parent society. It should embody the recommendations of the Committee on Policy in Regard to Local Chapters, or modifications of these recommendations. Also, there are ambiguities in the present constitution that need to be cleared up, and there is no provision for carrying out the business of the Institute by correspondence when a Board meeting or Committee meeting can not be held.

The Committee on Meetings must not only seek out suitable papers for meetings, carrying out the wishes of the Board in regard to the subject-matter to be covered, but must also be concerned with the geographic location of meetings, cooperation with other professional societies, and choice of dates. During the past few years, in addition, this committee has had to contend with restrictions on transportation and hotel space. The Committee on Finance must decide what expenditures are wise and allowable; they must make decisions on investments and surety bonds. They have calculated the price of life-memberships for purchase at various ages. Committees on Membership and on Subscriptions must be active. The services rendered by these committees deserve the grateful thanks of the members of the Institute.

Undoubtedly the most lasting contribution that is being made by the Institute to research in mathematical statistics is the publication of the *Annals of Mathematical Statistics*. Without some first-hand knowledge of the problems that are encountered in publishing a professional journal of high standing it is hardly possible to be conscious of the depth of the debt owed by the Institute to Dr. Samuel S. Wilks, Editor. During the past few years, in addition to the normal editor's problems of maintaining standards of excellence in the articles published, there have been additional difficulties and delays arising from paper and manpower shortages in printing.

In closing this section it is a pleasure to record our appreciation of the assistance and advice received at various times during the year from Mr. Lester Kellogg, Secretary of the A.S.A.; also from Mr. E. A. Stephens of the Ohio Bell Telephone Company in Cleveland in regard to the difficult problems of hotel space which arose in connection with the Cleveland meeting in January 1946.

VI. ELECTION OF FELLOWS

Acting in consideration of the advice of the Committee on Membership, the Board advanced the following members to the grade of Fellow:

M. S. Bartlett, Cambridge University

Trygve Haavelmo, The Norwegian Embassy

William N. Hurwitz, Bureau of the Census
John von Neumann, Institute for Advanced Study

VII. ELECTION OF OFFICERS

The following officers were duly nominated and elected for 1946:

President, William G. Cochran
Vice Presidents, Will Feller
Edwin G. Olds

VIII. COMMITTEES AND REPORTS OF COMMITTEES

Our committees and representatives on joint committees for the year 1945 are shown below. The reports of these committees are appended for the information of members. It should be borne in mind that committee reports are for consideration of the Board; they do not commit the Board to any specific action one way or another. As already intimated, every member of the Institute may take pride in the splendid work of these committees. Like the deliberations of the Board, most of the deliberations of the committees were necessarily carried out by correspondence because no large meetings were held at which the members of any committee or the Board could all be brought together.

During the year we have been asked by Dean L. P. Eisenhart, Chairman of the Division of Physical Sciences of the National Research Council, to name a representative. The Board duly appointed Dean Walter Bartky. The invitation from Dean Eisenhart to be so represented is a distinct honor and a recognition of the importance of the Institute in pure and applied research.

We have also been invited to name a representative to the Policy Committee for Mathematicians, to which the Board has named Professor Will Feller. On the committee are four representatives from the American Mathematical Society, one from the Society for Symbolic Logic, and one from the Institute of Mathematical Statistics. The Mathematical Association of America has been invited to name two representatives. The constitution and purposes of this committee are explained in the following paragraphs which are taken from a statement that was approved by the A.M.S. Council on November 23, 1945:

Representatives of each organization shall be selected in accordance with a plan approved by the governing body of that organization.

The Secretary of the American Mathematical Society shall be a non-voting, ex officio member of the committee and shall act as secretary for the committee.

The Policy Committee shall study those problems affecting the mathematical profession which are the common concern of the constituent organizations. It shall be empowered to speak for the constituent organizations on matters which concern the position of mathematics in such matters as proposed or enacted legislation concerned with science, problems concerning the effective use of mathematicians or potential members of our profession, and other questions which tend to affect the dignity and the effective position of mathematics among related sciences, both nationally and internationally.

Nothing in the powers of this committee shall be construed to affect any commitments already made on a national or international basis by any of the constituent organizations

(i.e., among these is the International Congress of Mathematicians for which an invitation was issued by the American Mathematical Society in 1936).

This Policy Committee shall be appointed for a period of five years. At the end of that time the work of the committee shall be reviewed and a decision made concerning the continuation of the committee.

A supplemental motion passed by the A.M.S. Council asks the Policy Committee to concern itself primarily with the profession of mathematics and only secondarily with the teaching of mathematics.

W. EDWARDS DEMING,
President, 1945.

Nominations	C. C. Craig, Chairman Frederick F. Stephan Gertrude Cox
Revising the Constitution and By-Laws	Morris H. Hansen Allen T. Craig Chester I. Bliss John Curtiss
Representatives to the Inter- Society Committee on Federa- tion	John H. Curtiss Paul S. Olmstead
Representative to the Division of Physical Sciences, National Research Council	Walter Bartky
Representative to the Policy Committee for Mathema- ticians	Will Feller
Representative to Explain the Need of Mathematical Statis- tics in Research for Defense	W. Edwards Deming
Representatives to the Joint Committee for the Develop- ment of Statistical Applica- tions in Engineering and Manufacturing	Samuel S. Wilks Paul R. Rider

Appendix A

Report from the Committee on Development

I. GENERAL

Continuing the work of the 1944 Committee on Post-War Development, this Committee has analyzed the purpose and policy of the Institute to see what additional activities the Institute should undertake in order to provide further stimulus to the development of the field of mathematical statistics. The following existing and proposed activities were considered:

1. Maintenance of professional standards

2. Publications program
3. Meetings program
4. Rietz Lecture
5. Chapter policy
6. Cooperation in determining educational standards
7. Maintaining relationships with other technical societies
8. Increasing membership of the Institute

In general, each of these activities is placed in the hands of a committee. Except in a few instances, reports of these committees have not been published in the *Annals*. This committee recommends that each of the committees of the Institute together with the representatives of the Institute on joint committees be requested by the Board of Directors to submit a yearly report for possible publication in the March issue of the *Annals* so that the members of the Institute may be kept informed concerning the Institute's affairs.

II. PROFESSIONAL STANDARDS

This committee believes that the Report of the Membership Committee published in the March 1945 issue of the *Annals* is typical of the kind of report desired, providing, as it does, an outline of present standards for membership in the Institute.

III. PUBLICATIONS

The publication program has been discussed with the Editor and we find that we are in agreement with the present editorial policy. We recommend that the Editor submit a yearly report.

Although an increased membership among those engaged primarily in the application of statistics is desirable, it is not considered advisable to alter radically the character of the *Annals* in order to attract such membership. However, writers on theoretical topics in the *Annals* should be encouraged to include illustrations of applications whenever feasible. A desirable goal at which to aim would be for every issue of the *Annals* to contain an expository paper reviewing progress in a broad field of theory or devoted to new fields of existing theory (these functions are not mutually exclusive). It seems more difficult to obtain good papers of this kind than research papers. Now that statisticians are leaving war work the prospect for obtaining such papers should improve. The committee has been informed that the Editor has invited certain writers to contribute expository papers on assigned topics and it is recommended that this policy be continued. It is believed that the members of the Institute would like to be informed in the Editor's report concerning progress in receiving such papers.

Last year this committee considered the possibility that the Institute sponsor the publication of a series of books and monographs. In view of recent developments in the commercial publishing field it seems that there is ample opportunity for the publication of such works as the Institute might otherwise undertake to

publish, and the committee therefore recommends against such Institute action at this time.

IV. MEETINGS

Under normal conditions of transportation, the Institute has held at least two meetings each year, one with the mathematical societies in the summer and one with the social science societies in the winter. This committee favors the continuation of this system. Occasionally, meetings have been held with an engineering society. This program does not provide specifically for joint meetings with societies devoted to (a) standardization, (b) engineering, or (c) natural sciences. Arrangements for meetings under (a) and (b) could be made through our representatives on the Joint Committee for the Development of Statistical Applications in Engineering and Manufacturing, which has representation from each of these groups. This committee recommends that the Program Committee have on its membership one of the Institute's representatives on the Joint Committee and one who is active in the natural sciences. Important duties of these members are to give advice on the type of program desired for joint meetings in these applied fields and to make arrangements for the meetings. It is also recommended that the Program Committee include Institute members who are active in the mathematical societies and in the social science societies so that our participation in meetings with these groups will be integral to their programs. Other members of the Program Committee may be chosen with similar aims in mind. The yearly report of the Program Committee should discuss among other matters the progress made in arranging joint meetings.

V. RIETZ LECTURE

To direct attention to the work of the Institute, it is recommended that the Institute sponsor an annual lecture of broad interest, to be named after its first president, the late Professor Henry L. Rietz. It is suggested that the lecturer be appointed by the Board of Directors, that he be given a year's notice, and that the lecture be arranged for a meeting with an appropriate society.

VI. CHAPTERS

In establishing chapters, the Institute has undertaken obligations that to date have not been fulfilled. Two courses are open. Either the Institute should abolish its existing chapters or it should formulate a policy that will provide for a vigorous chapter program. Some requirements for chapters have been set down by the Committee on Policy with Regard to Local Chapters (Appendix D). It is proposed that this be submitted to the secretaries of our chapters for their comments. Further, certain broader aspects of the problem require additional consideration. Discussion with various members of the Institute indicates that some believe that the interests of the Institute because of its relatively small membership might be better served by organizing geographical sections rather than chapters. Pending final agreement on these points, this committee

recommends that the Board of Directors hold in abeyance any requests for the formation of new chapters.

VII. EDUCATIONAL STANDARDS

The matter of educational standards for college courses is now in the hands of the Committee on the Teaching of Statistics. Such a committee should be a permanent committee of the Institute.

It is our further recommendation that one member of this committee be one of the representatives of the Institute on the Joint Committee for the Development of Statistical Applications in Engineering and Manufacturing. It should be his duty to assess needs for statistics courses, particularly in relation to standardization and engineering.

VIII. RELATIONSHIPS WITH OTHER TECHNICAL SOCIETIES

In 1929, the Joint Committee for the Development of Statistical Applications in Engineering and Manufacturing was formed. The Institute has had two representatives since 1937. The other sponsor societies for the Joint Committee are:

American Society of Mechanical Engineers
 American Society for Testing Materials
 American Statistical Association
 American Mathematical Society
 American Institute of Electrical Engineers

Much of the use of statistical method in the war effort is traceable directly to the activity of this committee. In particular, this committee is working continuously to see that statistical methods and statistical concepts are introduced in connection with work on standardization, engineering, and the natural and social sciences. In a report published in the December 1940 issue of the *Annals*, the Institute's War Preparedness Committee made the following recommendations:

The Institute should "cooperate to the fullest in matters pertaining to quality control and specification with the 'Joint Committee for the Development of Statistical Applications in Engineering and Manufacturing,' of which the Institute is a sponsor."

Six specific steps for a cooperative program with the Joint Committee were outlined. However, although this report was accepted by the Board, no action was taken on these recommendations. In view of the above, we make the following recommendations to the Board:

1. That the Institute's representatives be requested to make a report on the activities of the Joint Committee. (This should be the first of a series of yearly reports.)
2. That the Board request a report from the Joint Committee on the status of statistics and statisticians in engineering and manufacturing including forecasts of future needs and opportunities.
3. That the Board request a report from the Joint Committee on the status of statistics in the training of engineers including recommendations for such training in the future.
4. That at least one of the Institute's representatives be from the engineering or manufacturing field.

IX. GROWTH OF THE INSTITUTE

The Committee on Development has examined the record of growth of the Institute and finds that the largest increase in recent years has been among people from industry, a group that is still less than a quarter of the total membership. It is believed that the program outlined above will stimulate growth in membership among all users and potential users of mathematical statistics.

X. PUBLICIZING MATHEMATICAL STATISTICS

This Committee recommends that the Institute make available to appropriate channels of public information reliable communications concerning mathematical statistics. As a specific recommendation, the case for the science of statistics should be presented at the hearings of the National Research (Science) Foundation Acts pending in Congress, preferably by representatives acting jointly for the Institute and the American Statistical Association.

XI. THE INTERSOCIETY COMMITTEE

A second meeting of the Intersociety Committee mentioned in last year's report is to be held on December 8th. This Committee feels that consideration of proposals for reorganization of the Institute should not be undertaken prior to advice concerning the action of that Committee.

W. G. COCHRAN, *Chairman*

P. S. OLMSTEAD, *Acting Chairman*

C. I. BLISS

C. C. CRAIG

F. C. MOSTELLER

H. SCHEFFÉ

November 5, 1945

Appendix B
Report from the Committee on the Teaching of Statistics

A preliminary draft of recommendations in the teaching of statistics was read by the chairman of this committee at the Rutgers Meeting at the Institute in September 1945. These recommendations are at present being re-drafted by members of the Committee and it is hoped that they would be ready to present to the Board in the near future for possible publication in the *Annals*.

Assistance was rendered during the first part of the year to the National Roster of Scientific and Specialized Personnel, toward the development of a formal description of the profession of statistics (mentioned in Part I of the Annual Report of the President). This assistance was carried out jointly with Dr. Chester I. Bliss who was appointed by the American Statistics Association to assist with this project. It is believed by this Committee that the description put forth by the Roster will help bring about recognition of standards of professional competence in statistics and in the teaching of statistics.

HAROLD HOTELLING, *Chairman*

WALTER BARTKY

MILTON FRIEDMAN

W. EDWARDS DEMING

Appendix C

Report from the Committee on Finance

The Committee on Finance met in the office of Dr. C. F. Roos in New York City on September 14, 1945. Present were Messrs. Roos, C. H. Fischer, P. S. Dwyer; absent, A. C. Olshen.

The Treasurer presented a summary of income and expenses during the third quarter of 1945 through September 13. This information was considered along with the first half year reports which were prepared some months ago. The Treasurer also presented a graph showing balance on hand at the end of each month (1939-1945) and one showing income during each month (1939-1945). These facts, as well as other pertinent information, were used in formulating the recommendations which follow.

The Finance Committee proposes to the Board of Directors that the following recommendations be approved by the Board as policy for the Institute of Mathematical Statistics.

1. That no revision be made with reference to the adoption of the expected budget for 1945. It appears now that the income will be somewhat higher than the amount indicated on the expected budget (\$6450) and that the amount of expense should be somewhat lower the amount there estimated (\$6050).

2. That the Secretary-Treasurer be instructed to prepare an Annual statement for 1945 on the general plan of previous annual statements with the addition of an analysis of assets and liabilities. The main assets are cash, bonds, and back issues of the *Annals*. It is recommended that the back issues be valued at 75 cents per copy (for inventory purpose)—a fair estimate of cost. It is further recommended that no value be placed on exchanges and office equipment.

3. That the Secretary-Treasurer prepare the annual statement prior to the winter meeting, which means presumably that the books will be closed about December 10th.

4. That, in consideration of the nature of the graph of the income of the Institute, the Institute adopt the policy of having its yearly report run from July 1 to July 1 and that the Secretary-Treasurer be instructed to draw up an additional annual report as of June 30, 1946.

5. That the Secretary-Treasurer be instructed to draw up a budget for 1946 and to submit it to the Finance Committee in sufficient time so that action may be taken on it by the Board at its winter meeting.

6. That the U. S. Government G Bonds now owned by the Institute (\$3000) be listed on the books at their face values even though the market values of these bonds are slightly lower.

7. That the total amounts of all life membership payments be placed in a special life membership fund and that these funds, at least twice a year, be used in the purchase of U. S. Government F Bonds. The market value of these bonds shall be used in determining the amount of this fund at any accounting period.

8. That the Secretary-Treasurer be authorized to take whatever steps are

necessary to obtain adequate interest on our liquid assets. That he maintain sufficient cash position to carry on the business transactions of the Institute and that he invest the remainder (a) either in U. S. Government G bonds or (b) in short term bonds.

9. That the purchase from Professor Carver of all back issues jointly owned by Professor Carver and the Institute be made an item of the budget for 1946.

10. That the Secretary-Treasurer be instructed to purchase a \$2,000 fidelity Bond Form B (a form which covers negligence as well as dishonesty) for 3 years for the office of Secretary-Treasurer.

11. That a policy be adopted of allowing a straight 10% discount to all agencies and booksellers who send us subscriptions or orders for back issues.

12. That the Institute set up a permanent Committee on Finance with the Secretary-Treasurer as ex-officio member and chairman. There shall be three additional members with terms of three years with a new member each year. At the formation of the Committee one member shall be appointed for one year, one for two years, and one for three years. A resignation from the Committee shall be followed by an appointment for the unexpired term.

13. That the Board notify any committee working on revision of the Constitution and By-Laws that it is supporting a permanent committee on Finance and believes it appropriate that a statement of the organization and duties of this committee should appear in the By-Laws.

PAUL S. DWYER, *Chairman*

CARL H. FISCHER

ABRAHAM C. OLSHEN

CHARLES F. ROOS

September 15, 1945

Appendix D

Report from the Committee on Policy with Regard to Local Chapters

Attached to this report is a summary of provisions for organizing and working with local chapters; it might be cast into appropriate form and incorporated into the Constitution of the Institute. From these recommended provisions it will be clear that this committee does not favor the organization of weak inactive chapters. Unless the membership of the Institute grows substantially it will be possible to have only a very limited number of local chapters under these provisions.

It is the opinion of the Committee that it is desirable for members of the Institute to amalgamate with members of other statistical organizations in the same area to form local statistical societies. We believe this will build stronger local statistical organizations and will effect greater advances in the application and development of effective statistical methods. Such amalgamation in the formulation of local societies can best be stimulated, and national leadership provided,

after the national statistical organizations have accomplished a federation or amalgamation. We therefore urge the Institute to use its influence in stimulating discussion and action concerning national federation or amalgamation.

The following further comments are made in addition to or supplementing those provisions recommended for incorporation into the Constitution of the Institute:

1. Do not accept or reject the petition from any group until a plan of organization is formulated. There should be clearance on the following questions:
 - a. What are the reciprocal responsibilities of chapters and the parent organization? What type of chapter activity should the Institute seek to promote? What kind of things can chapters do that will advance the purposes for which the Institute exists?

We have indicated in the recommended provisions that the President of the Institute should personally undertake or designate someone to work with the chapters in answering these and similar questions.

- b. If local chapters are not active will they hinder the efforts of the parent organization? We believe that the existence of an inactive organization is a detriment to development of an active statistical group in a community. Activity can be measured in various ways:
 - a. Meetings for research in mathematical statistics
 - b. Joint meetings with other professions
 - c. Bringing in new members to the parent organization
 - d. Annual election of officers
1. If members of a chapter must be members of the parent organization, the Secretary-Treasurer of the Institute should notify the secretary of a local chapter whenever a new member joins within his area.
3. It is recommended that if a local chapter desires it, bills for Institute dues contain provision for collection of local dues.
4. The Institute should not allow any local group to use its name unless the group contributes to the accomplishment of the aims of the Institute.

MORRIS H. HANSEN, *Chairman*
 GERTRUDE COX
 SAMUEL S. WILKS

Suggested Article on Local Chapters for addition to the Constitution

1. Local chapters of the Institute of Mathematical Statistics may be organized to promote the work of the Institute by a local organization of members who are resident within a given limited territory.
2. The members of the local chapter shall be members of the Institute.
3. A local chapter may be established upon acceptance by the Board of Directors of a petition signed by at least twenty-five members of the Institute residing in the area the chapter is to serve.
4. Local chapters shall elect their own officers, designate committees, assess dues, and make any rules for their government not inconsistent with the Constitution of the Institute of Mathematical Statistics.

5. The affairs of local chapters shall be in general charge of the President of the Institute or a representative assigned by him to be responsible for local chapters, under the Direction of the Board of Directors.

6. Any local chapter will be dissolved by:

(a) failing for two successive years to maintain a paid membership of at least 25 members or to hold at least one meeting per year which shall include election of officers; or

(b) by vote of the Board of Directors of the Institute

7. Each local chapter shall transmit a report to the Secretary-Treasurer of the Institute within 30 days of the annual business meeting, reporting among other things, on its officers, the number of members, and on the meetings held during the year.

Appendix E

Report from the Committee on Meetings

A meeting was held at Rutgers University on Sunday Sept. 16, which was attended by 115 members of the Institute. Simultaneously a meeting was held by the American Mathematical Society. The first session, which commenced at 10 a.m. was a symposium on sequential analysis. The chairman was Professor W. Allen Wallis of Stanford University and Director of the Statistical Research Group at Columbia University. The speakers and their titles are listed below.

1. *Theory of sequential analysis.*

Professor A. Wald, Columbia University

2. *Construction of multiple sampling inspection plans for attributes from sequential principles.*

Dr. Milton Friedman, National Bureau of Economic Research and the Statistical Research Group

3. *Applications of sequential analysis to the ranking of two populations with respect to a single parameter.*

Mr. Meyer A. Girshick, Bureau of Agricultural Economics and the Statistical Research Group

The afternoon session was a series of contributed papers, followed by a preliminary report from the Institute's Committee on the Teaching of Statistics, which was delivered by Professor Harold Hotelling. Dr. W. Edwards Deming, President of the Institute, was chairman of this meeting. The list of contributed papers follows hereunder.

1. *On the variance of a random set in n dimensions.*

Dr. Herbert E. Robbins, The Post Graduate School, Annapolis

2. *The non-central Wishart distribution and its application to problems in multivariate analysis.*

Dr. T. W. Anderson, Jr., Princeton University

3. *The effect on a distribution function of small changes in the population function.*

Professor Burton H. Camp, Wesleyan University

4. *On composite distributions.*

Dr. Casper Goffman and Dr. Benjamin Epstein, Westinghouse Electric and Manufacturing Company

5. *Population, expected values, and sample.*
Professor Emil J. Gumbel, New School for Social Research
6. *On the selection of a sample in repeated steps.*
Dr. William G. Madow, Bureau of the Census
7. *On optimum estimates for stratified samples.* (Presented by Margaret Gurney, Bureau of the Census)
Mr. Morris H. Hansen and Mr. William N. Hurwitz, Bureau of the Census
8. *Pearsonian correlation coefficients associated with least squares theory.* (Presented by title)
Professor Paul S. Dwyer, University of Michigan

At this writing preparations are being made for a meeting to be held in Cleveland, January 24–27, 1946, and for a meeting with the A.A.A.S. to be held in St. Louis, March 27–30.

JOHN H. CURTISS, *Chairman*
T. KOOPMANS
WILLIAM G. MADOW

Appendix F

Report from the Committee on Membership

The Committee, after study and consideration, recommended to the Board of Directors that Messrs. M. S. Bartlett, T. Haavelmo, William N. Hurwitz, and John von Neumann be advanced to the grade of Fellow. This recommendation was approved by the Board.

The Committee, with the advice and approval of the Board is preparing a letter to be sent to groups of people who are not members of the Institute to call their attention to the work of the Institute. This letter will be accompanied by reprints of a recent paper by Wald and Wolfowitz on *Sampling inspection-plans for continuous production*, with a brief explanation of the field covered by the Wald-Wolfowitz paper, and the statement that it and others that have appeared in recent issues of the *Annals* have already modified statistical practice in important ways.

JOSEPH L. DOOB, *Chairman*
PAUL S. DWYER
T. KOOPMANS
WILL FELLER

Appendix G

Report from the Committee for Increasing Subscriptions to Libraries and Laboratories

This committee prepared suitable literature to send to prospective subscribers. This literature contained a concise description of the nature of the *Annals*, a table of contents for a year, and a subscription blank.

Alphabetical lists of public, college, university and industrial libraries were prepared. These lists contained the name, the librarian, and the address of each library. They were checked for duplicates for present subscribers and sent to Professor Dwyer, Secretary-Treasurer. Altogether, the list contained about 1500 libraries.

Professor Dwyer took care of printing the literature, further checking for duplicates, addressing the envelopes, and mailing.

WILLIAM DOWELL BATEN, *Chairman*

HAROLD F. DODGE

IRVING W. BURR

L. AROIAN