

ACTUARIAL, STATISTICAL AND RELATED ORGANIZATIONS IN THE UNITED STATES AND ABROAD

BY

RICHARD FONDILLER AND JAMES S. ELSTON

With the thought that our members would like to have a convenient reference to the principal organizations dealing with actuarial science, statistical science, mathematical science and the sciences related thereto, the Secretary-Treasurer of the Casualty Actuarial Society requested the Secretary or a member of these organizations to furnish him with an historical review of their association. These reviews indicate the permanent value of each organization in raising professional standards and in contributing to the development of insurance or of the field of science with which the organization is connected. The reviews also show what general influence each association has contributed toward the development of insurance science or related sciences, through the investigations it has undertaken and published in the form of monographs. The past publications and the annual publications of each organization are also stated, together with the name and address of the Secretary. If any of our members are further interested in the aims or publications of any association, they may communicate with such organization.

In some cases the review was written by a member of this Society or of the organization in question. It is not intimated that the list is entirely complete, but it is hoped that the principal organizations in which our members may be interested are completely covered. Acknowledgment is made of the assistance rendered by the authors of the various articles.

CASUALTY ACTUARIAL SOCIETY

BY

RICHARD FONDILLER, SECRETARY-TREASURER

The Casualty Actuarial Society was organized November 7, 1914 as the Casualty Actuarial and Statistical Society of America, with 97 charter members of the grade of Fellow. The present title was adopted on May 14, 1921. The object of the Society

is the promotion of actuarial and statistical science as applied to the problems of casualty and social insurance by means of personal intercourse, the presentation and discussion of appropriate papers, the collection of a library and such other means as may be found desirable.

Prior to the organization of the Society comparatively little technical study was given to the actuarial and underwriting problems of most of the branches of casualty insurance. With the passage of legislation providing for workmen's compensation insurance in many states, during the years 1912, 1913 and 1914, the need of actuarial guidance became more pronounced, and the organization of the Society was brought about through the suggestion of Dr. I. M. Rubinow, who became the first president. The problems surrounding workmen's compensation were at that time the most pressing and urgent, and consequently many of the members played a leading part in the development of the scientific basis upon which workmen's compensation insurance now rests.

The members of the Society have also turned their attention to the scientific formulation of standards for the computation of both rates and reserves in accident and health insurance, liability, burglary and the various automobile coverages. Members of the Society have also served on the Advisory Committee on Accident and Health Reserves, the Committee on Military Pensions, the Committee on the 1920 Census, the Committee on the Standardization of Industrial Accident Statistics and the Committee on Workmen's Compensation Statistics. At the present time the Committee on Compensation and Liability Loss Reserves and also the Committee on the Total Permanent Disability Table are engaged in important research work which will redound to the benefit of the casualty business as a whole.

There are two grades of membership in the Society: Fellows and Associates; admission to either grade may be by election or by examination. Those who attain the grade of Fellow by examination are granted a diploma. Examinations have been held every year, commencing with 1915; they are held on the first Wednesday and Thursday in May of each year. There are two parts each in the examinations to become an Associate or a Fellow. Applications for examination must be received by the secretary on or before March 1 of each year. The membership

of the Society consists largely of actuaries and statisticians who are connected with the principal casualty companies in the United States and Canada. The Society has a total membership of 246, comprising 159 Fellows and 87 Associates. Many members are also members of the various scientific societies mentioned in this article.

The first president was Dr. I. M. Rubinow, elected in 1914 and 1915; the second, James D. Craig, elected in 1916 and 1917; the third, Joseph H. Woodward, elected in 1918; the fourth, Benedict D. Flynn, elected in 1919; the fifth, Albert H. Mowbray elected in 1920 and in 1921; the sixth, Harwood E. Ryan, elected in 1922; the seventh, William Leslie, elected in 1923; the eighth, G. F. Michelbacher, elected in 1924.

The eleventh annual meeting of the Society was held in New York on November 20, 1924. Officers were elected as follows: President, G. F. Michelbacher, Secretary-Treasurer, National Bureau of Casualty and Surety Underwriters, New York; vice-president, S. B. Perkins, Assistant Secretary, The Travelers Insurance Company, Hartford, Conn; vice-president, Ralph H. Blanchard, Associate Professor of Insurance, School of Business, Columbia University, New York; secretary-treasurer, Richard Fondiller, Woodward, Fondiller and Ryan, Consulting Actuaries, New York; editor, Robert J. McManus, Asst. Statistician, Compensation and Liability Department, The Travelers Insurance Company, Hartford, Conn.; Librarian, Edward R. Hardy, Asst. Manager, New York Fire Insurance Exchange, New York.

The governing body of the Society is the Council, which consists of the above officers and Albert H. Mowbray, Harwood E. Ryan, William Leslie, Leon S. Senior, Edmund E. Cammack, Sidney D. Pinney, Winfield W. Greene, John M. Laird, Olive E. Outwater, James D. Craig, Thomas F. Tarbell, Paul Dorweiler, Frank R. Mullaney and James S. Elston.

The Society twice a year issues a publication entitled the *Proceedings* which contain the various papers presented at the May and November meetings of the Society. There have been twenty-two numbers of the *Proceedings* published. They are contained in ten bound volumes, and contain 141 papers dealing with the scientific aspects of the various casualty lines. Complete sets of the *Proceedings* are still available, bound either in buck-

ram or paper, although within a few years the supply of complete sets will be exhausted. An *Index* to the ten volumes has been printed and may be purchased in the same form as the bound volumes. Single numbers of the *Proceedings* (except Number 4) may be obtained at \$1.50 each by application to Richard Fondiller, Secretary-Treasurer, 75 Fulton Street, New York City. The Society also publishes annually a Year Book which contains the list of members, examination papers, and information relative to the examination requirements; this may be obtained upon application. "Recommendations for Study" is a pamphlet which outlines the course of study to be followed in connection with taking the examinations of the Society for admission; the third edition has been issued and may be obtained without charge by application to the Secretary-Treasurer; it has been reprinted for permanent record in *Proceedings* No. 22.

THE ACTUARIAL SOCIETY OF AMERICA

BY

JOHN S. THOMPSON*, SECRETARY

The Actuarial Society of America was organized April 25, 1889, with thirty-eight charter members and is thus the parent actuarial society in America. The object of the Society was and is the promotion of actuarial science by personal intercourse, presentation of appropriate papers, discussion and such other methods as may be found desirable.

For some years the Society was conducted in certain respects as a club, members being admitted only by vote of the Council. A junior membership was established in 1896, so that since that time there have been two grades of members: Fellows and Associates. Admission to either grade is by examination; the Constitution also provides for admission of members by election, but no one has been so admitted for several years. Examinations have been held each year beginning with 1900, the present practice being to hold them on the first Wednesday and Thursday after the twentieth of May. The Associateship examination is divided into four parts, the first two relating to pure mathematics through the Elements of the Differential and Integral Calculus

*Fellow, Casualty Actuarial Society.

with special emphasis on the Theory of Probabilities and Calculus of Finite Differences, and the second two relating to the application of mathematics to the Theory of Compound Interest and of Life Contingencies. The Fellowship is divided into two parts relating to practical actuarial science, accounting, finance, investments, insurance law, pension funds, and the application of actuarial science to branches of insurance other than life. Application for admission to the examinations, accompanied by the necessary fees, must be received by the Secretary on or before March 1 preceding the examination date. The Society has a membership of 203 Fellows and 172 Associates, 375 in all. These members are for the most part executive officers or actuaries of insurance companies or of State Insurance Departments, or are employed in some other capacity in connection therewith.

The moving spirit in the formation of the Society was David Parks Fackler*, who in March, 1889, sent a circular to the actuaries of all companies in the United States and Canada, proposing a meeting the following April. The first president, elected at the organization meeting, was Sheppard Homans, after whom followed David P. Fackler*, Howell W. St. John, Emory McClintock, Bloomfield J. Miller, Thomas B. Macaulay, Oscar B. Ireland, Israel C. Pierson, Rufus W. Weeks, Daniel H. Wells, John K. Gore, Archibald A. Welch*, William C. Macdonald, James M. Craig*, Arthur Hunter*, Henry Moir*, William A. Hutcheson*, and Robert Henderson*. The present president is Arthur B. Wood*, Vice-President and Actuary of the Sun Life Assurance Company of Canada, Montreal. With one exception, each president has held office for two years.

The last annual meeting of the Society was held in New York on May 15 and 16, 1924, at which time the following officers were elected: President—Arthur B. Wood*, Vice-Presidents—James D. Craig* and Edward E. Rhodes, Secretary—John S. Thompson*, Treasurer—David G. Alsop, and Editor—John M. Laird*.

The governing body of the Society is the Council, which consists of the above named officers, the ex-presidents and nine elected members. The elected members of the Council at present are: James F. Little*, James B. McKechnie, Edward B. Morris*, John G. Parker, Edmund E. Cammack*, T. A. Dark, R. D. Murphy*, W. M. Strong* and S. Milligan*.

*Fellow, Casualty Actuarial Society.

Twice a year the Society issues a publication entitled *Transactions* which contains the various papers presented at the meetings of the Society together with discussions thereon. There have been seventy-one numbers of the *Transactions* published, which, up to seventy, inclusive, have been combined into twenty-four volumes; at present two numbers, those of May and October of each year, constitute a volume. Some of the older numbers are out of print, but paper bound copies of all numbers from 46 up and of many of the older ones are still available. The price for Nos. 46 to 63, inclusive, is \$1.50 per copy and from 64 to 71, \$2.00 per copy. If subscribed for in advance, the two numbers for any calendar year may be obtained for \$3.00. A limited number of bound copies of XXII, XXIII and XXIV may be had at the price of \$4.50 per copy. The price of numbers prior to No. 46 depends on the quantity the Society still has on hand, although some are still available at the regular price of \$1.50. An Index of the first fifteen volumes has been published and one for Volumes XVI to XXV, inclusive, will be compiled and published as soon as Volume XXV is completed. Each year the Society publishes also a pamphlet containing the list of officers, members and students, a copy of the Constitution and By-Laws and a statement as to the requirements for admission including the syllabus for the examinations. To assist students in preparing for the examination, an additional pamphlet entitled "Recommendations of the Educational Committee" has been compiled, which gives information as to the course of study to be followed in connection with the successive examinations. These two booklets last mentioned may be obtained without charge by applying to the Secretary at 256 Broadway, New York City.

Besides the *Transactions*, the Society has for sale the following publications: *Transactions of the Fourth International Congress of Actuaries*, certain *Actuarial Studies, Problems and Solutions* (covering first two parts of Associateship Examinations), *Report of Specialized Mortality Investigation* (One Volume), *Report of the Medico-Actuarial Mortality Investigation* (Five Volumes), and the *Report of the American-Canadian Mortality Investigation 1900-1915* (Two Volumes) (with co-operation of American Institute of Actuaries). The three investigations, the reports of which have just been referred to, are in some respects without a parallel in the history of statistical investigation in connection with

the life insurance business and constitute valuable aids in the practical process of selection and underwriting.

AMERICAN INSTITUTE OF ACTUARIES

BY

R. C. McCANKIE, SECRETARY

The American Institute of Actuaries was organized at a meeting held in Chicago, May 12, 1909, by a number of actuaries connected with some thirty Western and Southern companies and five professors of mathematics interested in the advancement of actuarial mathematics. The organization was incorporated November 10, 1909, as the American Institute of Actuaries under the Illinois corporation law. The object of the Institute is to advance the science of insurance mathematics and the knowledge of the theory and practice of life insurance and related interests by associating together persons of like interest.

The American Institute began its career with a list of forty-two fellows and twenty-two associates. Provision having been made for contributing membership by legal reserve life insurance companies desiring to send representatives to the meetings, there were also twenty-two companies so represented at the first meeting. At the last annual meeting of the Institute, held June 12 and 13, 1924, the membership had grown to 114 Fellows, 73 Associates and 121 contributing (company) members, distributed widely throughout the United States and Canada and including a member each in Japan, Chile and Mexico.

In addition to the list of fellows, associates and contributing members, the Institute has a large list of students preparing for the examinations held annually in April. At the last such examination 150 students wrote 357 examination papers towards admission as fellows or associates. The examinations are twelve in number, eight for admission as associate and four in addition for the fellowship degree. The subjects are the same as in the case of the Actuarial Society but in some cases in a slightly different sequence; (1) elementary algebra and plane geometry, (2) higher algebra, (3) plane trigonometry and analytic geometry, (4) finite

differences and calculus, (5) accounting and interest, (6) theory of probabilities, annuities and insurances, (7) mortality tables, etc., application of finite differences and the calculus, (8) valuation, (9) investigation and graduation of mortality experience; elements of statistics; impaired lives, disability, (10) problems of distribution, premiums, valuation, etc., (11) life insurance accounts, investments, banking and finance, laws and regulation, (12) policy forms, history of life insurance, pension systems, general application of actuarial principles. Any one desiring more detailed information about the course of study for the examinations may obtain from the secretary of the Institute, R. C. McCankie, Equitable of Iowa Building, Des Moines, Iowa, a copy of the report of the Educational Committee.

The American Institute of Actuaries holds two meetings each year, the regular annual meeting between May 15 and June 15, and the second meeting usually in November. Original papers are presented and discussed at each session; topics for informal discussion are submitted in advance, thus affording the members an opportunity to exchange views and experience on their current problems and practice. The papers and discussions are printed in the *Record*, the official publication of the American Institute of which copies may be obtained from the secretary. Twenty-eight numbers have been published, but No. 16 was omitted owing to the cancellation of that meeting on account of the influenza epidemic. These numbers are comprised in thirteen volumes. The American Institute cooperated with the Actuarial Society in the American-Canadian Mortality investigation.

The affairs of the Institute are managed by a board of governors consisting of the officers, the ex-presidents and six fellows elected to serve. The ex-presidents now living and acting as members of the board are H. W. Buttolph, O. J. Arnold, J. H. Nitchie, C. H. Beckett, Geo. Graham* and Lawrence M. Cathles. The other presidents have been Lucius McAdam and Albert G. Portch. The elected members of the board are Robertson G. Hunter, John G. Parker, J. M. Laird*, T. A. Phillips, F. B. Mead* and E. L. Marshall. The officers elected June 13, 1924, were: President, Percy H. Evans; vice-president, L. A. Anderson; secretary, R. C. McCankie; treasurer, B. J. Stookey; librarian, E. R. Carter; editor of the *Record*, E. G. Fassel.

*Fellow, Casualty Actuarial Society.

FRATERNAL ACTUARIAL ASSOCIATION

BY

E. P. S. ALLEN, SECRETARY

The Fraternal Actuarial Association was formed in August, 1916, under the name of "Association of Actuaries of Fraternal Societies". Later in the year a referendum was taken upon the name of the organization and upon a favorable ballot being cast, the name was changed to the present one.

The Association has for its main object the promotion of actuarial science with particular application to the system of fraternal insurance, by the presentation of appropriate papers, discussion, and any other means that may carry out this object. Apart from the development of actuarial science within its own membership, the Association has another important function in connection with the fraternal societies themselves. The majority of the fraternal societies are governed by groups of representatives chosen from their membership who are not necessarily well informed on insurance matters. The Association holds itself responsible for acquainting, so far as possible, the representatives of these fraternal societies with the need and reasons for actuarial guidance.

The Association has a membership at the present time, consisting of sixty-four active members and forty-two associate members. Active members are actuaries particularly interested in fraternal insurance; associate members are fraternal societies which, since they contribute to the expenses of the Association, may have delegates in attendance at the meetings and receive the Association's publications.

Admission to membership may be by election or by examination, and is obtained by making formal application to the Council.

The Presidents in order of election were as follows:

G. D. Eldridge.....	1916-1917	F. M. Speakman...	1920-1921
A. Landis*.....	1917-1918	W. P. Coler.....	1921-1922
S. H. Pipe.....	1918-1919	W. N. Phillips.....	1922-1923
C. W. Iliff.....	1919-1920	E. B. Fackler*.....	1923-1925

The Association issues its *Proceedings* from time to time in book form, seven of these Volumes having been published up to the present. The *Proceedings* contain all the papers and discussions read at the different meetings of the Association, and may be obtained from the Secretary (804 Temple Building,

Toronto, Canada) upon application. The price per volume is \$2.50.

The Council elected at the annual meeting held in Washington, on the 25th of August, 1924, is as follows:—

President, E. B. Fackler*; *Vice President*, J. H. Woodward*;

Secretary, E. P. S. Allen; *Treasurer*, R. D. Taylor;

Editor, S. H. Pipe; *Librarian*, G. D. Eldridge;

and elected members: C. E. Brooks, C. L. Alford, W. D. Kieft, D. D. Macken.

*Fellow, Casualty Actuarial Society.

THE INSURANCE INSTITUTE OF AMERICA

BY

D. N. HANDY, LIBRARIAN

The Insurance Institute of America was organized in Philadelphia, April 23, 1909. The conference which resulted in its formation was called by the Fire Insurance Society of Philadelphia, March 26, 1909 and was attended by representatives from the Fire Insurance Society of Philadelphia, The Insurance Society of New York, The Fire Insurance Club of Chicago, The Insurance Institute of Hartford and The Insurance Library Association of Boston. The name originally adopted, "The Association of Insurance Societies and Institutes of America," was later changed to The Insurance Institute of America. In May 1924, the Institute was incorporated by an act of the Legislature of the State of New York.

Its object was set forth in its constitution in the following words: "The object of the Association shall be the discussion in annual conference of subjects bearing upon the welfare of the several Societies and Institutes represented and through cooperation and free interchange of views to add to the efficient operation of each individual body." Its work has been wholly along educational lines.

The membership of the Institute consisted at first of the societies represented at the Philadelphia meeting. Afterwards,

this was increased and this year consists of the following associations whose aims are chiefly educational:

MEMBERS

- INSURANCE SOCIETY OF THE CAPITAL DISTRICT,
Arkay Building, Albany, N. Y.
- INSURANCE LIBRARY ASSN. OF ATLANTA, GA.,
221 Hurt Building, Atlanta, Ga.
- THE INSURANCE SOCIETY OF BALTIMORE,
10 South Street, Baltimore, Md.
- THE INSURANCE LIBRARY ASSN. OF BOSTON,
18 Oliver St., Boston, Mass.
- THE INSURANCE CLUB OF CHICAGO,
2258 Insurance Exchange Bldg., Chicago, Ill.
- INSURANCE SOCIETY OF CLEVELAND,
602-4-6 B. F. Keith Bldg., Cleveland, Ohio
- THE NEALE-PHYPPERS CO. INSURANCE CLUB,
1240 Huron Road, Cleveland, Ohio
- THE INSURANCE INSTITUTE OF HARTFORD, INC.,
60 Prospect Street, Hartford, Conn.
- THE PROFILE CLUB,
Manchester, N. H.
- THE FIRE INSURANCE CLUB OF MILWAUKEE,
168 Wisconsin Street, Milwaukee, Wis.
- THE INSURANCE SOCIETY OF NEW YORK,
84 William Street, New York City
- SECURITY INSURANCE CLUB, 115 Elm Street, New Haven, Conn.
- THE FIRE INSURANCE SOCIETY OF PHILADELPHIA,
232 South Fourth Street, Philadelphia, Pa.
- FIRE UNDERWRITERS' ASSN. OF THE PACIFIC,
912 Merchants Exchange Bldg., San Francisco, Calif.
- THE CLERKS' ASSN. OF THE SPRINGFIELD F. & M. INS. CO.,
Springfield, Mass.
- THE INSURANCE CLUB OF ST. LOUIS,
435 Pierce Building, St. Louis, Mo.
- FIRE INSURANCE CLUB OF WATERTOWN, N. Y.,
Agricultural Ins. Co., Watertown, N. Y.
- THE INSURANCE ROUND TABLE OF PITTSBURGH,
2236 Perrysville Ave., Pittsburgh, Pa.

Meetings of the Association have been held annually since 1909 as follows:

1910	New York City	1918	Baltimore
1911	Chicago	1919	New York City
1912	Boston	1920	New York City
1913	Hartford	1921	New York City
1914	Philadelphia	1922	New York City
1915	Memphis	1923	Hartford, Conn.
1916	Cleveland	1924	New York City
1917	Chicago		

The first officers of the Institute consisted of Edgar A. Law of the County Fire Insurance Co., Philadelphia, President and D. N. Handy, Librarian of The Insurance Library Association of Boston, Secretary-Treasurer. Subsequent officers were:

	<i>Chairman</i>	<i>Secretary-Treasurer</i>
1910-11	A. R. Hosford, N. Y. City	D. N. Handy, Boston
1911-12	L. A. Tanner, Chicago	J. H. Kenney, Phila.
1912-13	D. N. Handy, Boston	J. H. Kenney, Phila.
1913-14	D. N. Handy, Boston	J. H. Kenney, Phila.

	<i>President</i>	
1914-15	J. H. Kenney, Phila.	B. Richards, Boston
1915-16	J. H. Kenney, Phila.	B. Richards, Boston
1916-17	A. T. Graham, Chicago	B. Richards, Boston
1917-18	A. T. Graham, Chicago	B. Richards, Boston
1918-19	F. Richardson*, Phila.	B. Richards, Chicago
1919-20	F. Richardson, Phila.	E. R. Hardy*, N. Y. City
1920-21	F. Richardson, Phila.	E. R. Hardy, N. Y. City
1921-22	F. Richardson, Phila.	E. R. Hardy, N. Y. City
1922-23	R. M. Bissell, Hartford	E. R. Hardy, N. Y. City
1923-24	C. A. Ludlum, N. Y. City	E. R. Hardy, N. Y. City

At the first annual meeting of the Incorporated Institute held in New York, in 1924, C. A. Ludlum, Vice President of the Home Insurance Company of New York, was re-elected President; and Mr. E. R. Hardy*, Assistant Manager of the New York Fire Insurance Exchange, was re-elected Secretary-Treasurer.

The Institute, through various committees of which the most active has been the Educational, has prepared study courses in the Fire, Casualty and Marine branches and held examinations

*Fellow, Casualty Actuarial Society.

annually since 1911. More students have sat for examinations in the Fire branch than in either of the others, since courses were offered considerably earlier in this than in the other branches. In all about 1,000 persons have sat for examinations in the Institute's courses while probably 4,000 have attended lecture courses provided by the several constituent associations for those wishing to enroll for the examinations. To students completing the courses a diploma is awarded. Examinations are held at announced dates in May or June.

Complete lecture outlines for a three years course in Fire Insurance, for a first years course in Workmen's Compensation, for Automobile Casualty Ratemaking, for History and Development of Automobile Liability Insurance, for Automobile Liability, Property Damage and Collision Loss Adjustments and for a three year course in Fidelity and Suretyship have been published and others are in preparation for Workmen's Compensation Insurance. These may be obtained for a nominal charge from the office of the Secretary-Treasurer, 110 William Street, New York City.

The purpose of the Institute as set forth in the act of incorporation is:

(a) To provide and maintain a central organization for the promotion of efficiency, progress and general development among persons employed in connection with insurance of any kind, whether members of the Institute or not, so as to secure and justify the confidence of the public and employees by reliable tests and assurances of the competence and trustworthiness of persons engaged in insurance.

(b) To encourage and assist the study of any subjects bearing on any branch of insurance.

(c) To publish a journal and any other matter deemed desirable.

(d) To form a library for the use of the members of the Institute.

(e) To offer money or other prizes for essays or research on any subject bearing on insurance.

(f) To devise and impose means for testing the qualifications of candidates for the certificates of the Institute by examination in theory and practice or by any other tests, and to grant certificates of qualifications to the successful candidates.

(g) To establish an honorary membership and to take such appropriate action, not inconsistent with the laws of this State, as to the executive committee may seem fitting and proper for recognizing and honoring work of distinction and particular merit in the field of insurance.

The Institute is empowered to acquire such property as shall be necessary for its corporate purposes, to adopt and use a seal, to have offices and conduct its business within the state of New York and elsewhere and to acquire funds for endowment purposes. The principal office of the Institute must be at all times within the state of New York.

At the incorporation meeting of the Insurance Institute held in New York, November 11, 1924 the following were elected to the Board of Governors: For one year,—Messrs. F. Highlands Burns,* W. G. Falconer, D. N. Handy, Frederick Richardson;* for two years,—Messrs. C. W. Bailey, William Brosmith, Otho E. Lane, C. R. Pitcher; for three years,—Messrs. Wm. Embery, J. B. Levison, Victor Roth, C. F. Shallcross.

At a subsequent meeting of the Board of Governors the six classes of membership provided for in the by-laws were defined as follows:

(a) *Corporate Members*, to include all incorporated insurance companies of whatever type or branch of the insurance business engaged in.

(b) *Organization Members*, to include insurance Societies whose purpose is primarily education.

(c) *Honorary Members*, to include those honored by the Governing Board because of their conspicuous service in the field of insurance education and economics.

(d) *Fellows*, to include those who have completed a prescribed course of study entitling them to the Institute's diploma, and in addition thereto have written a thesis deemed worthy of acceptance as complying with the requirements for a Fellow.

(e) *Associates*, to include those who have passed the Institute's examinations in a given branch and are entitled under the rules to its diploma.

(f) *Corresponding Members*, to include primarily citizens of other countries who are elected because of their qualifications in the field of insurance.

*Fellow Casualty Actuarial Society.

Fees and dues have been set as follows: For Corporate members \$25.00 the year; for Organization members a sum per capita of membership to be fixed each year by the Governing Board of the Institute; for Honorary members no fees required; Fellows \$10.00; Associate members \$3.00; Corresponding members no fees or dues.

The Governing Board may before December 31, 1925 elect as Fellows without examination persons in the insurance business who have by their attainments shown such qualifications as are deemed equivalent to the requirements of a Fellow. In the same manner the Governing Board may also elect as Associates persons who by reason of their qualifications are deemed to have complied with the requirements for an Associate. Recommendations of persons to be elected as Associates or Fellows must be made to the Secretary in writing.

The Educational Committee of the Institute consists at present of Messrs. William Embery for the Governing Board, L. N. Dennison, Chairman, Gorham Dana, William B. Medlicott, J. Sandison Trump and Lewis Harding.

AMERICAN STATISTICAL ASSOCIATION

BY

EDWIN W. KOPP*

The Association was organized in Boston, Massachusetts, in 1839. It is the oldest of the learned societies in the United States. The first constitution stated the purpose of the Association to be the "collection, preservation and diffusion of statistical information in the different departments of human knowledge." How these objects were to be attained was set forth in the by-laws, no less than thirty-three in number. From the outset, membership in the Association was taken seriously, each member upon his election being obligated to conform to the Constitution and By-laws. It was made the "duty of every fellow to prepare at least one article a year on some statistical subject which shall be at the disposal of the publishing committee."

From its beginning, the Association developed national and international contacts, and within a year had corresponding

*Fellow, Casualty Actuarial Society.

members in many states. At its first quarterly meeting it elected foreign members, the first of whom was the foremost statistician of his day, Adolphe Quetelet. Within its first ten years, more than thirty important addresses were made before the Association on a wide range of topics. The Association became closely identified with the affairs of the United States Census, and this relationship has continued to the present day. In 1844, it petitioned Congress "that the Sixth Census be revised and a new and accurate copy be published." At each succeeding Census various members of the Association cooperated in furthering the accuracy and completeness of the statistics.

Beginning with 1860, the Association has been in continuous touch with the International Statistical Institute. The Association has passed through several eras in the development of statistics. It has witnessed the rise of official statistics, the gradual evolution of modern analytical technique, and the penetration of the statistical approach to problems of human well-being and progress. At no time has it assumed any partisan attitude. Its officers have been called upon to act as arbiters in numerous controversies with a political tinge, and in each case, unbiased opinion and other service has been rendered.

The Association has been served by a number of distinguished scholars in the office of President and Secretary. Beginning with the Hon. Richard Fletcher, the President's office has been filled by Shattuck, Jarvis (thirty years), Walker (1883 to 1897), Wright (1897 to 1909) and a considerable number of men now living, who have achieved standing in the teaching and practice of statistics. Its Secretaries, Joseph B. Felt, Davis R. Dewey, Carroll W. Doten and Robert E. Chaddock gave long years of faithful and efficient service to the Association.

At the present time its officers are:

Louis I. Dublin*, President; R. E. Chaddock, R. H. Coats and M. O. Lorenz, Vice Presidents and Leonard P. Ayres, David Friday and Willford I. King, Counselors. Professor R. E. Chaddock is Acting Secretary-Treasurer (Columbia University, New York City) and Professor W. F. Ogburn is Editor. The Secretary and Editor are assisted, respectively, by three Assistant Secretaries and an Editorial Board.

Membership in the Association is open to all who are interested

*Fellow, Casualty Actuarial Society.

in statistics. Fellows, of whom there are less than 100, are selected from the membership by a committee, on the basis of distinguished achievement in statistical work or of service to the Association. Statisticians of established reputation in foreign countries are elected to honorary membership. Corporate membership is open to organizations conducting extensive statistical enterprises.

At the present time the Association has considerably more than 1,000 members and holds quarterly meetings which attract as many as three hundred members, and actually cooperates in the development of official and private statistics. After having given the matter due consideration for several years, the Association is considering an educational program which will seek to unify statistical instruction so far as that is practicable. The Committee having this matter in charge realizes that statistical instruction affects the training of government officials, accountants, business administrators, economists, actuaries, and other specialized workers who make more or less use of statistical methods and results. The Association realizes its responsibility for serving each of these groups and will make such recommendations to the schools and colleges as will serve the greatest number of students. Other Committees are at work on problems of business research, governmental labor statistics, vital statistics and other subjects. The Association publishes quarterly the *Journal of the American Statistical Association*, which may be purchased by subscription at \$5 per annum. The New Series of the Journal commenced in 1888 and comprises 19 volumes which include 148 numbers.

The Association is aiming at the present time to include in its membership every statistical worker in the United States and Canada. Efforts are being made to enlist the interest of universities and colleges, business organizations, actuarial and mathematical societies and government officials.

AMERICAN MATHEMATICAL SOCIETY

BY

R. G. D. RICHARDSON, SECRETARY

The object of the American Mathematical Society is to encourage and maintain an active interest in mathematical science. It was founded in 1888 at Columbia University as the New York

Mathematical Society; the name was changed to American Mathematical Society in 1894. The Society was incorporated in the District of Columbia in 1923.

The following is a list of Presidents of the Society, with their terms of office:

J. H. Van Amringe, 1889-1890	Maxime Bôcher, 1909-1910
*Emory McClintock, 1891-1894	H. B. Fine, 1911-1912
G. W. Hill, 1895-1896	E. B. Van Vleck, 1913-1914
Simon Newcomb, 1897-1898	E. W. Brown, 1915-1916
R. S. Woodward, 1899-1900	L. E. Dickson, 1917-1918
E. H. Moore, 1901-1902	Frank Norley, 1919-1920
T. S. Fiske, 1903-1904	G. A. Bliss, 1921-1922
W. F. Osgood, 1905-1906	Oswald Veblen, 1923-1924
H. S. White, 1907-1908	G. D. Birkhoff, 1925-1926

The Society is governed by a board of trustees, who have charge of financial matters, and by a council whose function is to formulate and administer the scientific policies of the Society and to act in an advisory capacity to the board of trustees; both trustees and council are elected by the Society. The Council consists of the officers of the Society, of certain ex-presidents and ex-secretaries, and of fifteen elected members.

The following officers were elected for 1925: President, G. D. Birkhoff; Vice-Presidents, G. C. Evans, T. H. Hildebrandt, J. H. M. Wedderburn; Secretary, R. G. D. Richardson; Assistant Secretary, Arnold Dresden; Treasurer, W. B. Fite; Librarian, R. C. Archibald; Editorial Committee of the Bulletin, E. R. Hedrick, J. W. Young, Arnold Dresden; Editorial Committee of the Transactions, A. B. Coble, Edward Kasner, H. H. Mitchell. The trustees for 1925 are as follows: W. B. Fite, Robert Henderson†, R. G. D. Richardson, G. D. Birkhoff, L. P. Eisenhart.

The Society publishes two journals, the *Bulletin of the American Mathematical Society*, a historical and critical review of mathematical science, and the *Transactions of the American Mathematical Society*, whose object is to make known as widely as possible important researches presented at the Society's meetings. The Society also publishes a series of *Colloquium Lectures*, each volume embodying recent developments in some special fields of mathematical science.

*One of the most distinguished American actuaries.

†Fellow, Casualty Actuarial Society.

About eleven meetings are held every year in various parts of the country for the presentation and discussion of mathematical papers; three in New York, two in or near Chicago, one in the Southwest, three on the Pacific Coast, and the summer meeting and Annual Meeting at places designated by the Council. The Annual Meeting for 1924 was held in Washington, D. C.

Election to membership in the Society is by vote of the Council. In addition to ordinary membership, there has recently been established a Sustaining Membership open to persons or institutions who contribute at least one hundred dollars annually to the support of the Society; sustaining members have the right to nominate a certain number of persons for election to membership in the Society, such persons to pay no dues.

Applications for membership, subscriptions to the journals, and any inquiries with regard to the Society may be sent to the American Mathematical Society, 501 West 116th Street, New York, N. Y.

THE MATHEMATICAL ASSOCIATION OF AMERICA

BY

H. E. SLAUGHT, EX-PRESIDENT

The Mathematical Association of America was organized at Columbus, Ohio, in December 1916 with 1097 charter members. It was incorporated in the state of Illinois on September 8, 1920.

The object of the Association, as set forth in the charter, is to assist in promoting the interests of mathematics in America, especially in the collegiate field, by holding meetings in any part of the United States or Canada for the presentation of and discussion of mathematical papers, by the publication of mathematical papers, journals, books, monographs and reports, by conducting investigations for the purpose of improving the teaching of mathematics, by accumulating a mathematical library and by cooperating with other organizations whenever this may be desirable for attaining this or other similar objects.

There are two kinds of membership in the Association, individual and institutional. Both are attained on application, properly supported, and on election by the Board of Trustees. There are at present over 1700 individual members and over 100 institutional members including many of the leading colleges and universities of the country. Each institutional member is

entitled to send a voting delegate to all meetings of the Association and is thus vitally interested in the progress of mathematical education.

The Association has sixteen sections which hold yearly or semi-annual meetings in as many parts of the country, thus bringing the stimulus of personal contact and the reading and discussion of papers within a reasonably near distance of all members. These sections are located in Kansas, Ohio, Missouri, Iowa, Indiana, Minnesota, Maryland — District of Columbia — Virginia, Kentucky, Rocky Mountain region, Illinois, Texas, South-eastern region, Louisiana—Mississippi, Michigan—Nebraska and Southern California. The Association holds two national meetings annually, one in the Christmas holiday week and one in September. These meetings extend over two days and attract speakers of national prominence in the mathematical field.

The presidents of the Association have been E. R. Hedrick 1916, Florian Cajori 1917, E. V. Huntington 1918, H. E. Slaughter 1919, D. E. Smith 1920, G. A. Miller 1921, R. C. Archibald 1922, R. D. Carmichael, 1923, H. L. Rietz 1924.

The governing body is a Board of Trustees, consisting of a president, two vice-presidents, a secretary-treasurer, a librarian, three members of a committee on Official Journal, and twelve additional elected members.

Some of the outstanding accomplishments of this, the youngest and largest, mathematical organization in the collegiate field, are as follows:

(1) The publication of a high grade mathematical journal, the *American Mathematical Monthly*, devoted to the interests of collegiate mathematics, and to stimulating the beginnings of mathematical research.

(2) The contribution of a subsidy to another journal—the *Annals of Mathematics*, for the publication of expository papers too extended for inclusion in the MONTHLY.

(3) The appointment of the National Committee on Mathematical Requirements, which was financed by the General Education Board, whose membership of fifteen included leading mathematicians in both the collegiate and secondary fields, whose far reaching investigations extended over a period of four years, with the cooperation of more than one hundred local mathematical organizations, and whose final report of 652 pages was published

in 1923. This report has made, and will continue to make, a profound impression upon the status and progress of secondary mathematical teaching.

(4) The securing of a generous and notable gift from Mrs. Mary Hegeler Carus, of the Open Court Publishing Company of Chicago, for the publication of a series of Mathematical Monographs whose purpose is to make accessible in convenient form a series of expository presentations of the best thoughts and keenest researches in pure and applied mathematics, to be set forth in a manner comprehensible not only to teachers and students specializing in mathematics, but also to scientific workers in other lines, and especially to the wide circle of thoughtful people who, having a moderate acquaintance with elementary mathematics, are willing and eager to extend that acquaintance provided it can be done without prolonged and critical study of the mathematical treatises. The first of these Monographs, entitled *Calculus of Variations*, by Professor G. A. Bliss of the University of Chicago, is now being distributed through the Open Court Publishing Company of Chicago. This series, which is capable of far reaching development, promises to be unique in its scope and possibilities for usefulness. It is hoped that the Association through this medium will render service in promoting the spread of mathematical knowledge.

AMERICAN INSTITUTE OF ACCOUNTANTS

BY

A. P. RICHARDSON, SECRETARY

The American Institute of Accountants is the successor of the American Association of Public Accountants, which was founded in 1887. While its membership then was in part composed of practitioners in different parts of the country, it was largely an organization of accountants practising in New York. In 1896 the first C. P. A. law was adopted in New York, largely the result of efforts by members of the original American Association of Public Accountants. Later Pennsylvania (1899), Maryland (1900), California (1901), Illinois (1903) and Washington (1903) adopted similar legislation. Today all the states, Alaska, the District of Columbia, Hawaii and the Philippines have similar laws. The change of name from American Associa-

tion of Public Accountants to American Institute of Accountants took place in 1916 and the successor was incorporated under the laws of the District of Columbia. The Institute today is a membership corporation, without capital stock. It is a national organization of accountants, with a selective growing membership of those who possess the highest ideals of the profession.

The Institute as a body meets once a year, either in the national Capitol (the annual meeting in September, 1925 will be held there) or in some other large city in this country. At the recent annual meeting in St. Louis (September 16-17, 1924) the following officers were elected for the coming year: John B. Niven, president; Ernest Reckitt, vice-president, W. H. West, vice-president, Arthur W. Teele, treasurer; A. P. Richardson, secretary.

The Institute delegates many of its duties to its council, which is a directing board of thirty-nine members. The council meets semi-annually.

The council at the present is constituted as follows: W. Sanders Davies; Stanley G. H. Fitch, Edward E. Gore, W. D. McGregor, George S. Olive, Charles G. Harris, Charles E. Wermuth, to serve for five years; P. L. Billings, James F. Farrell, Lewis G. Fisher, David L. Grey, T. H. Lawrence, Homer S. Pace, W. A. Smith, to serve for four years; Elmer L. Hatter, J. Edward Masters, James S. Matteson, R. H. Montgomery, Carl H. Nau, Ernest Crowther, E. G. Shorrock, to serve for three years; Albert T. Bacon, F. H. Hurdman, J. E. Hutchinson, Clifford E. Iszard, Walter Mucklow, John R. Ruckstell, W. R. Tolleth, to serve for two years; John F. Forbes, J. Porter Joplin, Waldron H. Rand, Frederick A. Ross, Frederic A. Tilton, C. R. Whitworth, William Jeffers Wilson, to serve for one year. The council in turn acts through an executive committee of seven members, which meets whenever the occasion demands it. Many other committees contribute valuable time and service to the progress of the Institute.

Membership at the present time is 1966 of whom 1569 are members and 397 associates. The qualifications for membership in the Institute include satisfactory education; agreement to observe the rules of ethics promulgated by the Institute; evidence of a certain number of years spent in public practice; passing the examinations conducted by the Institute, or evi-

dence of having passed a professional examination satisfactory to the Board of Examiners; and, of course, proof of good character and reputation.

Applications to join the Institute must be prepared on blanks supplied by the Institute. The examiners conduct regular examinations in May and November each year, and applications should be filed sixty days prior to the examination dates. At present thirty-four States and Territories cooperate with the Institute in the conduct of examinations.

The Institute has its operating office at 135 Cedar Street, New York. It owns the entire five-story building at that address. The affairs of the Institute, and of The Journal of Accountancy incorporated, all center in this building. The Institute library on the third floor is one of the most complete accounting collections in the country.

Several publications are issued under the auspices of the American Institute of Accountants. The *Journal of Accountancy* is now in its thirty-ninth volume and has a unique place in the accounting field. It is published on the first day of every month and sells for \$4 a year. The *Institute Bulletin* is a sixteen-page monthly publication of recent birth. It is designed to give information relative to accounting legislation, regional meetings, court decisions on accounting subjects and items of general interest to accountants.

The Committee on Public Affairs has received much favorable comment upon its recent activities. This comparatively recent committee, with its own staff of workers, is focusing public attention on public needs, finding places for the Institute members to perform public service and making constructive criticism of public matters in such a way that prominent men and organizations and newspaper editors throughout the country have already manifested a sincere interest in its activities.

THE INSTITUTE OF ACTUARIES OF GREAT BRITAIN

BY

JOSEPH B. MACLEAN, F. I. A., F. F. A.

The Institute of Actuaries was founded in 1848 and incorporated by Royal Charter in 1884. The Institute originated from a suggestion made by the Manager of one of the Scottish Life Insurance companies, that an association be formed in London,

to be conducted on similar lines to the Scottish Managers' Association. This latter association had for its object the discussion of questions of life insurance practice. A committee was formed in London and reported adversely on the suggestion, although it was admitted that "occasional meetings might be held with advantage if this should from experience be found to establish uniformity in dealing with points of practice." After considerable discussion the committee's report was disapproved and it was decided to establish a society, not, however, of the same nature as the Scottish Managers' Association, but "a scientific and practical association among the actuaries, secretaries and managers of the life assurance societies of Great Britain" (*i. e.*, England and Scotland).

The first president of the Institute of Actuaries was John Finlaison, then (1848) actuary to the National Debt Commissioners. The Institute represented officially both English and Scottish Actuaries until 1855 when the Scottish members detached themselves from the Institute in order to form the Faculty of Actuaries in Scotland.

The objects of the Institute are "to elevate the attainments and promote the general efficiency of all who are engaged in occupations connected with the pursuits of an actuary; to extend and improve the data and methods of the science which has its origin in the application of the doctrine of probabilities to the affairs of life; and specially, to investigate all monetary questions involving a consideration of the effects of interest and probability."

There are three classes of members of the Institute of Actuaries, namely, Students, Associates (A. I. A.) and Fellows (F. I. A.). Students are those who, having furnished evidence of general education, have been admitted as "Probationers" and have subsequently passed Part I of the examinations necessary for Fellowship.

A "Student" may be elected an Associate upon passing Parts II and III of the examinations and a Fellow upon passing Parts II, III and IV. Examinations are held annually in April in various centers throughout Great Britain as well as in the principal British Dominions and Colonies.

No exemptions are allowed on account of the possession of university degrees.

The most recently published report of the council of the Institute gives the membership (on March 31st, 1924) as 353 Fellows, 353 Associates, 194 Students, and 18 Corresponding Members, a total of 918, this being the largest membership of any actuarial society. There are in addition 300 candidates admitted as probationers.

The Institute is governed by a Council made up of 30 Fellows, including the Officers (President, 4 Vice-Presidents, Treasurer, 2 Honorary Secretaries and 2 Editors). At the election of officers in June, 1924, the following (*inter alia*) were elected:

President: A. D. Besant, Manager, Clerical, Medical & General Life Assur. Soc., London.

Honorary Secretaries: H. Brown and W. Penman, Staple Inn Hall, Holborn, London.

Treasurer: W. P. Elderton.

Joint Editors: R. Todhunter and J. Spencer.

Meetings of the Institute are usually held monthly at Staple Inn Hall from October to May with an annual general business meeting in June.

Papers read at the Sessional meetings together with other communications and items of actuarial interest are published in the *Journal of the Institute of Actuaries* ("J. I. A.") formerly a quarterly but, since 1922, published thrice annually. The Journal of the Institute was originally called the *Assurance Magazine*, the first two volumes bearing that title, and volumes III to XXIV being called by both names. Fifty-five volumes have now been published.

In addition to the Journal, the Institute has from time to time published many volumes of great importance to actuaries and which are too numerous to be detailed here. Mention should be made, however, of the various Text Books of the Institute as well as of the *British Offices Life Tables 1893* and *British Offices Life Annuity Tables 1893* (published in conjunction with the Faculty of Actuaries) and the recently published *Mortality of Annuitants 1900-1920*.

The *Institute Text Books* (now three in number), primarily intended to assist students of the Institute in preparing for the examinations, are recognized throughout the world as the authoritative treatises on the groundwork of actuarial science. Part I covers "Interest including Annuities Certain" by Ralph Tod-

hunter. Text Book Part II covering "Life Contingencies" was recently rewritten by E. F. Spurgeon and published, together with a new volume on "Calculus and Probability" by Alfred Henry.

THE FACULTY OF ACTUARIES IN SCOTLAND

BY

JOSEPH B. MACLEAN, F. I. A., F. F. A.

The Faculty of Actuaries in Scotland was constituted in January, 1856, and was incorporated by Royal Charter in 1868. It arose out of the voluntary detachment from the Institute of Actuaries (q. v.) of the thirty-eight Scottish members of that body. In a sense, however, the Faculty of Actuaries may be considered as ante-dating the Institute and as being the oldest actuarial association in existence. Periodical meetings of actuaries and other principal officers of life insurance companies in Scotland for the discussion of questions of practice took place prior to 1840 and it was the extension of this idea to England at the suggestion of the Scottish actuaries that led to the formation of the Institute of Actuaries. The separation of the Scottish and English members of the Institute resulted from a difference of opinion on the subject of qualification for membership in the Institute, but was, in fact, largely due to the necessarily unsatisfactory representation of Scotland in the Institute due to inconveniences of communication between Scotland and England, as well as to differences in the practices and laws of the two countries.

In 1859 the Faculty, membership in which was then practically confined to the principal officers of Scottish life insurance companies, promoted the formation of the Actuarial Society of Edinburgh with a view to assist the studies and promote the professional attainments of the junior members of the profession. This society maintained a separate and successful existence for forty-one years until in 1901 it was merged in the Faculty of Actuaries. Many valuable papers are contained in its published proceedings, the *Transactions of the Actuarial Society of Edinburgh*.

The objects of the Faculty have been briefly stated as being to "associate professionally those *gentlemen* (women have been admitted since 1919) who are engaged in the management of Life Assurance Institutions, or who are otherwise following the profession of an Actuary; to promote the study of the Doctrine

of Probabilities, of Vital Statistics and Statistics in General, of Finance as bearing on fluctuations in the value of money and of all cognate subjects, a knowledge of which is essential to the efficient discharge of the duties of a Life Assurance Manager or of an Actuary."

The membership of the Faculty consists of Honorary Fellows, Fellows and Associates. Any person desirous of prosecuting his studies in connection with the Faculty may, on recommendation, be enrolled as a student and after passing the four prescribed examinations may, if he (or she) has attained the age of twenty-one years be admitted an Associate. Associates are granted the diploma of the Faculty and may be admitted as Fellows on application and payment of the necessary fees. So far as concerns actuarial attainments there is, therefore, no distinction between an Associate and a Fellow.

Examinations are held annually in April in Edinburgh and in such other places as may be arranged. The diploma in Actuarial Mathematics of Edinburgh University is accepted in lieu of the first two examinations and any student who has graduated in mathematical honors at any university approved by the Council may be exempted from Part I.

Persons who possess "qualifications which render their admission to the Faculty desirable" may be elected on the nomination of the Council and "gentlemen of distinguished attainments in mathematical, statistical or financial subjects or who have rendered distinguished service in promoting the objects of the Faculty" may be elected Honorary Fellows upon recommendation of the Council.

At the present time there are 2 Honorary Fellows, 226 Fellows (of whom all but 14 have passed the examinations) and 226 students. There are, at present, no Associates. (Usually there is an interval of a few days, or weeks, only between election as Associate and as Fellow).

The Faculty is controlled by a Council, consisting of the President, Vice-Presidents, Honorary Secretary, Honorary Treasurer and Honorary Editor, and fifteen elected members. Sessional meetings for the purpose of hearing papers and other communications of interest to the profession are held at irregular intervals as required. The communications read at sessional meetings are usually printed and published and appear as the

Transactions of the Faculty of Actuaries ("T. F. A.") of which nine volumes have been published.

In addition to the Transactions, the Faculty has published (jointly with the Institute of Actuaries) the various volumes containing the statistics and graduated tables of the *British Offices Life Tables 1893* and the *British Offices Life Annuity Tables 1893*. The Faculty was also represented on the committees responsible for the production of the *Institute of Actuaries Life Tables (1863)*.

The present officers of the Faculty are:

President: G. J. Lidstone, Manager and Actuary, Scottish Widows' Fund Life Assurance Society, Edinburgh.

Vice-Presidents: W. G. Walton, C. Guthrie and R. M. M. Roddick.

Honorary Secretary: J. A. Thomson.

Honorary Treasurer: W. A. Robertson.

Honorary Editor: C. S. Penn.

The offices of the Faculty are at 14 Queen Street, Edinburgh, Scotland.

ROYAL STATISTICAL SOCIETY

BY

EDWIN W. KOPF*

The Society was organized at the suggestion of the eminent Adolphe Quetelet,—mathematician, astronomer and statistician. In 1832, a Statistical Section was added to the British Association for the Advancement of Science. Among other members directly interested were Mr. Charles Babbage, Mr. Drinkwater Bethune, Hallam, the historian, Professors Malthus and Empson, the Rev. Richard Jones, Sir John Lubbock and M. Quetelet. The inquiries of the section were restricted to "facts relating to communities of men which are capable of being expressed by numbers, and which promise when sufficiently multiplied to indicate general laws." As M. Quetelet considered this to be too limited a point of view, a Statistical Society was formed in London, March 15, 1834, with three hundred members. The Marquis of Lansdowne was the first President; Henry Hallam the Treasurer and Greig, MacLean and Tuffnell the Secretaries. The Society went to work energetically and communication was opened with

*Fellow, Casualty Actuarial Society.

statistical organizations elsewhere. In 1838, the *Journal of the Royal Statistical Society* was established, the current volume of which is LXXXVIII. Various special investigations have been made and the results published.

"The objects of the Royal Statistical Society are to collect, arrange, digest and publish facts, illustrating the condition and prospects of society in its material, social and moral relations; these facts being for the most part arranged in tabular forms and in accordance with the principles of the numerical method. The Society collects new materials, condenses, arranges, and publishes those already existing, whether unpublished or published in diffuse and expensive forms in the English or in any foreign language, and promotes the discussion of legislative and other public measures from the statistical point of view."

A Committee of the Society's Council was appointed in 1840 to consider the best method of taking the Census of 1841. The Society has performed distinguished services for the British Census ever since that time. Throughout the ensuing years, the addresses at the meetings and the pages of the *Journal* have been a repository for the facts concerning population, manufactures, commerce, health, vital statistics, civil order and general public welfare of Great Britain and the Dominions, as well as for technical papers on mathematical statistics. The published proceedings of the Society furnish very often the only accessible facts on the rise in well-being of the British population during the nineteenth century. The Current Notes, Book Reviews and Bibliographies included are very valuable to the statistician.

The Society has had the support and confidence of the Governments of Great Britain since its inception; the outstanding personalities of the nineteenth century were its officers and members. Babbage, Ashley-Cooper, Florence Nightingale, Farr, Guy, Galton, DeMorgan, Clifford, Rowe and Pearson are names which appear frequently in the pages of the *Journal*. The influence of the Society has been world-wide and its establishment led to the formation of societies of statisticians in other countries.

At the present time, the Society is in a flourishing condition; it includes more than 1,000 Fellows; its library contains more than 50,000 volumes; meetings are held monthly from November to June; its members are in every branch of the Government

service and in all walks of life where numerical data are of prime importance. Relatively to population, the Society's activities and its membership lead the world and set an example for emulation in America. The offices are at 9, Adelphi Terrace, Strand, London, W. C. 2.

INTERNATIONAL CONGRESS OF ACTUARIES

BY

JAMES S. ELSTON*

International Actuarial Congresses have been held in 1895 in Brussels, in 1898 in London, in 1900 in Paris, in 1903 in New York, in 1906 in Berlin, in 1909 in Vienna, and in 1912 in Amsterdam. Papers have been presented and discussed on practically all actuarial problems and many broader insurance problems including actuarial notation, mortality formulas, mortality investigations on various special classes of lives, valuation of life insurance contracts, calculation of premiums, substandard insurance, old age pensions, the interest rate, investments, reinsurance, friendly societies, insurance on infantile lives, invalidity insurance, workmen's compensation and other social insurance, taxation, history of insurance, fire insurance, government mortality and morbidity statistics, and university and other instruction on insurance. Usually several papers were presented at the same time on different phases of the same question, particularly on the development of the question in different individual countries. Complete reports comprising from one to four volumes have been issued covering each of the Congresses, the total reports comprising fourteen volumes, including 9,325 pages. The index of these volumes published by the Institute of Actuaries increases their value.

The COMITÉ PERMANENT DES CONGRES INTERNATIONAUX D'ACTUARIES organized by the first Congress has maintained continuity between the congresses and performed other valuable services in bringing the attention of actuaries to work done in other countries. The *Bulletin*, which has been published since 1896, and of which No. 22 or the 1923 Bulletin has just appeared, has been the best single source of keeping in touch with the literature on insurance published in other coun-

*Fellow, Casualty Actuarial Society.

tries. The special feature is the review of insurance each year in the different countries, including a bibliography of publications. The Bulletin also includes occasional original papers of a high standard. It is sent to members of the Permanent Committee. Such membership is open to Fellows and Associates of the Casualty Actuarial Society upon vote of the Council of the Permanent Committee. The General Secretary is E. Lefrancq, 48, rue du Fossé-aux-Loups, Brussels, Belgium. The Secretary for the United States and Canada is Wendell M. Strong,* Associate Actuary, Mutual Life Insurance Co., 32 Nassau St., New York City.

INTERNATIONAL MATHEMATICAL CONGRESS

BY

JAMES S. ELSTON*, SECRETARY, SECTION V

Section V of the International Mathematical Congress, held in Toronto, Canada, August 11-16, 1924, was devoted to Statistics, Actuarial Science and Economics.

The Chairmen presiding each successive day were W. J. Phelps, Ex-President of the Institute of Actuaries of Great Britain; Robert Henderson*, Ex-President of the Actuarial Society of America; M. Michel Huber, Directeur de la Statistique Générale de la France; Professor Dr. phil. J. F. Steffensen, President of Den danske Aktuarforening; and Professor C. Gini, Professor of Statistics in University of Padua, Italy, and editor of "Metron."

Papers given in this section were:

Professor M. Fréchet—On a General Formula for the Computation of Net Premiums.

Robert Henderson*—Some Points in the General Theory of Graduation.

G. Udny Yule—Some Life-Table Approximations.

Professor G. F. McEwen—A Method of Estimating the Significance of the Difference between Two Averages by Means of Bayes' Theorem on the Probability of Proportions.

W. P. Elderton—Mathematical Law of Mortality; A Suggestion.

Professor Dr. L. E. Phragmén—Sur une Méthode d'évaluer les Intégrales de probabilité.

*Fellow, Casualty Actuarial Society.

- Professor W. F. Willcox—Estimates of Population in the United States.
- Professor E. B. Wilson—A Problem in Keynes' Treatise on Probability.
- E. C. Molina—A Formula for the Solution of Some Problems in Sampling.
- Professor Dr. J. F. Steffensen—On a class of Quadrature Formulas.
- Dr. H. L. Rietz—On a certain Law of Probability of Laplace.
- Professor J. W. Glover*—Quadrature Formulas when Ordinates are not Equidistant.
- Dr. W. F. Sheppard—Interpolation with Least Square of Error.
- Professor Paul R. Rider—A Generalized Law of Error.
- Albert W. Whitney*—Actuarial Science in the Field of Workmen's Compensation Insurance; particularly the Mathematics of Schedule-Rating and Experience-Rating.
- Professor A. L. Bowley—Use of Mathematics in Economics, Social and Public Statistics.
- Arne Fisher—Application of Frequency Curves to the Construction of Mortality Tables.
- Lucien March—De l'erreur probable dans le calcul des moyennes.
- Professor C. Gini—Alcune ricerche sulla "fecondabilità" della donna.
- Hugh H. Wolfenden—On the Development of Formulae for Graduation by Linear Compounding with Special Reference to the Work of Erastus L. De Forest.
- Dr. Lowell J. Reed—Correlations between Climatic Factors and Death Rates.
- R. H. Coats and M. C. Maclean—Jottings from the Canadian Census.
- R. A. Fisher—On a Distribution Yielding the Error Functions of Several Well-known Statistics.
- Professor G. F. McEwen—Note on a Short Method of Computing Terms and Sums of Terms of the Asymmetrical Binomial.
- Lucien March—Les mesures d'après échantillons.
- Papers presented to other sections of the Congress:
- Professor P. Haag—Sur un probléme général de probabilités et ses diverses applications.

*Fellow, Casualty Actuarial Society.

- Professor P. Haag—Sur l'application des méthodes du calcul tensoriel à la théorie des moindres carrés.
- Professor N. Kryloff—Sur quelques recherches dans le domaine de la théorie de l'interpolation et des quadratures dites mécaniques.
- Professor N. Kryloff and T. Tamarkine—Sur une formule d'interpolation.
- Jacques Touchard—Sur la théorie des différences.

L'INSTITUT DES ACTUARIES FRANCAIS

BY

JAMES S. ELSTON*

L'Institut des Actuaries Francais was founded May 30, 1890, with thirty Fellows (Fondateurs). It now consists of six honorary members (Membres D'Honneur), nineteen Fellows (Membres Agrégés), seventy-six students (Membres Stagiaires), and twenty-three corresponding members (Membres Correspondants). Only Frenchmen are admitted as fellows and students. Students are admitted as such after passing examinations, much more limited in scope than American examinations. In 1923 which is typical, the first examination on mathematics included three questions, one on the Theory of Probabilities, one (two parts) on Calculus, and one on Differential Equations, the questions themselves being of a more advanced type than is required in English-speaking countries. The remaining three examinations amounted practically to essays; two on Financial Operations, one on Theory of Insurance, and one on Social Economics (Social Insurance). A Fellow is elected by a special committee after presentation of a thesis of a similar nature to the other papers presented to the Society. These theses form a considerable proportion of the published Proceedings.

The Secretary is Henri Auterbe, 146 avenue Emile-Zola (15^o) Paris.

From the beginning, the Institute has published the *Bulletin Trimestriel de L'Institut des Actuaires Francais*, of which 118 numbers have been published, arranged in 29 volumes

*Fellow, Casualty Actuarial Society.

containing, in addition to the minutes of the meetings, papers of a high standard, most of which are on some mathematical phase of life insurance or on the principles upon which the various other insurance institutions of a more or less social insurance nature in France are based.

DEUTSCHER VEREIN FÜR VERSICHERUNGS-WISSENSCHAFT

BY

JAMES S. ELSTON*, MEMBER

The Deutscher Verein Für Versicherungs-Wissenschaft, founded September 26, 1899, consists of Corporate and Personal members, the latter being those occupying leading positions in the Corporate members and other persons whose standing in the insurance business is acceptable. This differs from the actuarial societies reviewed in that it covers all branches of insurance including Fire and Marine, Life, Casualty and Social Insurance and that it embraces all phases of each branch. It has the following separately organized sections: Insurance Law and Economics, Actuarial Science and Insurance Medicine, to any or all of which each member may belong. It serves as the actuarial society in Germany, although this is only one phase of its work. There are about 365 Corporate and 1,400 Personal members. The Director is Prof. Dr. Alfred Manes, Berlin W 30, Landshuter Strasse 26.

The Society is this year publishing the 24th volume of the *Zeitschrift für die gesamte Versicherungs-Wissenschaft*, which is published quarterly and covers all branches and phases of insurance including occasional papers on actuarial science. Considerable space is devoted to insurance law and various phases of social insurance. In addition to the *Zeitschrift* the Society has published about thirty-two monographs of the same general nature on insurance (*Veröffentlichungen*).

*Fellow, Casualty Actuarial Society.

VEREINIGUNG SCHWEIZERISCHER VERSICHERUNGS-
MATHEMATIKER

BY

JAMES S. ELSTON*, MEMBER

The Vereinigung schweizerischer Versicherungsmathematiker was established June 17, 1905, with 36 members. It now consists of about 30 Corporate members, 12 Corresponding members and 175 Ordinary members. Admission is without examination to applicants with satisfactory technical and practical standing, but it is noteworthy that nearly half of the Ordinary members have the Doctor's Degree, many of them from the University of Berne, Switzerland. The Secretary is Dr. J. Riethmann, Blüm-lisalpstrasse 50, Zurich 6, Switzerland.

Nineteen volumes of the *Mitteilungen der Vereinigung schweizerischer Versicherungsmathematiker* (Bulletin de l'Association des Actuaires suisses) have been printed containing papers of the highest standing, mostly mathematical. The special feature of this publication has been the application of Calculus and the higher mathematics to the solution of the problems involved in social insurance institutions of Switzerland. A large majority of the papers are in German, though an occasional one and some other material is in French.

ASSOCIATION ROYALE DES ACTUAIRES BELGES

BY

JAMES S. ELSTON*, CORRESPONDING MEMBER

An historical review of the Association Royale des Actuaires Belges, which was founded January 8, 1895, was given in No. 30 of their "Bulletin". At its inception actuaries were practically unknown in Belgium but a few men were intensely interested in improving the basis of the many small insurance and other provident institutions which were not on a scientific plan. The Society attained its first recognition largely through calling the first International Congress of Actuaries. Since then through its members and its publications it has maintained a very success-

*Fellow, Casualty Actuarial Society.

ful struggle toward the improvement of the status of the various insurance institutions of Belgium.

The membership now consists of 26 Fellows (membres agrégés), 3 Associates (membres adhérents) and 20 Corresponding Members (membres correspondants). There are also 10 Contributing Members (membres donateurs). Fellows are Belgians elected only after passing a not very extensive examination on Social Economics (Social Insurance), Bookkeeping, Financial Operations, Theory of Probability and Life Contingencies. Election to Fellowship may be without examination by a three-quarters majority provided that at least half of the Fellows are present at the Meeting. The Secretary is M. L. François, 43, place de Jamblinne de Meux, Brussels, Belgium.

The Society has published the *Bulletin de l'Association des Actuaires Belges* from 1896 to date (33 numbers in all) which is devoted largely to insurance organizations of a semi-social insurance nature, although it contains extensive articles on such subjects as Interpolation and many reviews of actuarial literature of foreign countries. Toward the end of 1900 the members, finding that the Bulletin was of too high a standing to reach the public, started the *Bulletin de la Prévoyance*, quarterly numbers of which until 1914 were devoted to a more popular exposition of sound insurance principles as applicable to their insurance organizations.

SCANDINAVIAN ACTUARIAL SOCIETIES

BY

JAMES S. ELSTON*

The SVENSKA AKTUARIEFÖRENINGEN, founded in 1904, is composed of persons following the profession of actuary in Swedish insurance companies or occupying other positions connected with the technique of insurance. It now comprises about 85 members. The DANSKE AKTUARFORENING founded in 1901, includes about 50 members. The NORSKE AKTUARFORENING, founded in 1904, includes about 40 members. The FINLANDS AKTUARIEFÖRENING, founded in 1922, includes about 25 members. In 1904 an abortive effort

*Fellow, Casualty Actuarial Society.

was made toward the present joint publication of these societies which resulted in publication of Vol. I of *Aktuaren*. For the years 1914 to 1917 the *Svenska Aktuariieföreningens Tidskrift* was printed in four volumes. Since that time the three Scandinavian societies and the Finnish society (after its founding) have co-operated in publishing the *Skandinavisk Aktuarietidskrift*, which is thus the successor in both form and content of the previous publication. It is printed in four numbers (occasionally double numbers) each year, 1924 being the seventh year. Practically all the papers are in German, French or English, but most reviews of foreign literature, copies of actuarial examinations in the University of Copenhagen, Proceedings of the Meetings, etc., are in Danish. The papers are principally mathematical and of the highest standard. The most striking contributions to actuarial science are the numerous papers advancing the typical Scandinavian treatment of the higher mathematical theory of statistics, including Interpolation and Summation. The chief Editor is Dr. Reinh. Palmquist, *Skandinavisk Aktuarietidskrift*, Stockholm 16, Sweden.

OTHER ACTUARIAL SOCIETIES

BY

JAMES S. ELSTON*

Little information is available about various other Actuarial Societies. The ACTUARIAL SOCIETY OF AUSTRALASIA superseded the ACTUARIAL SOCIETY OF NEW SOUTH WALES about 1920. Papers presented at the monthly meetings from May to November are published in leaflet form. The INSTITUTO ARGENTINO DE ACTUARIOS was started about 1920 and has published *Anales*. The POLSKI INSTYTUT AKTUARJUSZY was apparently founded June 30, 1920 and has published a journal. No information is available about the ACTUARIAL SOCIETY OF JAPAN. The VEREENIGING VOOR DE VERZEKERINGSWETENSCHAP in Holland corresponds to the Deutscher verein für Versicherungs-Wissenschaft in Germany. Through 1919 it published seventeen volumes of the *Archief voor de verzekeringswetenschap* and since that time

*Fellow, Casualty Actuarial Society.

the *Versekeringsarchief*. The VEREENIGING VOOR LEVENSVERZEKERING has also until recently published *Jaarboekje*.

Several Actuarial Societies ceased to exist about the beginning of the World War. The MATHEMATISCH-STATISTISCHEN VEREINIGUNG DES ÖSTERREICHISCH-UNGARISCHEN VERBANDES DER PRIVATVERSICHERUNGS-ANSTALTEN had published *Mitteilungen* for several years. There had been a SOCIÉTÉ POUR L'ETUDE SCIENTIFIQUE DES QUESTIONS D'ASSURANCES organized at the end of 1908 in Russia. The ASSOCIAZIONE ITALIANA ATTUARI practically ceased to exist upon the establishment of the state monopoly of Life Insurance in Italy. It had published the *Bolletino* for several years.