

**TRANSACTIONS OF SOCIETY OF ACTUARIES
1951 VOL. 3 NO. 5**

BOOK REVIEWS AND NOTICES

Employee Benefit Plans in Operation. By Jay V. Strong. The Bureau of National Affairs, Inc., Washington, 1950. Pp. 360.

This book will serve to give timely information and guidance to corporation executives in the planning of their pension and other employee benefits. The author is Vice-President of the Wyatt Company, consultant on pension plans on a self-administered basis. Throughout the book he has woven the pension views of many executives of corporations that have already installed pension plans. A list of the chapter headings gives an indication of the thoroughness with which the subject has been covered: Objectives and Values of Retirement Plans; Basic Provisions of Retirement Plans; Mediums for Financing Retirement Plans; Maximizing the Values of a Retirement Plan; Group Life Insurance; Temporary Disability Benefits; Hospitalization and Related Benefits; and Collective Bargaining on Welfare Programs.

Appendix A, prepared by Dorrance C. Bronson, gives a summary of the principal amendments made in 1950 to the Old Age and Survivors Provisions of the Social Security Act. Appendix B gives a survey of employee benefit plans based on information received from over 900 companies. The tables show the wide range of provisions that are available for meeting the needs of individual circumstances. The various mediums of funding are described in detail and the advantages of each pointed out. As the author says, "It is worth repeating that no categorical statement can be made as to which medium of financing would be the best for an employer, in general, to adopt."

As expressed in the foreword the executive who desires to have a sound employee benefit program should have his objectives generally in mind, should fix the amount which the business can afford to spend, and should obtain familiarity with current trends in the employee benefit field. He should obtain the best advice available but in the final analysis he is the one who must make the decisions as to the program considered as best suited to his business.

The author expressed special thanks to Messrs. Dorrance C. Bronson and W. Rulon Williamson for reviewing the entire manuscript and making helpful recommendations in its preparation.

HARLEY WESTON DEWEY

Life Insurance Mathematics. By Robert E. Larson and Erwin A. Gaumnitz. John Wiley & Sons, Inc., New York, 1951. Pp. 191.

This book should serve well as a textbook for college courses in elementary life insurance mathematics. It fills the particular need in its field for an up-to-date text employing the new International Actuarial Notation, current mortality and interest bases, and the new methods of the Standard Valuation and Non-Forfeiture Laws.

The writer of a book which provides an introduction to life insurance mathematics encounters substantial difficulties. It is difficult to develop the foundations of the subject clearly and rigorously. It is also difficult to organize and interrelate the wealth of theoretical and practical material.

These difficulties are especially apparent in Chapter 1 which deals with the mortality table. There are at least three interpretations of the mortality table: the probability interpretation, the survivorship group interpretation, and the stationary population interpretation. An elementary book could get along well with just the survivorship group interpretation, although it is of interest to bring out the parallel probability interpretation. The stationary population interpretation has no place in a first book and yet several books, including the one under review, define l_x as "the number of persons who, according to the mortality table, attain precise age x in any year of time," which is a stationary population concept. The reviewer would prefer to start with the rates of mortality q_x as the basic concept and to build up the survivorship group definitions for l_x and d_x therefrom. Instead, Chapter 1 mainly stresses the probability interpretation of the mortality table and presents the ideas in a reverse order to that which the reviewer would choose. Among the other features of Chapter 1 there should be noted the good discussions of notation and of identities.

The next two chapters present the elements of the theory of interest and of the theory of life annuities. The book determines the present value of a whole life annuity by "the mutual fund method" (a survivorship group idea) and also by a "discount method" which is related to the probability interpretation of the mortality table. The underlying assumptions and basic definitions could be made somewhat more explicit than in the treatment here. The term net single premium is also introduced here and might well be omitted until a general discussion of premiums has been given. In addition to the standard annuity formulas, a very brief treatment of a general annuity formula is given.

Chapter 4, entitled Life Insurance, presents good background discussions of this topic, in particular in regard to terminology. It covers the determination of present values of insurance benefits and the calculation of net premiums. In the reviewer's opinion the order of the theory should be: present values of insurance benefits; statement of the fundamental equation, present value of net premiums = present value of benefits; determination of net premiums including net single premiums. The authors have followed this order fairly closely, the main exception being the earlier introduction of the net single premium. The reviewer also suggests that the verbal interpretation of such relations as $A_{\overline{x}:\overline{n}|} = v \ddot{a}_{\overline{x}:\overline{n}|} - a_{\overline{x}:\overline{n}|}$ might be made easier by the use of line diagrams, and that the general insurance formula would merit fuller discussion and could be extended to cover endowment forms.

The next chapter, on Net Level Reserves, stresses general principles and leaves formulas for the reserves on particular forms of insurance to problems. The relationship of retrospective and prospective reserves is well brought out although its discussion is relegated to a footnote. There is no discussion of the

special forms of the reserves for ordinary life and endowment policies except in problems; and, except for Fackler's formula, there is little discussion of the reserve equations and of premium analyses. This last topic is of considerable interest. It might also be of value to have a reference to Appendix 1 of the book which tabulates and graphs the level premium reserves for some typical policies.

The Advanced Topics treated in Chapter 6 include annuities payable fractionally, varying insurances and varying annuities. For these last two topics, the use of line diagrams, the retention of the coefficients (representing payments) and dropping of the C 's or D 's would save considerable algebraic labor, somewhat as the method of detached coefficients does in the manipulation of polynomials.

Chapter 7 presents an extensive discussion of modified reserves. However, the reviewer feels a more complete discussion of a general modification method should have been given, including statements of prospective and retrospective reserve formulas. The Commissioners Reserve Valuation Method is discussed, and in addition quite a number of the older standards. In the discussion of the full preliminary term method, the interpretation of β_x as a net level premium is not given. In regard to the treatment of the Illinois standard, the reviewer takes exception to the authors' definite statement that policies are divided according as their net *level* premiums compare with net *level* twenty-pay life premiums. In preparing an actuarial note on criteria for preliminary term methods (*RAIA XXXII*, 392; discussion *RAIA XXXIII*, 122) the reviewer found considerable authority for the use of the renewal full preliminary term net premiums rather than of the net level premiums for this comparison and, in fact, it is the former usage which has become crystallized in the Standard Valuation Law.

Chapter 8 covers surrender values, including a discussion of minimum cash values under the Standard Non-Forfeiture Law. Chapter 9 presents a brief but informative discussion of gross premiums.

The book contains four appendixes, the first of which has already been mentioned. The second appendix compares natural and net level premiums. It contains a lengthy proof to show that, for most of the mortality table range,

$$\frac{\sum_{t=0}^{\omega-x} c_{x+t}}{\omega-x+1} > \frac{\sum_{t=0}^{\omega-x} c_{x+t} \cdot {}_tE_x}{\sum_{t=0}^{\omega-x} {}_tE_x} = P_x.$$

Simple consideration of the unweighted and weighted average of the c 's should give sufficient justification of this inequality. Appendix 3 contains a considerable number of functions based on the CSO Table and $2\frac{1}{2}\%$ interest, and also basic functions for the 1937 Standard Annuity Table. Appendix 4 gives answers to the problem sets. The book concludes with an alphabetical index and an index to symbols.

Many students will like this text book. Among its features that will appeal to

them are the vigorous and informal style, the good motivation of the subject material from time to time, the interesting illustrations based on tables in current use, and the many "worked-out" examples with complete exposition of method. Also, there is an ample supply of direct problems. It might be of value, however, to supplement the problem sets by some more difficult problems that would challenge the better students.

The book seems to have been prepared with a minimum of typographical errors, which, in view of the special difficulties of the notation, is a real achievement. The only error noted so far by the reviewer is the omission of P in the left member of the inequality in line 4 of p. 123.

The authors are to be congratulated on preparing a book which will be useful and valuable to many persons.

CECIL JAMES NESBITT

Proposal for a General Pension Insurance in Sweden. A survey of investigations made by the Pension Committee, 1950. Published by the Swedish Government, Stockholm, 1951. Pp. 28.

This publication, in English, outlines a proposal for supplementation of the small flat pension now effective. The scheme—save for dealing with the current beneficiaries—is to be practically universal, varied by relative living standards, adjusted for changes in general living standards, thorough vesting as to benefits, unit basis, avoidance of large reserve. This plunges them into the impasse of our 1939 legislation—"little pay, little go"—tries to commit posterity for performances we are unable to agree to make now in this generation. The plan is compulsory, basing roughly on half-pay base, up to maximum of 30,000 crowns, men's age 67, women's age 63, premiums ceasing at 65 and 61, respectively. Taxes are to rise from 1.5% at start to 7% in 1977. Employers are to provide supplementation at the same rate—benefits not to be localized. Windfalls beyond the early "earned unit" to be allotted in the transitional period, leaving no benefit to existing aged, and padding on all other benefits till time for the entire period of contributions has passed for today's youth. The first payment is set in 1955. It also deals with survivors and disability, and sets forth a growth in benefits to nine times the starting load. Like most "social" plans, it seems intent on bargains to all early comers, digging in on a plan not altogether wise, shifting more responsibility to Government, and reducing the range of individual employers to deal with their own plans. It is in direct contrast to the general movement from deferred benefits to current benefits, but in line with more Governmental interventionism.

WILLIAM RULON WILLIAMSON

Social Insurance in Britain. By Charles E. Clarke. Cambridge University Press, Cambridge England, 1950. Pp. 146.

"This volume forms part of a series of text-books published under the authority of the Institute of Actuaries and the Faculty of Actuaries and is designed to meet the needs of students preparing for the actuarial examinations."

Written by a member of the staff of the Government Actuary, introduced by a quotation from Sir George Maddex, K.B.E., as to the responsibility placed upon the actuary for playing his part in advising the administration and the Government, this compact little book is one of the most instructive in recent years as to the compulsory Government programs using the taxing power for the transfer of income.

Its seven chapters deal with "The Origins and Development of British Social Insurance," "Some Basic Principles," "Social Security," "National Insurance Scheme" (three chapters) and "National Insurance—Industrial Injuries—Scheme." While it refers to *Medical Care and Rehabilitation Services and Children's Allowances*, they are not, apparently, considered as "actuarial responsibilities." The Appendixes carry well-organized tabular displays and illustrative statistics.

"The idea that the more prosperous members of a community should make provision, either individually or jointly, for the aid of their widows, orphans and poorer brethren, dates from the earliest times." This is the opening sentence of Chapter 1. From this intentional transfer of funds from the "haves" to the "have nots" evolves the universal social security system, where all the citizens should be subsidized by employers and the exchequer. In the first year of the enlarged system—1948—the citizens (employees) knowingly contribute about 40% of the cost for that year for the seven "insurances."

The estimate for 1978 shows this dropped to 24%. (When we narrow down the over-all contribution toward old age and match it against the prospective benefits to the current aged claimants, the known contribution seems well under 5% of the benefits.) The transfer involved in rationalizing subsidies to the poor over into subsidies for all the citizens has required both Marx and Lord Keynes. It seems possible that one of the contributing factors in the British boom in alcoholic beverages, tobacco and gambling to a figure as large as the labeled expenditure for food, stems from the underestimating in personal budgets of the claim of basic insurance protection—a major inflationary influence on both sides of the Atlantic. Probably the British, too, in the continued shortage of other goods, have traded on the "Social Security bargain" to sell more Ordinary insurance, as with us.

In unemployment insurance the actuary—as with us—is given short shrift. Although the Keynesian full employment thesis would seem to argue otherwise, the unemployment estimated is based on the assumption that, "on average, 8½% of employed persons will be out of work at any time. This notional basis has been adopted on the instruction of the Government." We have many "notional bases" too!

In general these estimates are developed for the purpose of setting total contributions, including not only the minor item employee's contribution but also employer's contribution and the exchequer fundamental contribution. There is also a further exchequer balancing contribution or balancing item, allotted to the Exchequer, which in 30 years is expected to grow to some 10 times its current magnitude. This largely arises from determining contribution on the as-

sumption of interest accumulation, and then carefully avoiding the reserve accumulation which would provide the interest. These two conflicting attitudes have also been duplicated here.

As was the case in reading the PEP report of 1937, "The British Social Services," and later the Beveridge Report of 1942 (owing so much to PEP), it takes continuous intellectual effort to hold the mind to the task of going through the complexities, to hold the emotions in leash, and to suspend judgment until the survey is completed. Britain is not America, nor are Governmental projects always as indigenous as they seem.

The differences of the historical antecedents of the two nations—their ancient feudalism versus our pioneering—have always given us different roads to travel to the bureaucracies of today, affected by two wars we have shared. The halfway house they have reached is not quite the same as the one we have reached.

The similarities of outlook in social insurance in the two countries involve:

- a) The talk of floors of protection.
- b) The unconcern about the increasing number of the aged.
- c) The barring of those who do not contribute by the rule.
- d) The cumulative quality of interventionism.
- e) The "notional" rather than "actuarial" attitude toward unemployment insurance.
- f) The political expediency of accepting welfare legislation.
- g) The Anglo-Saxon hope that "somehow good will be the final goal of ill."
- h) The tendency to treat the *partial contribution toward* as though it were the *premium for*.
- i) The inflationary quality of understating the strain on income for these benefits and exaggerating the extent of the funds free for spending.
- j) The continued delay in both countries in advancing to the point of direct summation of the impact of social security spending against the current income of the citizen.
- k) The on-the-defensive attitude of the actuaries of both countries toward Government expansionism.

The differences in the Social Security structure show:

- a) The almost flat benefits of Britain—the 26s. base—vs. our current range from \$20 to \$80, and constant talk of more.
- b) This addition of more trivial episodes—sickness and unemployment of only a few days given benefits—to the catastrophic situation of "old age unemployment" in Britain, and the addition there of catastrophic extended sickness and unemployment benefits beyond the serious periods of less than six months, commonly the maximum in the United States.
- c) Britain's children's allowances after the first child, reducing the need for survivors insurance benefits.
- d) Their smaller recognition of changing mortality, family size, more of a snap-shot approach.
- e) The 10-year waiting period for age benefits vs. our 1½ years, at least one higher hurdle there.
- f) The further centralization there, against our *state* unemployment and temporary disability handling.
- g) Their greater centralization and coordination.

There are further certain apparent differences between the two countries, though the rapid change in make-up in our own may raise some doubts as to the permanency of the differences:

- a) Their delay in age of marriage, probably meaning a slightly greater spacing between the generations.
- b) Unemployment insurance, with the heavy claims there before we got started, seeming to leave them with the "burned child" caution against underestimating unemployment possibilities—while our experience, "the sheltered period," means the tendency to undue liberalization.
- c) A suggestion of the persistence of an apprenticeship period there, with the lower contributions below age 18.
- d) The consideration, there, of possible equity in contribution as between men and women—not much discussed here.
- e) Their children's allowances only about 20% of the basic male adult benefit, against our $\frac{2}{3}$ and $\frac{1}{2}$ the primary benefit.
- f) Their permissive staying out of the system for those with lowest wages, victims of the flat contribution rate.
- g) No suggestion there as to the serious potential inaccuracies of census data, nor evidence of misstatements of age such as has appeared here in the censuses of 1940 and 1950.
- h) The somewhat greater present status of the Actuary there, consequent upon the word "insurance," a word scrupulously avoided here till the rulings of constitutionality had been secured.
- i) Different techniques in demographic approach in the two countries and different proportions of the aged, and of crowding of the population.

This is a sober and important reference work for us in the United States. In its quiet outline and complexities it helps us to see nearly a half-century of increasing regulation and socialization. As partners in the free world we must understand each other.

WILLIAM RULON WILLIAMSON

OTHER RECENT PUBLICATIONS

MATHEMATICAL, STATISTICAL, AND ACTUARIAL TABLES, TEXTBOOKS, ETC.

Camp, Kingsland. *The Whittaker-Henderson Graduation Processes*. Published by the author, New York, 1950. Pp. 53.

This manual has been prepared to present practical working methods to follow in applying the Whittaker-Henderson graduation formulas A and B, which the author considers to be "far and away the best and most flexible" graduation processes. In addition to giving detailed examples of the methods of applying the processes, the manual restates the theory underlying the formulas.

OTHER ACTUARIAL AND INSURANCE PUBLICATIONS

Barker, John. *The First Hundred Years*. George H. Ellis Co., Inc., Boston, 1951. Pp. 53.

Mr. Barker has written a very interesting booklet chronicling many incidents in the progress of the Berkshire Life Insurance Co. of Pittsfield, Mass., during its first hundred years. The book is illustrated by a well known artist, Virginia Grilley, a native of New

England, who has caught the spirit of New England in her illustrations. In addition, the President of the Company, Mr. Harrison L. Amber, has contributed an article on the present and the future of the life insurance industry.

Credit Communal de Belgique (Edited by). *Tables d'Intérêts et d'Annuités*. 1950. Pp. 163.

This is a set of interest and annuity certain tables published on the occasion of the ninetieth anniversary of the organization of the Credit Communal de Belgique.

The tables include the amount of *one*, present value of *one*, amount of *one* per year, present value of *one* per year, annuity purchased by *one* and tables of conversion factors for payments made more frequently than annually.

The tables cover a period from one to sixty years. There are 121 rates of interest involved, proceeding by .05% intervals from 2.00% to 8.00%.

Institute of Life Insurance (Prepared and Published by). *1950 Life Insurance Fact Book*. New York, 1950. Pp. 96.

As in previous years the 1950 Life Insurance Fact Book (fifth edition) has been produced to provide a convenient reference source for basic statistical data about the life insurance business. It is similar in scope to previous Fact Books. Most of the data are complete through 1949 although some of the 1949 data are preliminary. Any changes in figures for back years from those shown in previous Fact Books have been made because more accurate information has been developed.

Jackson, Henry H. *Fragments*. Granite City Press, Inc., Barre, Vt., 1951. Pp. 304.

This is a delightful collection of extracts from articles, speeches and papers prepared and presented by Henry H. Jackson during his career as a distinguished actuary serving both his Company (National Life of Vermont) and the actuarial profession. The life insurance industry is indebted to him for his many fine contributions on many and various subjects. His interest in life insurance ranges from pure actuarial theory to underwriting, management and education. Included in the book are, as its name implies, extracts covering this wide range of activities and interests.

Jaqua, A. R. *Basic Life Insurance*. The Gregg Publishing Co., New York, 1951. Pp. 371.

The purpose of this book is to set down in a simple fashion the fundamentals of life insurance in such a way that anyone can understand them. It is well written and covers such subjects as the history and growth of life insurance, construction of mortality tables, level premium method, the policy, nonforfeiture values, National Service Life Insurance, needs for insurance and how such needs may be supplied by various types of life insurance. The author of the book is well known in the insurance publication field and is presently connected with a prominent university in Texas.

McCahan, David (Edited by). *Life Insurance Trends at Mid-Century*. University of Pennsylvania Press, Philadelphia, 1950. Pp. 190.

Dr. McCahan has collected and edited a series of lectures given by well known authorities in the life insurance field at meetings of the S. S. Huebner Foundation for Insurance Education at the University of Pennsylvania. It is intended to provide information for teachers in the field of the social sciences. Each of the lecturers brings to the book up-to-date information on the particular phase of life insurance activity to which he has applied himself.

PENSION FUNDS AND SOCIAL INSURANCE

Annual Report on the Labor Force, 1950. U.S. Department of Commerce, Bureau of the Census, 1951. Series P50, No. 31.

These reports, in Series P50, of which this, for the full year 1950, is No. 31, come out periodically, dealing with employment, unemployment, those not in labor force, the situation as to hours of work, by sex, age-grouping, occupation, veteran's status, and many other classifications. Based on a continuing sample study, but dealing with the population as a whole, this is an excellent control on the type of reports from Employment Security, dealing with claims and duration of unemployment. A major need in this census, because of the absence of enough classified information on the employment relationships of the older persons, is that the grouping at the lower ages, in small age-groups, should be more subdivided at ages 60 and above—60-64, 65-69, 70-74, and 75 and over. The Conference on Aging showed a great paucity of dependable data. A correction in this report should be made promptly to correct the situation. This, as will be common in tremendous numbers of reports, will be affected by the shift in reporting of age in the 1950 census, worsening the situation which had earlier shown up in the 1940 census—the migration across from one age group into another.

The Canadian Life Insurance Officers Association. *Life Insurance—A Canadian Handbook.* The Canadian Life Insurance Officers Association, Toronto, 1951. Pp. 79.

This is a revised and enlarged edition of a booklet bearing the same title which was originally published in 1945 by the Macmillan Company of Canada Limited (noted in *TASA* XLVI, 187 and *RAIA* XXXIV, 145). The handbook is based on the second edition of the *Handbook of Life Insurance* written by R. Wilfred Kelsey and Arthur C. Daniels of New York, and published by the Institute of Life Insurance in the United States in 1949. With the permission of the authors and the Institute, it was changed to the minor extent necessary to reflect forms and practices in Canada and has been widely circulated to the office and field staffs of the companies.

Greville, Thomas N. E. and Carlson, Gustav A. *Estimated Average Length of Life in the Death Registration States.* Vital Statistics—Special Reports—Selected Studies. Federal Security Agency, Public Health Service, National Office of Vital Statistics. Volume 33, Number 9, 1951. Pp. 5.

This slender paper is a remarkable illustration of the computation "average length of life" for the death-registration states, 1900-1948, with graph and table. It brings out the artificiality of the concept of the expectation of life at birth. By showing the variation after the apparent results of a year's mortality—there are the extremes of under 40 years in 1918, up to nearly 70 toward the end of the '40s. Thus the bad "flu" year of 1921 shows a longer "expectation" than the next five years. The variation between white and non-white, between male and female, is shown for each year. A moment's thought brings out the limitations of the system, the incompleteness of reporting, inaccuracies and inconsistencies in the reports of age, sex and race.

In the careful explanation as to "Principles of Estimation," the basis of the interpolation, the interpolation procedure, the method of estimating missing data for base-periods, the student can better learn to recognize the limitations affecting such reports, and the basic incorrectness in the idea that the year-by-year death rates of a wide variety of persons of various attained ages can outline the future lifetime of a child born in such a year.

Students can gain insight from reading the report. The release of preliminary census

data in early 1951 seems to call for a correction of the later years to fit in with, and be corrected by, a new vagary of age-reporting.

Spiegelman, Mortimer. *Health Progress in the United States*. A Survey of Recent Trends in Longevity. American Enterprise Association, Inc. New York, 1950. Pp. 28.

Mr. Spiegelman uses the index, "Expectation of Life at Birth" by sex in various countries, for specified periods, matches it with the crude death rates in selected countries between 1931 and 1949. He deals with white males and white females for each state in the United States—and for all—and takes "expectation" not alone at birth but at 20, 40, and 65. He shows life table relationships for a century of age, as of 1900 and 1948. He deals with selected causes of death.

When he says that "we find that less than 1 in 10 of the babies now born will eventually die of some acute disease," he is in excellent company, but he is a little careless on stating the limitations that should hedge his statement. The 1918 experience casts doubt upon such definiteness, and such popularizations will really inform and moderately mislead the casual reader.

The interest in the report is sustained and, since it appeared, the 1950 Census Return points out again how undependable the age data are that enter into these indices. The Industrial mortality of his own company is doubtless more consistent than the vital statistics from the population and state death records.

1950 Census of Population. Preliminary Reports Series PC-7, No. 1. U.S. Department of Commerce, Bureau of the Census, Washington, 1951. Pp. 9.

This tiny report, carefully stamped "Preliminary," throws another bomb-shell into our long-nourished complacency as to "guesstimates." In comparison with the U.S. Census projections, made about 1945 (published 1947) running many projections through to 1975 at five-year intervals, the 1950 Census seems to be wide of the mark. It seems to be 2% below on the whole population, 8% low on the aged of 65 and over, and 20% to 30% low on the children under 5. There is a large excess of non-white women from 65 to 70 and a deficiency of them above 75 over what we had been led to expect. Apparently a nation that could make mockery of the rules of prohibition of liquor can be equally casual as to the reporting of ages—and is commended for the casualness in the press! This preliminary census is from a sample of only .1% of the whole population, with limitations on dependability because of the method. But the most important factor is that we have made free and almost free benefits available on an age basis. We have administered much of this area with a sloppy sentimentality—so having sowed the wind, we can expect to reap the whirlwind. What is so serious is that we have been using such data as though they were dependable, and so far we seem to have greatly invalidated the death rates at most advanced ages, which enter into our mortality tables. This report is of value—way beyond its size. Reading it cynically is whole-heartedly recommended. It is difficult to plot normal temperatures from a fever-chart—and that is all we have had to go by, for many years. We have heavy migration, war, work changes, earlier marriage and child-bearing—shortening the space between the generations—and Government interventionism. The crude tools for measurement cannot be relied upon under such conditions.

Health Insurance Provided by Insurance Companies. A Report Submitted in Behalf of the Insurance Business to the Sub-Committee on Health of the Senate Committee on Labor and Public Welfare, pursuant to S. Res. 273 of the 81st Congress, 1951. Pp. 140.

As against the *Medical Care for Americans of the Annals*, with its assumptions of a Governmental mission in taking away personal responsibility from the American citizen for one item in his personal budget, this processed volume serves as a declaration of independence of the insurance business from the encroachment of Federal bureaucracy. In a sense, it brings out the smallness of the current problem—the radical changes over five years in the service by the insurance companies—the current experimental situation in both individual and mass protection. In its discussion of insurance as a principle, and in its sense of insurance as a servant rather than a master, this institutional book of limited edition is unique as contrasting with the spate of social insurance doctrine. The book ends by stressing the potential value of the *insurance* value of a business. As an expansion of the work of the Health Insurance Council, this is a significant beginning.

International Survey of Social Security. International Labour Office. Geneva, 1950. Pp. 241.

This report is subtitled "Comparative Analysis and Summary of National Laws." It is a thoroughgoing survey of the contingencies covered, listed on the cover in nine circles: maternity; child maintenance; medical care; community health; incapacity for work; unemployment; old age; funeral; survivor's pensions. It is in two parts, the first the "comparative analysis of national laws," the second, the "summary of national laws." In each part, the chapters deal successively with the scope of social security, definition of contingencies and provision of benefits, the organization and financial provisions.

Following the United States through both parts of the book, which was apparently completed before the Amendments of 1950 had become law, and then reading the three-page corrections necessitated by the law, is a thoroughly instructive performance. Physician's diagnostic charts are usually kept from the patient. These charts have great interest for us in showing us fevered patients that our fever, instead of subsiding, is planned to get much worse. They show that pensions ranging up to 66 $\frac{2}{3}$ % of average earnings can be listed, and that survivors benefits exceeding 80% of average wage will frequently be held back to that level. The floors of protection are both high and uneven.

A summary of this book would be wisely inserted in the panel notes for the actuarial students. Such a report makes the liberalizations, and greater comprehensiveness of the Administration's insistent blue-print, standard copy.

Medical Care for Americans. *The Annals of the American Academy of Political and Social Science*, 1951. Philadelphia. Pp. 200.

This symposium, under the leadership and editorship of two Harvard Public Health Professors, is conspicuous for the following reasons:

1. The considerable number of Federal Security Agency contributors.
2. The absence of any contribution from the voluntary insurance field—either Blue Cross-Blue Shield or the insurance companies—though Labor's representation may be said to include this.
3. The large number of hospital beds required for the truly catastrophic personal situation—and its suggestion that this area requires more care.
4. The complete absence of any suitable consideration of the weaknesses of Government in the insurance field—or for that matter any concern as to the infiltration of socialism.
5. The presence of Frank Dickinson as a lone representative of the A.M.A.—and that unofficially.

6. The hopefulness of rehabilitation in returning men to work—including the conservation of health through reducing the magnitude of the catastrophic loss of human function.
7. The absence of "Social Budgeting" as a limited, and important, approach to finance, and the continued blinking of the norm of expecting personal recognition of this element in the budget.
8. The inclusion of hardly a hint that the insurance business might speak for itself—the subject being covered only by a Government or research group quite alien to the field of insurance budgeting.

Social Budgeting for Medical Care could mean—as it does mean in other fields—that the catastrophic is allocated to the field of taxation and accepted by the taxpayer as an additional burden upon his income. The windup of the book considers the extension of socialization here in America to a global Point Four program.

New York State Advisory Council, on Placement and Unemployment Insurance. *Report for the Year 1950*. New York, 1951. Pp. 27.

The growing pains of the Advisory Council in the Empire State on Unemployment Insurance are shown by the loss of all but one employer member, and the inability to agree, even within this rump organization, on the recommendations. They do suggest going to one life, collecting an administrative tax from those covered by the state plan but ineligible for the Federal taxation, legal representation for claimants in court, the setting up of a special fund, dependents' allowances, termination of liability under non-employment conditions, and the payment of a stiff interest on delinquent contributions. Operations show high costs on small employers and very high unemployment for good times like these.

This, being a long-functioning group, has had a certain distinction among advisory councils. It has not developed yet a satisfactory philosophy, or even a satisfactory *modus vivendi*. Too many determinations have been made by pressure groups and bureaucrats. There has been little strain on these systems. It lies ahead.

Social Security Administration, 1950. Annual Report of the Federal Security Agency. United States Government Printing Office. Washington, 1951. Pp. 88.

This report wavers between exuberance over the ease with which the Administration marshalled the 1950 Amendments through the Advisory Council of 1948, the House Ways and Means Committee of 1949, and the Senate Finance Committee and Conference Committee in 1950, and expressions of regret for the small advance which has taken place, measured against the increases recommended. It is replete with the sense of the Keynesian mission. The Road Ahead—the same road viewed by John Flynn with perturbation—is greeted happily by the Social Security Administration.

The growth of Assistance and OASI is shown from 1936 to 1950, in a graph, along with the jagged upward progress of unemployment compensation outlays. The triple progress stops in the graphs at mid-1950, and so skips some radical changes since then. But the progress is something at which to marvel, as is. Other noteworthy indications in the pamphlet are:

1. The international spread of the social insurance theories, both in Point Four countries and to visiting Fellowship holders.
2. The plan, in liberalization, to return to the increment.
3. The continued competition between Federally-subsidized assistance and "insurance as a right."

4. Disability benefit expansion, Federally sponsored, both temporary and permanent.
5. More medical care.

As of yore, there is no intention to change the almost free aspect for new beneficiaries. There continues to be no elaboration of the individual status, and hardly a recognition of the mares-nests of trouble just ahead in nonprofit, domestic, farm and self-employed circles. The use of "self-supporting" as a term for this system persists. There is a comprehensive discussion of Assistance (to be bigger and better yet), of Children (they cost so little and command so many words) and of Credit Unions (apparently the sole thrift-facility for the erstwhile forgotten man).

Somervell, D. C. *British Politics since 1900*. Andrew Dakers Limited, London. Pp. 263.

The author says that he has written a history of party politics, "of the rising and falling of governments and the ups and downs of party political opinion in the country, using only such parts of general history as were necessary for the elucidation of my theme."

Since these last 50 years mark the fall of the liberals and the emergence of labor—or socialism—this laconic volume, in passing, naturally touches on Churchill, who boasts of having "put the law of averages to the service of humanity," of the Webbs, who disapproved of the contributory system, of Lloyd George and MacDonald, of Stanley Baldwin, of Beveridge and of Socialized Medicine. He shows the absurdity of Social Insurance with its tripartite finance, when all do all, and need better to know the reckoning.

It shows the disintegration of Empire, the coalitions, the gospel of less work for more money, the unemployment doles, and the enigma of 1950 as to where we are and how we got there, somewhat illuminated. There is the specific suggestion of getting Churchill back into power.

It seems to be an honest book. It is pre-eminently a readable book. The intelligent American citizen can learn from it a great many things.

Williamson, W. Rulon. *Death 'n' Taxes*. Reprint from the Proceedings of the Forty-Ninth Annual Meeting of the Health and Accident Underwriters Conference. Chicago. Pp. 16.

This paper, available from the author, was prepared in advance as an antidote for the Annual Report of 1950 of the Social Security Administration. It briefly outlines the continued case for Social Budgeting, the need of adequate study by qualified students, and has been largely incorporated into the panel notes for 1951.

ACTUARIAL AND OTHER ARTICLES OF INTEREST IN RECENT PERIODICALS

In compiling this list, the Committee on Review has included only those papers which from their titles would appear to be of possible interest to members of the Society of Actuaries; and, in so doing, the Committee offers no opinion on the views which the various articles express.

References to only a limited number of papers on mathematical statistics and allied subjects are included. For a more complete listing of such papers reference should be made to "Mathematical Reviews," published by the American Mathematical Society. Numerous articles on social insurance are listed each month in the "Social Security Bulletin" of the Social Security Board; and various articles are listed each month on social security, unemployment insurance, workmen's compensation, pensions, and

health insurance in the "Monthly Labor Review." "Population Index," published quarterly by the Office of Population Research, Woodrow Wilson School of Public and International Affairs, Princeton University, and the Population Association of America, lists numerous articles published throughout the world on mortality, fertility, marriage, divorce, and migration and on statistical methods of interest in such questions. A very complete listing of actuarial, other insurance and mathematical statistics papers published in 1949 in other countries, especially in continental countries, appears in "Mitteilungen der Vereinigung Schweizerischer Versicherungsmathematiker," Volume L, page 361.

JOURNAL OF THE INSTITUTE OF ACTUARIES

Vol. LXXVI, Part III, No. 344 (December, 1950)

The Valuation of a Dividing Society by a Net Premium Method—E. J. Lancashire.

The Place of Figures in Inland Transport Administration—R. H. Wilson.

The Taxation of Annuity Funds—G. V. Bayley.

Elementary Generalizations upon Lidstone's Approximation for Two Joint Lives—H. Jecklin.

A Note on Generalized Equations for Sickness Rates—J. C. S. Hymans.

TRANSACTIONS OF THE FACULTY OF ACTUARIES

Vol. XIX, Part III, No. 172 (1950)

Theories of Probability—A. C. Aitken.

The Investigation of Extra Mortality—T. M. Springbett.

On Probability.

Part IV, No. 173

Some Observations on the Causes of Death in Life Assurance Claims—Kenneth Dickson.

Annuitants' Mortality.

JOURNAL OF THE INSTITUTE OF ACTUARIES

STUDENTS' SOCIETY

Vol. IX, Part 4 (July, 1950)

The Consulting Actuary and Pension Funds—R. W. Abbott.

Expense—W. F. Gardner.

The Examination of Equity Stocks—D. Weaver.

Priority Percentages and Profits Tax—G. J. Knapman.

The \bar{Z} Method for the Expression of Multiple-Life Contingencies in Terms of Last Survivor Statuses—S. C. Damle.

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1950 Nos. 3-4

The Distribution of the t and z Variables in the Case of Stratified Sample with Individuals Taken from Normal Parent Populations with Varying Means—Martin Weibull.

A Table of Percentage Points of the χ^2 Distribution—A. Hald and S. A. Sinkbaek.

Risk Theory and Group Insurance—K.-G. Hagstroem.

A Theorem on Translations by Hille, and Its Interpretation from the Point of View of the Theory of Probability—Lars Dahlgren.

- More about Invalidity Functions—J. F. Steffensen.
 The Problem of Optimum Stratification—Tore Dalenius.
 On a Property of Order Statistics from a Rectangular Distribution—Sten Malmquist.

BULLETIN COMITÉ PERMANENT DES
 CONGRÈS INTERNATIONAUX D'ACTUAIRES

No. 47 (June, 1950)

- Reviews of Recent Developments of Interest to Actuaries in Great Britain and the Netherlands.
 La notation universelle et les signes de commutation pour deux têtes (The International Notation and the Commutation Symbols for Two Lives)—M. Van Haaften.
 The Principle of Equivalence in Insurance Mathematics—C. Campagne.

MITTEILUNGEN DER VEREINIGUNG SCHWEIZERISCHER
 VERSICHERUNGSMATHEMATIKER

Vol. L, No. 2 (October, 1950)

- Über unterjährig zahlbare Zeitrenten (On Annuities Certain Payable p Times a Year)—Erich Michalup.
 Reserveberechnung auf Basis hyperbolischer Interpolation (Calculation of Reserves by Means of Hyperbolic Interpolation)—H. Jecklin and H. Zimmermann.
 Über ein Schätzungsverfahren für die Berechnung des Bilanzdeckungskapitals (Methods of Estimating a Company's Total Reserve)—H. Ruch.
 Neue Beobachtungen der schweizerischen Unfallversicherungsanstalt über den Verlauf der Invaliden- und Hinterlassenenrenten (The Swiss Accident Insurance Institution's Recent Experience of Disability and Widows' and Orphans' Annuities)—Emil Albrecht.
 Kleine Bemerkung zu einer Klasse versicherungstechnischer Approximation (Remarks on a Class of Approximation Formulas for Insurance Benefits)—Osc. W. Spring.
 Über ein versicherungsmathematisches Problem mit zwei charakteristischen Dauern (A Life Contingency Problem with Two Critical Durations)—H. Nagler.
 La distribution des revenus dans la technique mathématique de la sécurité sociale (The Distribution of Incomes and the Mathematical Techniques of Social Security)—Ernest Kaiser.

PROCEEDINGS OF LIFE INSURANCE ASSOCIATION OF AMERICA

1950

- Life Insurance on the Inflation Treadmill*—C. M. Shanks.
 1950 Record of Life Insurance Investments—J. J. O'Leary.
 Association's 1950 Legislative and Legal Activities—H. R. Glenn.
 Inflation and the Life Insurance Industry—W. W. Riefler.

PROCEEDINGS OF AMERICAN LIFE CONVENTION

1950

- Report of the Actuary—A. N. Guertin.
 Public Attitudes and Management Responsibilities—R. R. Brown.
 The Pros and Cons of Direct Placement—F. B. Wilde.
 Financing the New Defense Effort Here and in Western Europe—W. R. Burgess.
 Outlook for Mortgage Lending—T. S. Burnett.
 Investing in Economic Development—J. E. Coyne.

LEGAL SECTION AMERICAN LIFE CONVENTION

1950

- Anti-Discrimination Laws—A Survey of the Development and Enforcement—1900—1950—G. L. Gordon.
- Delivery of Life Insurance Policies as It Affects the Inception of the Risk—L. C. Carlton.
- Life Insurance in Estate Planning: Part I—J. J. Magovern, Jr.
- Life Insurance in Estate Planning: Part II, Law Department's Function—I. T. F. Ring.
- Review of Legislation and Litigation in 1950—R. H. Kastner.
- Some Phases of Oil and Gas Law—S. S. Goldman.

PROCEEDINGS OF LIFE OFFICE MANAGEMENT ASSOCIATION

Special Conference 1950

- Recent Developments in the Equipment Field—H. T. Sears.
- Human Relations—W. J. Moore.
- Factors to Be Considered in Entering the Accident and Health and Hospitalization Insurance Business—C. D. Scott.
- Investment Accounting (Mortgage Loan) and Routine Activities Relating Thereto—E. M. Karrmann.
- Our Changing Operations—D. N. Wartens.

JOURNAL OF AMERICAN ASSOCIATION OF
UNIVERSITY TEACHERS OF INSURANCE

Vol. XVII, No. 1 (March, 1950)

- Statistical Problems and Methods of Pre-Paid Blue Cross and Blue Shield Hospital and Medical Plans—Mark Kormes.
- New Developments in Employee Disability Programs—W. J. Cohen, T. Y. Beams, Harry Becker, W. R. Williamson, and F. E. Walsh.
- The University Teacher Looks at Company Educational Programs—Life Insurance—H. H. Irwin.
- The Company Executive Looks at Life Insurance Instruction at the University Level—C. B. Metzger.
- Review of the Year—Life Insurance—J. S. Elston.
- Review of the Year—Social Insurance—W. R. Williamson.

PROCEEDINGS OF THE INSTITUTE OF
HOME OFFICE UNDERWRITERS

1949

- Underwriting Military Personnel—E. O. Severin.
- Underwriting Waiver of Premium and Double Indemnity Benefits—H. A. Munson.
- Numerical Underwriting—J. E. Morrison.
- Underwriting of Industrial Business—A. S. Irving.

PROCEEDINGS OF AMERICAN BAR ASSOCIATION
SECTION OF INSURANCE LAW

1950

- Pitfalls in Insurance Policies—G. N. Shaver.
- Control and Regulation of British Insurance Companies—D. J. Kadyk.

- We Can Afford Better Medical Care—L. H. Pink.
 Voluntary and Compulsory Non-Occupational Disability Benefit Plans—State and Company Plans—Neville Pilling.
 Federal Legislative Proposals for Distribution of Personal Health Services—A. V. Whitehall.
 Common Disaster—L. E. Thompson.
 The Washington Scene As It Relates to Life Insurance and Life Insurance Law—R. L. Hogg.

PROCEEDINGS OF THE LIFE INSURANCE INSTITUTE OF CANADA
 1949-1950

- Inaugural Address—J. L. McLachlin.
 The Sterling-Dollar Problem—J. E. Coyne.
 Group Insurance—J. G. Coburn.
 An Introduction to the Uniform Life Insurance Act—J. S. Kilgour.

THE JOURNAL OF THE AMERICAN SOCIETY OF CHARTERED LIFE UNDERWRITERS
 Vol. V, No. 1 (December, 1950)

- Can Security Be Socialized?—A. V. Call.
 Pensions—In the American Manner—Doris Montgomery.
 A Brief Survey of Ordinary Life Insurance in Great Britain—William Penman.
 Analysis of the Three Percent Rule—H. T. Owen.
 Meeting Life Insurance Tax Problems—W. J. Bowe.

No. 2 (March, 1951)

- 1950 Revision of Federal Old Age and Survivors Insurance—M. Albert Linton.
 The Disability Clause—Its Development and Present Status—S. C. Smith, Jr.
 Highlights of the 1950 Revenue Act—Milton Elrod, Jr.

THE JOURNAL OF BUSINESS OF THE UNIVERSITY OF CHICAGO
 Vol. XXIV, No. 1 (January, 1951)

- Economic Aspects of Hospital Care—H. E. Klarman.

HARVARD BUSINESS REVIEW

Vol. XXVIII, No. 6 (November, 1950)

- Pension Plans—Check List for Administrators—J. J. Justin.

JOURNAL OF INSURANCE MEDICINE

Vol. V, No. 4 (September-October-November, 1950)

- Follow-Up Study of 1,976 Medical Impairment Cases as to Morbidity and Mortality—F. R. Stearns.

AMERICAN JOURNAL OF PUBLIC HEALTH

Vol. XL, No. 12 (December, 1950)

- The 1948 Experience of the Health Insurance Plan of Greater New York with the Utilization of Physician Services by the Enrollees in Each Age-Sex Group—N. R. Deardorff.

Vol. XLI, No. 1 (January, 1951)

- Medical Care Insurance: Lessons from Voluntary and Compulsory Plans—Organization and Administration—Franz Goldmann.

No. 2 (February, 1951)

Professional Services under Medical Care Insurance—George Baehr.
Significance of the Conference on Aging for Public Health—Clark Tibbitts.

No. 3 (March, 1951)

Methods of Measuring Incidence and Prevalence of Disease—H. F. Dorn.

POPULATION STUDIES

Vol. IV, No. 2 (September, 1950)

Mortality in England and Wales from 1848 to 1947—W. P. D. Logan.
Adequacy of Existing Census Statistics for Basic Demographic Research—J. D. Durand.

MONTHLY LABOR REVIEW

Vol. LXXI, No. 2 (August, 1950)

Measurement of Work-Life Expectancy.

No. 3 (September, 1950)

The Pattern of Working Life for Men in 1940.

No. 4 (October, 1950)

Trends in Pattern of Working Life, 1900 to 1975.

No. 5 (November, 1950)

Applications of Working-Life Tables to Employment Outlook.

SOCIAL SECURITY BULLETIN

Vol. XIII, No. 10 (October, 1950)

Social Security Act Amendments of 1950: A Summary and Legislative History—W. J. Cohen and R. J. Myers.

No. 11 (November, 1950)

Extent of Total Disability in the United States—M. E. Moore and B. S. Sanders.

No. 12 (December, 1950)

Old-Age and Survivors Insurance: Coverage Under the 1950 Amendments—G. J. Leibowitz.
Aid to the Permanently and Totally Disabled—Phyllis Hill.

Vol. XIV, No. 1 (January, 1951)

Permanent and Total Disability Benefit Provisions in Industrial Pension Plans—Joseph Zisman.

ESTADÍSTICA

Vol. VIII, No. 28 (September, 1950)

Segundo Congreso Interamericano de Estadística, Bogotá, Enero 16–27, 1950—Resumen y Resoluciones (Second Inter-American Statistical Congress, Bogota, January 16–27, 1950. Summary and Resolution).
Program for Improvement and Coordination of Statistics in the Western Hemisphere.

REVISTA DEL INSTITUTO DE
SALUBRIDAD Y ENFERMEDADES TROPICALES

Vol. XI (March, 1950)

Estudio comparativo de la "esperanza de vida" de 1930 y la de 1940 en las entidades federativas de la República Mexicana. III. Zona del Centro (Comparative Study of the Life Expectancy of 1930 and 1940 in the States of Mexico. III. Central Zone)
—Manuel Gonzales Rivera and Arturo Almaraz Ugalde.

MATHEMATICAL TABLES AND OTHER AIDS TO COMPUTATION

Vol. IV, No. 31 (July, 1950)

Planning and Error Considerations for the Numerical Solution of a System of Differential Equations on a Sequence Calculator.

The Incorporation of Subroutines into a Complete Problem on the N.B.S. Eastern Automatic Computer.

Vol. V, No. 33 (January, 1951)

High Speed Sampling.

JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION

Vol. XLV, No. 252 (December, 1950)

Who Are the Unemployed?—P. M. Hauser and R. B. Pearl.

Some Sampling Simplified—J. W. Tukey.

BIOMETRICA

(June, 1950)

The Probability Integral Transformation when the Variable Is Discontinuous—F. N. David and N. L. Johnson.

Maximum Likelihood and the Efficiency of the Method of Moments—L. R. Shenton.

Extension of the Neyman-Pearson Theory of Tests to Discontinuous Variates—K. D. Tocher.

A Simplified Form of Sheppard's Correction Formulae—H. O. Hartley.

PROCEEDINGS OF THE AMERICAN MATHEMATICAL SOCIETY

Vol. I, No. 6 (December, 1950)

Necessary and Sufficient Conditions for Poisson's Distribution—B. O. Koopman.