

**TRANSACTIONS OF SOCIETY OF ACTUARIES  
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**THE FIRST UNITED STATES GOVERNMENT  
ACTUARY AND HIS SUCCESSORS**

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**T**HE diverse activities of the United States Government currently require the services of a considerable number of actuaries spread among some nine different departments and agencies. The growth in actuarial responsibilities has been concentrated in the past two decades, although specialized actuarial work began about 1917 with the inauguration of the United States Government Life Insurance program (for World War I veterans) and the Civil Service Retirement system. The major portion of the actuarial work for both of these programs, however, was done by outside actuaries as consultants or on advisory committees. For 36 years prior to 1917, the relatively small amount of actuarial work of the Federal Government was the responsibility of one individual, designated as the Government Actuary in the Department of the Treasury. This paper deals with the first Government Actuary, his duties, his successors, and the manner in which the position has developed, and includes as well a brief account of actuarial functions currently being performed throughout the Federal Government.

**THE FIRST GOVERNMENT ACTUARY**

On July 1, 1881, Ezekiel B. Elliott was appointed Government Actuary, a position established in the Department of the Treasury by the 1881 Appropriation Act. A newspaper item (shown in Appendix 1) at the time of his appointment not only praises his mathematical and scientific attainments but also mentions some of the specific actuarial problems involved—the management of the National Debt, problems involving advanced mathematical analysis, and actuarial problems in regard to tariffs, taxes, coinage, weights, and measures. The article outlines various problems under consideration—such as bringing railroad, telegraph, and insurance companies under direct Federal control—which “are likely to create in the near future extensive demands for actuarial service.”

As Government Actuary, Mr. Elliott was responsible for periodic reports on the values of foreign money and on the computed value of all interest-bearing Government bonds. Also in the various refunding operations his assignment was to calculate the effect of the various Treasury operations upon the over-all financial situation. Mr. Elliott has

also been given credit for Japan's adoption of the metric basis for its monetary system since he explained and advocated it to a visiting official delegation.

Mr. Elliott was born in 1823 in western New York State. He graduated from Hamilton College in 1844 and for a few years was connected with the development of telegraphy. In the early 1850's, he was employed by the New England Mutual Life Insurance Company, which was at that time initiating its operations utilizing scientific actuarial methods. Mr. Elliott collected a series of foreign life tables, presumably for developing premium rates, and constructed a complete life table for Prussia for 1839-41, giving a thorough description of his methodology (*Proceedings of the American Association for the Advancement of Science*, 1856). Shortly afterward, he developed the Massachusetts Life Table, 1855,<sup>1</sup> probably the most accurate of the early American tables, and pointed out that the famous Wigglesworth Table, prepared solely from death records from Massachusetts and New Hampshire in 1789, was of questionable value because of its methodology.

In 1860, Mr. Elliott prepared a pamphlet of instructions for local registrars in Massachusetts in regard to registration of vital statistics. At about the same time he presented actuarial papers to the American Association for the Advancement of Science on the construction of life tables from vital statistics data, and on a life table for blind persons, but unfortunately these were listed but not published.

During the Civil War, Mr. Elliott, as Actuary of the United States Sanitary Commission, dealt with medical and casualty statistics. Surprisingly, from a military security standpoint, in 1863 he presented a detailed paper on battle casualty statistics ("Military Statistics of the United States of America," *Proceedings of the Fifth International Statistical Congress* [Berlin, Prussia, 1863]).

Mr. Elliott is mentioned twice in the recently published *Diary of George Templeton Strong, the Civil War, 1860-65* (New York: Macmillan Co., 1952). His analytical work in a report on the demoralization of the volunteers at the First Battle of Bull Run is highly praised (p. 180). On the other hand, in referring to an incident of 1865 involving Mr. Elliott, Mr. Strong comments quite caustically (characteristic of the diary): "He has much talent for mathematics and a great faculty of working with entire concentration on abstract questions, but he is quite without com-

<sup>1</sup> This table, along with a complete description of the methodology, is presented in *Proceedings of the American Association for the Advancement of Science*, 1857, and also in *16th Registration Report, Massachusetts, 1857*.

mon sense."<sup>2</sup> This sweeping condemnation was based on Mr. Elliott's criticism of certain forms prepared to obtain medical history of the Civil War. He was quite perturbed because the list of diseases did not include puerperal fever despite the fact that according to foreign statistics this was a very important category!

After the Civil War, Mr. Elliott served in various parts of the Treasury Department, doing statistical work until his appointment as Government Actuary. At the same time he was very active in the American Association for the Advancement of Science, serving as a Vice-President in 1882. Beginning in 1868, he presented 35 papers to the Association (only two of which were published in the *Proceedings*, the others merely being listed). Only four of these papers (none published) were on "actuarial" subjects (longevity law for ships; a life table based on the 1870 census; errors and bias at the younger ages in the 1870 census; and adjustment of the Carlisle Table for tax purposes). The rest of the papers were on a wide variety of subjects—interest yields of government bonds; coinage, weights, and measures; standard time; electric lighting; and astronomy.

#### SUBSEQUENT GOVERNMENT ACTUARIES

Upon the death of Mr. Elliott in 1888, the position of Government Actuary was left unfilled until Mr. Joseph S. McCoy, former assistant to Mr. Elliott, was appointed in 1892.

Mr. McCoy received an engineering degree from Stevens Institute of Technology in 1885 and worked for two years with engineering firms. In 1887, he was appointed as a clerical assistant to Mr. Elliott. During his subsequent Government service, he obtained a law degree from Georgetown University.

Mr. McCoy performed a wide variety of duties during his service as Government Actuary. Primarily his functions were in connection with interest rates on Government securities and with estimates of probable revenues derivable from various taxes and tariffs, both in effect and under consideration. Mr. McCoy served as adviser to a number of international commissions negotiating tariff reciprocity treaties, including a mission to China in regard to indemnity for the Boxer Rebellion. From 1910 on, he was frequently loaned to the congressional committees dealing with tariffs and taxes and was noted for the remarkable accuracy of his estimates which were often made on the spot by use of an abacus. The value of his services was apparently so appreciated by Congress that, by an unusual

<sup>2</sup> One other evidence along these same general lines is in regard to the Massachusetts Life Table, 1855. This table was not subdivided by sex although Mr. Elliott recognized that, despite certain technical difficulties, this could have been done. Nonetheless, he used the table in a computation illustrating a widow's interest in a life estate.

procedure, his salary from 1924 on was fixed by law so long as he held the position, rather than through normal Civil Service classification methods. In 1926 a Board of Actuaries was established to report annually upon the operation of the Civil Service Retirement system and to make quinquennial valuations. The "Government Actuary" was designated as one of the three Board members.

Following the death of Mr. McCoy in January 1931, Aubrey S. McLeod was appointed Government Actuary and served in this capacity until June 1935 when he was appointed to another position. Mr. McLeod received an engineering degree from Massachusetts Institute of Technology in 1921 and an M.A. in economics and statistics from Harvard University in 1925. Until the time Mr. McLeod was appointed Government Actuary, his experience was primarily as a statistician, with emphasis on investment and business cycle statistics.

Mr. McLeod was succeeded by Russell R. Reagh, a graduate of the actuarial course at the University of Michigan in 1924, who had previously been employed in several Federal agencies. While Mr. Reagh was Government Actuary, the scope of the position was considerably changed, with more responsibility in actuarial fields and less in estimating tax and tariff revenues. Early in 1950, Mr. Reagh resigned to go into actuarial consulting work. Since then the position has not been permanently filled.

#### CURRENT DUTIES OF THE GOVERNMENT ACTUARY

At present, this position involves a wide variety of duties and responsibilities, although by no means with as broad authority as the similarly named position in Great Britain.<sup>3</sup> In addition to being on the Board of Actuaries of the Civil Service Retirement system, there is the similar duty on the Actuarial Advisory Committee with respect to the Railroad Retirement Account. The Secretary of the Treasury is authorized to name one of the three Committee members, and the Government Actuary has always served. This Committee has general authority to examine the actuarial reports and estimates of this program (in particular the triennial valuations) and to recommend any changes in methodology deemed necessary.

Further, the Uniformed Services Contingency Option Act of 1953 (which provides elective joint-and-survivor annuities for retired members of the uniformed forces) designates the Government Actuary as one of the three members of its Board of Actuaries.

The Government Actuary also performs actuarial services for the re-

<sup>3</sup> For an account of the development and functions of this position, see a Note published in *JIA* LXXX.

irement systems for the Foreign Service, District of Columbia school teachers, and District of Columbia policemen and firemen. In addition, he has responsibilities in the field of government financing and debt management, such as determining yield rates on securities and amortization.

Outside of the Government Actuary position, actuarial functions are performed in two places in the Department of the Treasury, both of them in the Internal Revenue Service. The Pension Trust Branch administers provisions of the Internal Revenue Code relating to pension and profit sharing plans established by employers for the benefit of their employees and to employer tax deductions for contributions thereunder. The Estate and Gift Tax Ruling Branch determines taxes and values life estates and remainder interests involving various life contingencies. The Government Actuary is called upon for consulting service to these two branches, as well as to other government agencies.

#### ACTUARIAL FUNCTIONS OF OTHER DEPARTMENTS

Especially in the past two decades, insurance and related activities of the Federal Government have greatly increased.<sup>4</sup> Accordingly, actuaries have been called into Government service, both as consultants and employees, at an increasing tempo. Dorrance C. Bronson in "The Actuary in Government Employment" (*RAIA XXIX*, 10) made an extensive analysis of the situation at the beginning of 1940. His detailed descriptions of actuarial activities in the various agencies are still, to a considerable extent, applicable.

Difficulties arise as to classification of individuals as "actuaries" since some who are not members of the Society of Actuaries occupy actuarial and semiactuarial positions. Here, all "permanent" positions in which individuals perform essentially responsible actuarial duties will be described (any "bias" tends toward inclusion of doubtful or borderline cases). Table 1 gives a distribution of these individuals by agency employing them and by Society affiliation, as of December 1953. The relatively few actuarial students actively pursuing the actuarial examinations but not yet occupying a responsible actuarial position are also listed. No account is taken of actuaries called into military service who are not doing strictly actuarial work although their duties may be such that their training is of value. Excluded also are four actuarial students in military service who in December 1953 were engaged (under supervision of the Fellow shown in the Department of Defense) in the first actuarial valuation of the military retirement system.

<sup>4</sup> For an excellent summary and analysis of these various activities see *Insurance and Related Operations of the Federal Government* (Chamber of Commerce of the United States, Washington, D.C., 1953).

At the beginning of 1940, Mr. Bronson reported 11 members of our two "life societies" in Government service. The present 14 members are not a very substantial gain. No individual in Government employment at present is a member of the Casualty Actuarial Society but not of the Society of Actuaries.

In the Department of Agriculture, actuarial work arises in connection with the Federal Crop Insurance Corporation. The nature of this type of

TABLE 1  
FEDERAL GOVERNMENT ACTUARIAL PERSONNEL, BY AGENCY AND BY AFFILIATION WITH SOCIETY OF ACTUARIES, DECEMBER, 1953

AGENCY	ACTUARIAL STAFF*					ACTUARIAL ASSISTANTS‡
	Fellows	Associates	Students†	Others‡	Total	
<b>Departments</b>						
Agriculture . . . . .	0	0	0	6	6	0
Defense . . . . .	1	1#	4#	0	6	0
Health, Education, and Welfare	2	2	1	1	6	4
Labor . . . . .	0	0	0	3	3	0
Treasury . . . . .	0	1	2	2	5	0
<b>Independent Establishments</b>						
Civil Service Commission . . . . .	0	0	0	1	1	0
Federal Housing Administration	1	0	0	1	2	0
Railroad Retirement Board . . . . .	0	2	0	0	2	1
Veterans Administration . . . . .	2	2	0	1	5	2
<b>Total . . . . .</b>	<b>6</b>	<b>8</b>	<b>7</b>	<b>15</b>	<b>36</b>	<b>7</b>

\* Includes only those occupying "permanent" positions of a responsible actuarial nature.

† Students listed in the 1953 *Year Book*.

‡ Experienced in their particular field.

§ Includes only students listed in the 1953 *Year Book* who are under supervision of a staff member (not included in previous columns).

# These individuals are in military service but are performing actuarial duties which are those of a position of a permanent nature.

insurance is, of course, such that a precise actuarial basis of charging premiums is difficult, if not impossible, to obtain.

The Department of Defense carries on continuing actuarial analyses in two different fields. In the Air Force, actuaries assist in determining procurement requirements for personnel and items of material, using calculations based on determined lifetimes. The Navy has been assigned the responsibility of the actuarial work in connection with the system of elective joint-and-survivor annuities for retired members, mentioned previously.

In the Department of Health, Education, and Welfare, the Social

Security Administration has actuarial functions in connection with the old-age and survivors insurance program. This primarily involves cost estimates and projections for that program and proposed modifications, and analysis of the actual operating experience. The National Office of Vital Statistics in the Public Health Service has the important assignment of preparing official life tables and making other demographic analyses.

The Department of Labor reviews the State unemployment insurance programs, over which it has indirect but rather effective control. An actuarial unit makes certain cost analyses in regard to the various State programs and in connection with Federal legislation on this subject.

The Federal Housing Administration insures various types of mortgage loans on residential properties. Actuarial duties are those customary to any insuring operation and include problems of reserves, dividends, and premium rates.

In the Railroad Retirement Board, actuarial functions in connection with the railroad retirement system are similar to those under the OASI program, and to a limited extent also arise in connection with the program providing unemployment and cash sickness benefits for railroad workers. Similarly, in the Civil Service Commission, there are actuarial responsibilities in connection with the Civil Service Retirement system.

The Veterans Administration administers the several life insurance programs for members of the armed forces and veterans of World Wars I and II and the Korean conflict. These programs bear great similarity to life insurance company operations and, accordingly, a group of actuaries are engaged therein.

Considerable actuarial work for the Federal Government is done by outside consultants. They serve on various actuarial advisory committees established by law (in connection with the railroad retirement, civil service retirement, and uniformed services joint-and-survivor option systems) and appointed by agencies (such as the Veterans Administration and the Social Security Administration). Outside consultants are also engaged for specific jobs—either on a single assignment basis (*e.g.*, for an over-all review of Federal employee retirement systems) or on a continuing basis (*e.g.*, as consulting actuary for the retirement systems of the Tennessee Valley Authority and the Board of Governors of the Federal Reserve Banks).

A certain amount of consulting work is also done by actuaries employed in Government service for agencies not having actuaries. This has been done for the Post Office Department (fraud cases against mail order insurance companies), Department of Justice (valuation of alien property

seized during the war—where life contingencies are involved), Public Housing Administration (regulations set up for retirement systems established by local housing authorities), agencies dealing with economic and technical aid to foreign countries (social insurance), congressional committees (actuarial and technical advice on legislation for various programs), and the Supreme Court (widow's benefits to existing pension plan).

## APPENDIX 1

EXCERPTS FROM THE *Washington Gazette*, JULY 3, 1881,  
RE "THE GOVERNMENT ACTUARY"

Under a law approved on the 3d of March 1881, Mr. E. B. Elliott has been appointed Actuary to the Government under direction of the Secretary of the Treasury. Although as an independent position especially provided for by law, (the office of Government Actuary dates only from the 1st instant), it has had a *de facto* existence for many years past. Mr. Elliott has been an officer of the Treasury Department since 1865, and almost from the first his special qualifications as a mathematician and a man of scientific attainments, together with his previous experience in actuarial and statistical work, have caused his services to be called for whenever there were questions of an actuarial character to be dealt with. Especially has this been the case in connection with the management of the national debt and the solution of problems bearing upon the comparative economy and convenience of the different methods of refunding and reducing the debt that from time to time have been under consideration. His assistance has also been sought in actuarial work arising in other executive departments and in committees of Congress; and although he was liable to be called upon for the performance of other classes of duties, his actual employment has tended, through the force of circumstances, to assume more and more of an actuarial character. Hence the creation of the office of Actuary to the Government may be regarded as the legal adoption of an office already existing, and as a distinct recognition of the value of the special work in which Mr. Elliott has been engaged. It will, however, have important practical advantages, chief of which is that of making the actuarial work continuous instead of intermittent and affording improved facilities for its systematic prosecution.

In general it may be said that the duties of the Actuary will consist in the investigation of questions, or the solution of problems, requiring advanced mathematical analysis, particularly when such questions arise in the consideration of contemplated measures, either legislative or administrative. The management of the national debt and the sinking fund with the relations of the debt to our banking system as affected by the reduction of the former and the growth of the latter, will no doubt furnish actuarial problems of an important character, as also will legislation, treaties, etc., affecting coinage, weights and measures, tariffs, internal revenue and many other subjects. Proposals to bring railroad,

telegraph and insurance companies under the direct control of national law and the discussions attendant thereon occur to us as among those which are likely to create in the near future extensive demands for actuarial service.

But the field within which the accomplished actuary may find scope for his energies is too wide to permit a detailed specification of his possible functions. The various departments of the General Government and the Governments of the various States possess vast and even increasing information upon which such an officer may draw, bring into due connection facts and figures which have heretofore only been separately presented, exhibiting their correlations, deducing the laws that underlie them and grouping them with reference to their bearings upon the practical questions requiring actuarial investigation that from time to time will arise.

The appointment of Mr. Elliott to the new position will give general satisfaction. Indeed, the office may be said to have been created with the expectation that he would, as a matter of course, be selected to fill it.

## DISCUSSION OF PRECEDING PAPER

J. B. MACLEAN:

Mr. Myers' paper furnishes some interesting and little known facts as to the employment of actuaries by the federal government of the United States. It may be of interest to note some points of contrast as between the United States and British governments in this respect.

In the United States, none of the four men who have held the position of Government Actuary has been a member of any of the recognized actuarial societies. Their names are unfamiliar or unknown to most of us. Only one of them, apparently, had any formal actuarial training. In Great Britain, the first Government Actuary, John Finlaison, was also the first President of the Institute of Actuaries, an office which he held for twelve years. Since the establishment of the Government Actuary's Department in Britain in 1917 all of the four men who have been Government Actuary have been Fellows of the Institute of Actuaries. Two of them have been its President.

A greater contrast appears in regard to the number of full-time qualified actuaries employed by the two governments at the present time. As shown by Table 1 of the paper, the United States government has, at present, fourteen such employees. The British government has forty-two. If Fellows only are considered, the numbers are six in the United States and thirty-six in Britain.

These figures indicate that the number of full-time qualified actuaries employed by the United States government is totally inadequate. It is certainly a remarkable and deplorable fact that the United States Department of Health, Education and Welfare, which includes the Social Security Administration—described by a former Commissioner as “the largest permanent insurance system in the world”—and the Veterans Administration, which administers servicemen's life insurance amounting to about \$44 billion, each employs only two Fellows and two Associates of the Society, a small fraction of the number employed by many of the companies.

From our point of view, as members of the actuarial profession, it is regrettable that the federal government offers so little inducement to men of high caliber to enter and remain in government service. The situation is very different in Great Britain where the Government Actuary is the head of an independent department of the government and where

the salaries paid compare favorably with those in the companies for men with comparable qualifications.

The numerous actuarial functions performed throughout the federal government, as described by Mr. Myers, and the tremendous importance of some of these functions to the national economy, obviously require a first-class, independent, well-paid and fully adequate actuarial service. The prospects of this, however, appear to be remote.

REINHARD A. HOHAUS:

Mr. Myers' interesting account of the history of the position of Government Actuary and of the part currently played by actuaries in the federal government is very timely. Under the present administration a great deal has been accomplished in the executive branch of the federal government to cut costs and to reorganize for more efficient operation. However, as emphasized by the Hoover Commission, much still remains to be done; this is indicated by the number of unenacted proposals, many of which are designed to improve procedures relating to financial legislation.

It is more than a matter of professional pride to express the opinion that among the measures likely to be conducive to greater economy would be to transfer the government actuary to a top level assignment with responsibility for the preparation of "price tags" on legislation involving life contingencies. Even a partial list of such legislation makes clear its importance in the national budget. This list includes all forms of Social Security benefits, retirement benefits for federal Civil Service employees, retirement benefits for the personnel of the armed forces, and veterans' pensions—to mention only a few.

The need for actuarial evaluations in the federal government was demonstrated only a short time ago in connection with the problems studied by the Committee on Retirement Policy for Federal Personnel (Kaplan Committee). This committee reviewed and recommended changes in the retirement benefits for both federal civilian employees and military personnel. A council of actuaries in federal employment appointed to assist the Kaplan Committee had on short order to accumulate data, make evaluations, and draw conclusions on basic issues. Despite the excellent work and the carefully considered recommendations of the Kaplan Committee, it is likely that the problems dealt with will require continuing study. It is a reasonable presumption that such studies can be more effectively and more economically carried out by a government actuary with a staff whose duties would encompass continuing survey of these problems.

It has long been my conviction that for maximum effectiveness it is

essential that the government actuary report directly to an administrator at the highest level of the federal government. It should be noted that in Great Britain the government actuary does report directly to the Chancellor of the Exchequer and it is this key minister who speaks for him in Parliament. In addition to performing various statutory duties in connection with the National Insurance System, the government actuary in Great Britain is also available to other government departments when they request actuarial advice. He is thus in a position to coordinate all actuarial work in the various agencies of the British government.

Because of the greater latitude which individual government departments and agencies have in our country, it might not be organizationally satisfactory for the government actuary to supervise all actuarial work in different departments and agencies of the federal government. However, to the extent that it is desirable for the government actuary to pass on the actuarial evaluations made in different departments and agencies, it is, of course, necessary that he operate at the highest level. Perhaps one way of enabling the government actuary to keep an eye on actuarial problems in various branches of the federal government would be to give him authority over actuarial work similar to that exercised over statistical work by the Office of Statistical Standards in the Bureau of the Budget.

HENRY H. JACKSON:

A footnote to history is usually a pious endeavor to rescue, for a little while, the name of a person or event from the oblivion that engulfs it. The first section of Mr. Myers' interesting paper rescues for the rest of us the name of Ezekiel B. Elliott, the first man to be designated as actuary by the United States government. For his piety in this endeavor we should all be grateful to Mr. Myers. It is to be remembered that the actuarial designation came before the idea of an actuary and the domain of his activities had attained at least a semblance of definiteness through the establishment on this continent of a Society of Actuaries. Mr. Myers does not suggest that Elliott set an example for social security by retiring at 65—in his case on account of death.

As a supplement to Mr. Myers' article, two additional footnotes to actuarial history may be amusing. As in Elliott's case, each relates to a man who flourished before the days of our Actuarial Society.

The first footnote is supplied, apparently quite unconsciously, by Marianne Moore, who as Pulitzer Prize winner is frequently referred to as the most eminent poetess now living in this country. She has just published in highly modern verse her translation of the *Fables of La Fontaine*. Oddly enough, she and, so far as I can ascertain, all of her

reviewers have failed to suggest that her translation was anticipated more than a hundred years ago by Elizur Wright.

Before he concerned himself with the evils of life insurance, Wright extended his antislavery reforms to include the reform of American taste by being the first to render into English verse all twelve books of the *Fables of La Fontaine*. His translation was published in two cumbersome volumes enlivened by truly charming illustrations from original French engravings in which the titles are still preserved in French. These tomes Wright peddled almost from door to door in America and in England.

I have taken some pains to compare the recent version with Wright's early one. The essential thing about La Fontaine's method is its simplicity and its directness. This would seem to be an appropriate method in writing a fable. Wright's translation is very direct and very simple. English poetry in the modern manner is highly indirect and exceedingly involved. Marianne Moore's translation is in the modern manner. I think Wright published a better book in 1841 than our Pulitzer Prize winner has published this year. Perhaps this merely indicates what I have long suspected, that old men had better confine their literary criticisms, particularly in the realm of poetry, to the type of thing they knew and enjoyed when they were young.

A much more important footnote to actuarial history was written by Maugham in the 1920's in a delightful essay entitled "The Portrait of a Gentleman." This sketch is included in Volume 2 (pages 155-160) of *The Complete Short Stories of W. Somerset Maugham* and is thus now readily available. (My own happy introduction to it came, through the courtesy of Mr. Lew, before it was so easily accessible.) Certainly all actuaries and all ardent admirers of the actuarial profession or of the noble game of poker should read it.

This "short story" is actually a book review. The book is *The Complete Poker Player* by John Blackbridge, "actuary and counsellor-at-law." The preface to Maugham's copy was dated 1879, but I am informed that the first edition, of which the copy in the Congressional Library may be the only one still extant, was published four years earlier. The book came almost miraculously into Maugham's hands in Seoul, Korea.

By happy quotations from this forgotten actuary's little book and by equally happy comments on its author, Maugham has created his portrait of a gentleman. It appears to be impossible now to learn anything more about the actuary, the counsellor-at-law, and the authority on poker. It is likewise unnecessary. Maugham's own words are sufficient: "Mr. John Blackbridge had personal dignity, rectitude, humor and common sense."

## ABRAHAM M. NIESSEN:

As an actuary associated with a federally-administered program, I was naturally attracted by the title of Mr. Myers' paper. The author deserves our thanks not only for bringing to our attention an interesting subject but also for presenting it in a truly enjoyable fashion. I believe that actuaries outside of the federal government should also find this paper a valuable addition to actuarial literature.

The description of actuarial functions in the several federal agencies is brief but reasonably complete. One might wonder why the actuaries servicing such huge programs as OASI, railroad retirement, civil service, and veterans administration are so few in number. A part of the answer lies in the classification methods applied to federal jobs. Quite often actuarial statistics and other necessary data are developed and maintained by organizational units which are not classified as actuarial; in the case of insurance companies a good part of this personnel would formally belong to the actuarial department. Thus, numberwise, the professional actuaries working for government agencies correspond to the top echelon of the usual actuarial department.

There undoubtedly is room for further expansion of actuarial activities within the federal government and for a substantial increase in actuarial personnel. Government actuaries could render valuable service in a number of fields in which their participation is at present either nonexistent or very limited. Besides, much could be done to improve actuarial services in fields which are now recognized as proper actuarial domain.

## KENNETH R. MACGREGOR:

In Canada, we have never had a separate Government Actuary's Department as in Great Britain; nor have we ever had a Government Actuary designated as such. Over the years, practically all of the actuarial work for the Dominion government, and for the various departments of the government, has been done by the chief actuary and actuarial staff of the Department of Insurance. The principal duties and responsibilities of the Department of Insurance are, of course, to supervise insurance companies. However, this arrangement for doing the actuarial work for the government has worked out very satisfactorily to all concerned. It is economical and the fact that both government work and company work come before our actuaries gives them a breadth of experience that is probably not available to actuaries anywhere else.

From the outset, the government was very anxious that it should have a staff of fully qualified actuaries in its service. The first Superintendent of Insurance, Professor J. B. Cherriman, who was appointed in 1875, had

previously been Professor of Mathematics and Natural Philosophy at the University of Toronto and it was natural that he should have attracted many actuarial students about him. Since then, there have always been several Fellows and several Associates in the Department and I am sure that names like A. K. Blackadar, Robert Henderson and A. D. Watson are well known to all of the older members of the Society here today. Incidentally, until relatively recent years, our actuaries were not given such impressive titles as Chief Actuary, or even Actuary; most of them in the older days held office simply as clerks. It remained for Mr. Watson to emerge from this rather humble status to become Actuary and, later, Chief Actuary.

Mr. MacLean has referred to the very satisfactory situation in Great Britain, where there is a very high level of actuarial talent, both in number and in quality, on the staff of the Government Actuary's Department. Perhaps in this connection I might register something of the nature of a complaint. For a good many years our actuarial branch has operated virtually as a training school producing actuaries for the companies. If it were not for the fact that our actuaries have been drained off nearly as fast as we could train them, I think that we might soon have emulated the position of our British counterpart. Having regard for the difficulties of the past, it is encouraging to be able to say that we have one new Fellow and two new Associates at this meeting, the number of Fellows and Associates on the staff of the Department now standing at fourteen.

DORRANCE C. BRONSON:

Mr. Myers' research into the early position in the federal government designated "Government Actuary" is very interesting. He brings us up to date on this position from its inception in 1881, and the newspaper article he quotes relates a type of assignment designated as "actuarial work" back even earlier, to, perhaps, 1865.

Coming up to the present time and the expansion of actuarial work in the government from the single position of earlier years, it is impressive that the growth in these assignments within the staff of the federal government itself has not increased much since I wrote a paper on the subject in 1940. There has been, however, as Mr. Myers points out, quite an expansion in the governmental use of outside actuaries, both from the consulting field, often on a compensated basis, and from the insurance field, more on an "advisory" basis.

I am sure Mr. Myers was not trying to give a comprehensive cataloguing of all the points at which the government has called on the actuarial profession, either from government actuarial personnel or from outside

actuaries. It may be of interest, however, to add a few beyond those that he mentions.

While Mr. Myers gives two assignments of actuarial work within the Department of Defense, another function which was quite important during the war and has continued, I believe, to a lesser degree thereafter, lies in the field of defense department contracts with companies having pension or benefit plans; the problem here is to appropriately allocate costs for those benefit plans—insured or otherwise—to the particular contract work undertaken for the government. Quite a few members of our Society have, at one time or another, been engaged in this work during a tour of duty with the Department of Defense.

A somewhat similar function is being performed by consulting actuaries for the AEC in connection with benefit and pension plans of its contractors.

Other assignments for the government in the actuarial field, with which I am familiar, have comprised work for the FDIC in connection with old insurance policies which that agency had taken over as part of the collateral of closed banks. Another is an assignment for the Public Housing Administration in connection with reviewing pension plans which each local housing authority has the right to establish under certain broad specifications and limitations promulgated by the PHA. In addition to the retirement plans Mr. Myers mentioned, consulting actuaries studied the benefit system of the Panama Canal Company and Canal Zone Government, the former being a wholly owned subsidiary of the Department of Defense. During the stringency of the wartime controls, consulting actuaries have been employed by the Wage and Salary Stabilization units in seeking technically appropriate provisions for curtailing pension and other benefit plans within reasonable limitations.

The expanding use by the federal government of outside actuaries—both consulting and insurance company—is an interesting development. It may be one reason for the actuarial nucleus on the government staff itself being considerably smaller than the actuarial nucleus in the British national governmental service. Another reason for this difference may lie in the fact that our insurance regulation is on a state basis and the states themselves employ many actuaries and technical personnel trained for that function.

One further point not mentioned in Mr. Myers' paper is the suggestion, coming from numerous quarters over the last decade, that, perhaps, the position heretofore designated as "Government Actuary" should not be located under the aegis of just one department, *i.e.*, the Department of the Treasury, where the position grew up and is now located (although un-

filled), but should be found in a nondepartmental agency closer to the executive. The Bureau of the Budget has been proposed as allowing, perhaps, a broader outlook on actuarial matters coming within government purview. As a matter of fact, an actuarial assignment was set up in the Bureau of the Budget—without, I believe, the formal designation of “Government Actuary”—to which Mr. Edward Sellers, a Fellow of the Society of Actuaries, was assigned until his untimely death, occurring only a very short time after taking over the position. As far as I know, no substitution for Mr. Sellers is now contemplated, although I understand that an informal committee composed of three actuaries designated by the Society has worked with a centralized governmental agency in this connection.

I am very glad Mr. Myers has brought the subject of government actuaries up again for the attention of our membership, as I think it is well to review this periodically, especially in these days of considerable debate on the extent of governmental functions.

(AUTHOR'S REVIEW OF DISCUSSION)

ROBERT J. MYERS

The several discussants have brought out a considerable number of points of interest in regard to this essentially historical paper. Both Mr. Maclean and Mr. Hohaus point out the advantages of the centralized actuarial service present in the British government, while at the same time recognizing that it is not very likely that this can be achieved in the United States. Undoubtedly, this parallels the situation of the egg, where the act of scrambling is quite possible but reversal is impossible. Both Mr. Hohaus and Mr. Bronson suggested that a top actuarial position should be established at the highest level of the Federal government, which is probably the only feasible course of action that could be taken in the direction of a centralized actuarial service.

Mr. Jackson has added two other bits of actuarial historical information. Now that Somerset Maugham's short stories are more readily available, we should all read about John Blackbridge, that early actuary who was so skilled at poker and moreover was such a complete gentleman. Mr. Niessen gives a very good reason why the number of actuaries in United States government agencies tends to be smaller than in insurance companies; of course, he does not mean to imply that there are anywhere near as many actuaries as there should be in Federal service. Mr. Bronson supplements the paper by pointing out several important actuarial assignments in the Federal government which have recently been performed by outside consulting actuaries. Mr. MacGregor very desirably adds to

the value of the paper by giving a brief account of the situation as to actuarial services within the Canadian government, which, interestingly enough, had established an actuarial position some five years before the United States government although many years elapsed before it was so designated.

One point that I would like to make to supplement my paper comes from a suggestion by Walter G. Bowerman. The first Fellow of either of the predecessors of our Society employed full time by the United States government was William Macfarlane who, beginning in December 1917, served for several years in connection with the life insurance program developed for veterans of World War I. Also, connected with this project as consultants and advisors were such eminent actuaries and insurance men as Arthur Hunter, Valentine Howell, Wendell P. Coler, and Ralph Lounsbury.