



The Actuary

The Newsletter of the Society of Actuaries

VOLUME 14, No. 8

OCTOBER, 1980

FIRST FORMAL VALUATION OF THE U.S. MILITARY RETIREMENT SYSTEM

by Toni S. Husted, A.S.A.
Chief Actuary, Department of Defense

Reflecting Congressional desire for unified reports on all Federal retirement systems, Public Law 95-595, signed by the President in October 1978, requires annual reports from these systems similar to the ERISA reports from private sector plans. The law did not, however, subject these systems to ERISA's funding, minimum benefit level, or individual participant reporting requirements. The President has delegated his PL 95-595 responsibilities to the Office of Management and Budget (OMB).

The law contemplated, but didn't require, consistency among the reports. Preston C. Bassett, actuary for the President's Commission on Pension Policy, was most helpful to us all as we sought appropriate uniformity in our report formats and our actuarial procedures.

Assumptions

The funding method we agreed upon was *entry-age normal*. OMB required that our long-term annual inflation assumption be 5 percent, but otherwise left the assumptions to each actuary's own judgment. For the Military Retirement System we selected an assumption of 5.5 percent annual salary rate increase and a 6 percent investment return, so as to be consistent with historic differentials of 0.5 percent and 1 percent. Since our system is fully indexed, its liabilities vary but slightly for different economic assumptions with the same differentials.

Our Report contains a brief plan description; statements of assumptions and rates; various ERISA tables such as net assets, accrued liabilities, normal cost as a percentage of covered payroll, accumulated plan benefits, and a 75-year projection of outlays.

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ACTUARIES SPEAK TO THE PRIVATE PENSION PROBLEM

We are pleased to have received, in response to our June editorial, "What Say We?," the views of eight actuaries on the doubts about the private pension system that were expressed by Karen W. Arenson in the *New York Times*. Their thought-provoking comments may reasonably be classified under three headings: Advice to Actuaries, Censure of Governments, and Chiding of Journalists.

Our appreciation to the following whose ideas, we hope, are adequately summarized here: Lynd T. Blatchford, Howard Hennington, Frederick W. Kilbourne, Daniel F. McGinn, Lawrence Mitchell, Cecil J. Nesbitt.

Our invitation caused one reader, Elmer R. Benedict, to give us a look at an immense amount of work he has been doing on a major aspect of the general problem caused by inflation. Mr. Benedict's project is described in a separate article.

And from George L. Hogeman has come an analysis of the actuary's opportunity whose excellence impels us to surrender to him our customary editorial space.

Prof. Nesbitt closed his catalogue of ideas with a fearless forecast: "The next twenty years should be interesting for pension actuaries."

Advice to Actuaries

(1) Encourage employers to introduce, and to fund in advance, limited indexing of benefits. The money for this can come from the inflation-swollen investment yields. (H.H.)

(2) Offer the retiring employee the option of a lower indexed benefit rather than a higher fixed benefit. In effect, the employer and employee would be shar-

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INTERNATIONAL CONGRESS IN SWITZERLAND

by Abraham Hazlcorn

The 21st International Congress of Actuaries opened on June 19th with an inspiring affirmation of independence and belief in personal dignity—the *William Tell Overture*.

The meeting, spanning eight days, was replete with characteristic Swiss hospitality and efficiency, making the more than 2,000 people content and comfortable. Through the first half we were in Zurich becoming acquainted with Swiss German culture; then we moved to Lausanne to continue amid Swiss French culture. Nor were the two other cultures of Switzerland overlooked, specially in two of the social evenings.

The business sessions were devoted to National Reports and to five major topics:

- (1) Generalized Models of the Insurance Business.
- (2) Testing Hypotheses by Statistical Investigations.
- (3) Statistical Basis and Experience in Disability Insurance.
- (4) Estimating the Value of Insurance Companies.
- (5) Inter-relations between Demographic and Economic Development and Social Security.

There were also several special meetings, notably one on training of actuaries and conduct of research. Each major topic was introduced at length, and then discussed. An American, Prof. William S. Jewell, gave a stimulating introduction to Topic 1. (*Ed. Note: See separate article in this issue.*)

At Lausanne the authorities experimented with a format that probably will become standard practice, i.e., breaking into smaller groups akin to our concur-

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Letters

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be the student's family resources. But if education is to be financed this way, we shall breed a professional aristocracy wherein the practitioners come from families able to pay to educate the next generation, which then has the resources to educate the following generation, etc. Whether one enters a profession would thus depend, not on one's capability or interest but on one's family circumstances.

Nearly all education in our society is subsidized, the subsidy varying from the extensive funding in state-supported institutions to that furnished by universities through fund-raising, low faculty salaries, scholarships and fellowships. Subsidization is not unique to actuarial education.

We need means for educating those who are talented and inspired rather than just those who can tap family resources. The question our profession should address is whether present subsidization systems are effective. Do they open our profession to those most capable of benefitting and who will eventually provide the greatest service to society?

Geoffrey Crofts

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Surviving the Oval Office

Sir:
Pursuant to a discussion of the elderly running for U.S. President, I have unearthed the following.

According to the U.S. Life 1969-71 Table for white males, the life expectancy at age 69 is 10.88 years. The probability that such a person (a) will live four years is 0.81, (b) will live eight years is 0.61.

These probabilities may be on the low side when applied to the 1980 candidate whose age brought this matter up, since he has been pronounced medically fit and is surviving campaign rigors. Offsetting this is the possibility that political pressures may have already taken their toll.

The table below gives the experience of all who have occupied the office of the Presidency, each separate inaugural being considered the start of a term in office. These figures show a 0.14 prob-

ability of death during a term. This result includes the four assassinations that, unfortunately, are an occupational hazard.

Age at Inauguration	Number Starting Terms	Number of Deaths By:	
		Natural Causes	Assassination
42-49	8	0	2
50-57	28	1	1
58-61	12	0	1
62-65	7	2	0
66-69	2	1	0
Total	57	4	4

Of the nine inaugurated after age 61, three died in office, all of natural causes.

Two final observations: Of the 15 who were elected exactly twice, three died during that second term (two by assassination). The President elected in 1840 and in every twentieth year thereafter has died in office.

Roy Goldman

* * * *

The Master Game

Dear FIASCO,*

It is well known that many actuaries are good chess players. Perhaps this is because running a life company is itself a gigantic game of chess. Consider these observations:

(1) The actuary can be thought of as a bishop, his range of action being symbolized by the sign ×.

(2) The accountant is clearly identified with the rook, whose moves can be represented as +.

(3) The Chief Executive Officer is probably the queen—the most powerful piece on the board. He might in some cases, though, be closer to the king—nominally the most important, but with limited executive ability.

(4) In this latter role, the C.E.O. is allowed a special privilege (castling) which enables him to hide behind his accountant—unless of course an opposing actuary has checked him first.

(5) There are a number of pawns (actuarial students) around. They can take (exams) en passant, though more often en failant. They start out with the ambition of becoming queens, but few make it. Graduate students are allowed to move two squares initially.

(6) This finally leaves the question of the knights. These, I suggest, are

*Lifted from FIASCO with permission but with unauthorized changes to North American terminology.

Marketing Vice-Presidents for the following reasons:

- a. It is difficult to guess how they got to their present positions.
- b. It is difficult to guess where they may jump next.
- c. Wherever it is, it's quite likely that the next move after that will be straight back again.

Do remember when considering changes in premium rates to say clearly, "J'ajoute."

Richard J. Squires, F.I.A.

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EUWE Is An Actuary

Sir:

Dr. Machgielis (Max) Euwe, b. Holland, 1901, the World Champion of Chess 1935-37, is apparently one of us. His *Meet The Masters* contains this remark by Hans Kmoch: "Euwe . . . is a Doctor of Mathematics, a qualified actuary, licensed to teach bookkeeping, an accomplished boxer, swimmer and aviator."

Kmoch continued:

"Euwe has written more books than any three other living masters put together. How does he do it? By ordering his whole existence like a railway time-table, dividing it neatly into water-tight compartments, applying to his life the same sort of disinterested logical analysis that another teacher might reserve for his theories alone . . ."

One of Dr. Euwe's most difficult tasks as President of the World Chess Federation was getting Fischer and Spasky to agree on terms of the famous 1972 match for the world championship in Iceland.

Donald R. Sondergeld

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All That Glitters Isn't Goldberg?

Sir:

Milton Goldberg (April issue) and I use different tables. If the widow put her \$100,000 into a thrift account at 5½% compounded daily on a 365/360 method, her monthly income would average \$453.39 rather than \$400.00. And maybe something better than 5½% could be found. No wonder life insurance policies aren't selling!

James B. Germain

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ACTUARIAL BLUEPRINT

by E. J. Moorhead

This newsletter's nominee for the most spectacular American at last summer's International Congress is Prof. William S. Jewell of the University of California, Berkeley, who, as Mr. Hazelcorn reports in this issue, introduced the Congress subject, *Generalized Models of the Insurance Business*. Prof. Jewell describes himself as "a physicist-engineer-operations researcher who has not had extensive actuarial practice," but who, inter alia, teaches life contingencies to engineering and statistics students.

Following a pattern of ideas put forward by his colleague, Prof. Thomas S. Kuhn, in *The Structure of Scientific Revolutions* (a 1970 paperback available in libraries), Prof. Jewell delivered pointed criticism of actuaries who stick to outmoded ways of thinking when conditions demand new approaches. He introduced his paper thus:

Every scientific community reveals its shared beliefs and values . . . and its current state-of-the-art and evolutionary future, through its model-building activity and its scientific communications. To survey the field of actuarial science, one must examine, classify and comment upon the basic paradigms—the accepted concepts-models-puzzles-solutions—that are revealed in the literature of risk and insurance theory.

Examine, classify and comment, Prof. Jewell, in an exciting 45-minute speech, assuredly did. He began by saying that in any scientific community the accepted mode of thought and description is hard to displace, even when some new element such as hyper-inflation or changed living habits begins to contradict the assumptions we have embraced. Says Prof. Jewell:

At first, the reaction to these crises is simply increased activity within the old paradigm, as attempts are made . . . to patch up those methods and models which worked so well in the past. . . . But at some point, the difficulty will not be able to be set right by the traditional processes. . . . Many divergent partial solutions will be attempted. . . . Corporate management, regulators and legislators will also try to resolve matters directly through

their powers, rather than waiting for the community to resolve the anomaly. . . . Then finally occurs what Kuhn calls a scientific revolution—appearance of a competing paradigm which begins to accumulate a weight of evidence and coherence and to attract an increasing number of disciples and camp-followers. . . . Some practitioners are forever resistant, because lifelong productive careers and reputations commit them to an older tradition . . . And often, the arguments which are most convincing in favor of the new paradigm are not easily explained in the old terminology.

No more than the thrust can be conveyed here of a remarkable lecture in which, by the way, the speaker asserts that (a) there's a mismatch between capabilities of today's students and the demands placed upon them by our profession's traditional expected-value models, and (b) the actuary is burdened with an archaic notation system "which is the subject of continued, rather pointless, discussion." The Society would do well to make Prof. Jewell's 98-page paper available to all members willing to study it, and to have it explained and discussed at our 1981 spring meetings.

Among the ringing words with which the paper closes are these:

Receptiveness to new ideas is critical. . . , and it is delightful to see that it is often the senior statesmen of insurance who are actively trying out and promoting new ideas. . . . More research support is needed. . . . I hope to see ARCH grow into a national research journal encouraging contributions from other scientists interested in insurance modeling. . . . There must be continuing evolution of the educational process. . . .

I urge you all to continue to be receptive of and tolerant towards new methods, models, and paradigms, analyzing and testing them, not through reaction, but in terms of their potential utility to the actuarial community and the insurance enterprise. . . . The evolution of the '80's will, I believe, make it an exciting and challenging decade for insurance modelling, and I look forward to participating in it with you. (emphasis added) □

FOR THE INFLATION SICKNESS

by E. J. Moorhead

"Differential Inflation," says Elmer R. Benedict, "denotes the distortion of income relationships among members of the population resulting from the combination of price inflation and 'wage' or, more generally, 'income' inflation."

Mr. Benedict has devoted several years of his retirement to studying the scourge of inflation, and has written a yet unpublished manuscript that sets forth a plan for relieving the unfair impact that price inflation exerts upon those who aren't fully or substantially protected by the offsetting income inflation.

His underlying theme is that the best national hope for bringing our dollar's value back to reasonable stability would come from making sure that everybody, not just the retired, shares in the losses that inflation causes. He emphasizes, appropriately enough, that the price rises that everybody complains about are a genuine disaster for but a minority, a nuisance for many others, and even a source of personal advantage for some. While this anomaly continues, it is useless to hope that an aroused electorate will demand that the federal authorities take remedial action.

Mr. Benedict's book, *Protecting Retirement Against Inflation*, presents a broad program for equitable sharing of the inflation burden. Its kingpin is an income adjustment designed to restore the purchasing power of the otherwise ravaged incomes of retired and disabled persons and surviving widow(er)s.

The plan calls for use of the federal income tax system as a redistributing mechanism. The taxpayer would declare, in Form 1040, the loss he or she had suffered from the rise in the cost of living, treating it just as if it were a tax that he or she had already paid. That same amount would be declared as income for the year. Thus the Benedict adjustment would work just as if the government had mailed the taxpayer a check for his or her cost-of-living reparation, its amount constituting both taxable income and tax already paid. The size of this inflation protection would be identical to that now provided to civil service and armed forces pensioners (Titles 5 and 10 of the U.S. Code).

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Inflation Sickness

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An example given is that of a man who retired ten years ago on a yearly fixed income of \$8,000. For him, the income tax due under present rules might be \$329. But under the plan he would declare a cost-of-living adjustment of \$7,120, raising his gross income to \$15,120, on which the computed tax would be \$2,293. Since \$7,120 would be considered already paid, he would claim a tax refund of \$4,827.

This method, says its designer, would have salutary effect on Congressional and Executive Branch dedication to inflation fighting, as they see inflation recycled right back through the system that created it.

Actuaries, even those among us who are completely or substantially protected from the ravages of inflation, have as our professional mission the designing of trustworthy security instruments for the public. Surely we ought to examine selflessly a plan such as this one, and to announce our verdict on whether it would be effective in enabling the unwritten promises of private pensions to be realized by their participants. □

WAGGISH KILBOURNE

Ed. Note: This was contributed to the newspaper of the 1980 International Congress by Frederick W. Kilbourne.

Congress Echo wishes to recognize those papers that were regretfully rejected, namely:

—a paper that tested the hypothesis that male mortality exceeds female because men are slowly strangled by their neckties;

—an application of generally accepted statistical standards to observations of Zurich driving habits, proving conclusively that all Zurich drivers have been killed in auto accidents and the cars seen on city streets are proceeding of their own free will;

—developing the theoretical foundation for volcano insurance to be sold in the U.S.A. (paper withdrawn; revised version in process);

—an original actuarial opera, entirely in actuarial notation, based on a tragic triangle whose points were a young actuarial student, her instructor, and her supervisor. □

FEDERAL STATISTICS

Copies of the following may be had for prices shown, from Superintendent of Documents, U.S. Govt. Printing Office, Washington, DC 20402:

Money Income in 1978 of Households in the United States, P-60, No. 121, \$4.25.

Changes during the 1970's in median and per capita income are analyzed by the Census Bureau and related to changing household composition, race, ethnic origin, etc. The report also looks at changes in real income adjusted for inflation.

Marital Status and Living Arrangements, P-20, No. 349, \$3.75.

During the 1970's young adults waited longer than formerly before marrying, says this Census Bureau report of a 1979 nationwide survey. It also shows the extent to which young women are not marrying or are delaying marriage. About 1.3 million households were shared by two unrelated adults of opposite sexes in 1979, more than twice the 1970 number. □

VOLUMES YOU MIGHT DONATE

Our headquarters library in Chicago would welcome donations of the following volumes and numbers of the *Transactions of the Society of Actuaries*:

Bound volumes I, II, IV, IX, XIII, XXVI.

Paperbacks, nos. 31, 74, 75, 76.

On the theory that beggars can be choosers, it is asked that such items be in excellent condition unmarred by scribblings and that donors assume shipping costs. In return, a donor will receive an acknowledgment letter stating the gift's value to support a charitable deduction.

Thanks To Our Algebraists

Our May issue had an appeal for help with a problem pestering the Part 3 Examination Committee.

The 36 repliers lined up thus:

Favoring Proposed Definition I	12
Favoring Proposed Definition II	20
Raised Eyebrows	4
	36

Messrs. Lowrie and Dicke will tell us more in a later issue. □

BOOK REVIEW

Peter G. Moore, *Reason By Numbers*, 406 pp., Pelican Books 1980, paperback \$5.95.

by E. J. Moorhead

This is an imaginatively organized and well-written text. We can be pleased that its author is an actuary.

Peter G. Moore, F.I.A., is Deputy Principal and Professor of Statistics and Operational Research at the London Business School. He is active in the affairs of the Institute of Actuaries, currently a member of its Council.

Unless one delves into this paperback, one might be forgiven for dismissing its jacket message as exaggerated:

“Guesswork, however inspired, is no substitute for a sound working knowledge of probability, sampling, decision analysis, risk profiles—in a word, for numeracy. In this Pelican, Peter Moore looks at the ways of gathering, presenting and interpreting information and explains the essential arithmetic of resource allocation, planning and decision theory.”

But the book fully lives up to its blurb. The author succeeds, with few words wasted, in conveying the essence of these concepts and applications. He has furnished many practical examples (some whimsical), and has rounded out each of his fifteen chapters with exercises, solutions to which are given.

To convey an idea of this book's scope, one need only list some chapter titles, viz.,

- Chap. 1. Beginners, Please
- 3. Algorithms
- 6. Mathematics For Planning
- 8. Statistical Interpretation
- 9. Probability — Fact or Fiction?
- 13. Decision Analysis
- 14. Simulation and Risk Profile

Written for “those working in business or commerce at any level of managerial or supervisory responsibility,” this is a book from which many an actuary, including this reviewer, can learn, and one that an actuary can confidently present or recommend to anybody who hasn't yet been faced with, or is a fugitive from, business mathematics. □

ANOTHER ACTUARY'S VIEW OF THE WISCONSIN LAWSUIT

by Richard C. Murphy

Ed. Note: Views of several actuarial participants in this lawsuit were printed in our May issue. Mr. Murphy spoke for the plaintiffs.

In our company's view, fairness requires that buyers be given separate measures of the guaranteed and non-guaranteed costs of a life insurance policy. Hence, our strongest objection to the disputed Wisconsin Regulation was its omission of the Equivalent Level Annual Dividend from the preliminary policy summary.

We believe that the interests of buyers would best be served if the indexes were presented separately on guaranteed and illustrated bases. But, having pursued this idea during the development of the initial NAIC Model, we know that we cannot develop a coalition of mutual and stock companies willing to support cost displays of that kind. Several large mutual companies had, however, conceded that clients should at least be given the facts needed to calculate the guaranteed costs for a participating policy. ELAD was, therefore, a political expedient in the direction of informing buyers about guaranteed and non-guaranteed policy costs.

Certainly it is an imperfect expedient, and just as clearly, few will do the necessary arithmetic, but the opportunity is provided. Just as importantly, presenting an additional index number serves to distinguish clearly a participating policy from one that is non-participating.

It must be recognized that a typical dividend component is large compared to the surrender cost index that contains it; in many cases the guaranteed index is more than twice as large as the value taking illustrated dividends into account. Furthermore, life company portfolio interest rates, on which illustrated dividends are calculated, are now in the 7% to 9% range, compared to a 4% to 6% range twenty years ago. Naturally, dividends now being paid are larger than those illustrated on old policies, but will interest rates continue to rise? Or, will the high present rates encourage so much policy loan activity that dividends will have to be cut? Shouldn't we alert the public to the magnitude of the dividend's effect on costs?

Displays for the increasingly popular non-participating policies with non-guaranteed costs present a somewhat parallel problem. We consider it totally inappropriate to present buyers with only the cost indexes that apply if the initial premiums on these contracts continue unchanged. Just as cost indexes for participating policies should make clear what is guaranteed and what is not, likewise those of us who sell these new contracts should tell buyers what is guaranteed and what depends on future company experience and decisions. □

FIFTIETH ANNIVERSARY OF THE ITALIAN INSTITUTE OF ACTUARIES

It is a pleasure to extend to the "Istituto Italiano degli Attuari" heartiest congratulations and best wishes as it celebrates its 50th birthday this October.

Senora C. Angela Mormino, that Institute's Secretary General, kindly sent us material for this historical note:

Italy's original actuarial body, the National Association for the Development of Actuarial Science, was formed in 1897 but suspended during World War I. This hiatus ended in 1929 when the present Institute was incorporated to carry on that former body's tradition.

Headquartered in Rome, the Institute sponsors actuarial and other insurance studies, and conducts seminars, refresher courses and national congresses. It maintains a library, and publishes an annual Journal to which both Italian and outside specialists contribute.

The Institute coordinates participation of its country's actuaries in the International Congresses. Italy was the Congress host in 1934. □

Actuarial Perry

Ralph E. Edwards reports seeing the following in the *Baltimore Sun* of August 24.

Pitching luminary Gaylord Perry,
Always calm as an Actuary,
Adversary very wary,
Never ready for the antiquary,
Hears a query almost merry,
Are his pitches salivary?

Author
Julian Peyser

A WORTHY SKETCH OF AN ACTUARY

The *Baltimore Sun*, last March 10th, printed an article about one of our members that surely qualifies for inclusion in kits used to tell the public what actuaries are like, and what we do. Entitled "Women Actuaries Rare But She Is A 'Fellow'," its subject is Cheryl E. Tillman, FSA 1978*; some of what reporter Carl Schoettler wrote was:

A lot of us think of actuaries more or less as dim guys in dark suits crouched in the back room of an insurance company, endlessly figuring the odds on when we're going to die.

So much for stereotypes: Ms. Tillman is bright, open, informative and pretty much in command of this conversation. . . . As she talks about her work, she seems quiet, gentle, calm, quite firm; a person, perhaps, whose numbers usually add up. . . .

She thinks she spends more time planning how to keep people alive and healthy than calculating how long they have to live. She designs employment (sic) benefit plans: pensions, health insurance, dental insurance, disability, and, yes, life insurance programs. . . .

She finds putting together a health, pension and disability package gives her considerable creative fulfillment. And she likes working out the arithmetics of funding the programs she's designed, or even programs someone else has designed. . . .

The pension plans of most large private corporations, she says, are funded on a sound basis. "Sound", she says, "means employers are putting enough money into the plan to provide the benefits promised." Sound doesn't mean quite the same thing as adequate, she concedes, but that's another problem. . . .

Then what do actuaries do after hours? "Oh," Ms. Tillman says, "I don't know. I guess they do what all other people do." □

* Listed in 1980 Year Book as Cheryl E. Van Wiggeren.

Actuaries Speak

(Continued from page 1)

ing the extra cost of this. This option will have to be well publicized to employees if it is to be sufficiently used. (H.H.)

(3) Improve our communications. Many participants and laymen now think that plans promise more than they really promise. (L.T.B.)

(4) Use our skills to portray vividly the effects of inflation. Actively lobby with business and government leaders to deal with this scourge. (L.T.B.)

(5) Delay no longer in making adequate provision for inflation in cost calculations. There often has been an unduly pragmatic attitude among actuaries—directed excessively to satisfying management's desire to limit the impact of pension costs on share earnings. (D.F.M.)

(6) Promulgate a set of actuarial principles and standards to govern the actuary's assumptions and methods. The Academy has a committee working on this. (D.F.M.)

(7) Do more to advise our corporate clients on how to cope with various mixtures of future economic possibilities. (D.F.M.)

(8) Employ completely separate accounts for active and retired members within a pension plan. At retirement time, transfer the member's actuarial reserve from the former to the latter. Aim to invest the retiree's reserve so as to achieve a real yield of, say, not more than 3% per year. Use capital gains to purchase periodic paid-up pension additions. By such means, exploit the flexibility, strength and wisdom of the participating insurance principle to help maintain adequate retirement income. There are difficulties in doing exactly this, but surely actuarial ingenuity can at least approximate the application of the time-tested participating principle. (C.J.N.)

(9) Learn more about the basic actuarial science of pension systems under growth conditions. A start has been made in several papers by Bowers, Hickman and Nesbitt on the dynamics of pension funding. See also the paper by D. G. Boden and T. D. Kingston, "The Effect on Inflation on Pension Schemes and Their Funding." Transactions of the Faculty of Actuaries, No. 256 (C.J.N.)

(10) Find out how retirees are managing under inflation, and where the greatest needs for adjusting retirement incomes are. (C.J.N.)

Censuring Governments

(1) We must elect representatives who are determined to keep, and capable of keeping, the economy from getting into severe trouble. (H.H.)

(2) Government, not business or the public, is the primary culprit. Politicians are elected in response to their promises, which may be an inherent failing of democracy. Unscrupulous politicians have found they can convince the public that business and the wealthy have infinite funds, and that, with time and faith, $2 + 2$ can be made to equal 5. (F.W.K.)

(3) Higgledy Piggledy
Candidate Wiggledy
Promises everything
Voters may wish.

But if his programs
Are Un-Actuarial,
Can he provide from
Two-loaves-and five fish?

(F.W.K.)

Chiding Journalists

(1) A responsible press could engender an electorate properly skeptical of politicians' promises. (F.W.K.)

(2) The press is irresponsible when it implies that there is little difference between private and public pension plans. (F.W.K.)

(3) To single out private pensions as being particularly, even uniquely, sensitive to rampant inflation is little more than sensational journalism. (L.T.B.)

(4) The article fails to recognize the possibility that recent economic trends may not continue. Within the appropriate atmosphere that government should foster to encourage capital investment and plant modernization, corporations can develop a sound foundation for business improvement, thus increasing the number of jobs and their own profits. From this would come increased revenue to maintain, or achieve, adequate funding of their pension plans. (D.F.M.)

(5) Inflation is threatening the underpinnings of the entire pension system—our economy! To limit our thrust to in-

flation's effect upon retirement plans is futile. We must look at its effect upon our total economic well-being. After all, unemployment creates terrible retirement problems for the unemployed.

(L.M.)

General Observations, Mostly Cheering

(1) Our pension instruments are not entirely blunted by inflation. Social Security, taking care as it does of a substantial part of most retirees' after-tax income, and fully indexed, provides a solid foundation on which to build adequate retirement benefits. Sources of helpful ideas for coping with inflation are (i) Robert J. Myers' monograph, "Indexation of Pensions and Other Benefits", Pension Research Council, 1978. (ii) the systems used successfully in TIAA-CREF plans. (C.J.N.)

(2) Due in part to the normal absence of guaranteed post-retirement benefit adjustments in corporate plans, these generally are, despite their problems, in much better shape than are public retirement systems. (D.F.M.)

(3) With the aid of objective actuarial standards and principles, modern forecasting techniques, the discipline imposed by ERISA's funding standards and the demands of the FASB, actuaries can and will provide adequate long-term funding advice. (D.F.M.)

(4) Plans capable of meeting ERISA funding standards are likely to deliver the benefits that have been promised; but whether those promises are the "right" promises is another matter. I am pessimistic about the extent to which voluntarily elected cost-of-living annuities will catch on. An answer may be legislation like the joint and survivor annuity provisions under IRC 401 (a) (ii). (L.T.B.)

(5) As inflation becomes more critical, the private plan pension becomes even more important to retirees, and also gives strength to the economy. The private pension system's underpinnings are generally sound, and will continue so long as the inflation does not destroy their assets and the companies that sponsor them. (H.H.) □

U.S. Military

(Continued from page 1)

Since producing this first report was a race against time, many elements were less polished than they will be in the future. For example, available death and decrement figures were several years old; we adjusted them across-the-board to bring them into the range of recent experience, and are currently creating new rates for future use. Another problem was that our system includes retirees from active duty and from Reserve duty; we had programs to value each of these components separately but could not link them. Since a member who leaves with less than 20 years service can develop a vested benefit only by subsequent Reserve service, we found ourselves unable to identify vested rights for a large group of such people. We are building a model that will take care of this.

Results

By far the most interesting results were a \$356 billion entry-age normal unfunded liability, and a corresponding normal cost valued at 49.27 percent of payroll. A few facts may help to place these startling figures in perspective.

Ours is a pay-as-you-go system paying about \$12 billion to 1.3 million annuitants. There are about 2 million active-duty members, but historically only 12.3 percent of entrants have qualified for retirement benefits. Those who retire, other than for disability, receive an immediate annuity beginning typically in the retiree's forties. The benefit is 2.5 percent of final pay for each year of service, subject to a 50 percent minimum, 75 percent maximum.

Legislation to grant earlier vesting but to defer annuities to higher ages is pending. In a defense-conscious environment in which retirement benefits are helpful in recruiting and keeping a volunteer force, it will be interesting to see what happens.

This report as well as the first annual *Statistical Report of the Military Retirement System* is available from: Ms. Toni Hustead, Defense Manpower Data Center, 300 North Washington Street, Alexandria, VA 22314. □

Death

Adolph F. Schwartz, F.S.A. 1925

International Congress

(Continued from page 1)

rent sessions for pleasantly informal discussions.

The several social occasions permitted conversing with old friends and making new ones. In addition, each of us was invited on one evening to a castle or other historic place; the one I attended had the trappings of a medieval feast, each course announced by uniformed trumpeters. The outside trips were admirable, though plagued by indifferent weather.

Four issues of a Congress newspaper proved a valuable unifying influence, telling us what we had missed on the previous day, what lay ahead, and giving us helpful hints, puzzles and even a multilingual limerick, one line for each of our five official languages:

El éxito de un congreso depende
Dall' amicizia che sempre estende
We must all take care
Que chaque actuaire
Sucht Freunde von jetzt bis zum Ende.

There was also an article on rejected Congress papers by our own Frederick W. Kilbourne (quoted elsewhere in this issue).

Society Presidents have reminded us that our profession is international, and that while immersed in the characteristics of our own environment we do well to acquaint ourselves with actuarial thought in the rest of the world. There is no better way to comply with this than to attend an International Congress. To do this in 1984 will entail a trip to Australia—in 1988 to either Canada or Finland, we hear.

The general in command of the Swiss army that organized this altogether delightful meeting is a longtime friend of many North American actuaries—Dr. Hans Ammeter. To him and his colleagues go admiration and gratitude from 150 Society members and their nearly as many accompanying persons. □

Actuarial Meetings

Oct. 15, Chicago Actuarial Club
Nov. 18, Chicago Actuarial Club
Nov. 20, Southeastern Actuaries Club

Letters

(Continued from page 3)

Actuaries in Religious Literature

Sir:

The following reference to actuaries appears in a lecture, "The Lord's Supper In The New Testament," given in 1898 by the German religious scholar Elbert Eichorn. It was in a polemic against a New Testament interpretation that differed from his own:

"I must simply repudiate (this view) as wholly unscientific. Such critics have the second-rate mind of an actuary. However tolerant I am, I cannot express myself more gently."

What experience, one wonders, led him to this opinion of us?

Charles W. Jacoby

* * * *

Sir:

Dr. Howard Hageman who wrote the following in *The Church Herald* (official magazine of the Reformed Church in America) June 27th issue, was acquainted with actuaries, having ministered at its Newark church nextdoor to the Mutual Benefit Life home office. His article was on the Quebec referendum:

"The English-speaking vote . . . could be taken for granted at any time. The French-speaking negatives, however, were startlingly high in the over-55 age bracket, startlingly low among younger people. That could mean that all the separatists have to do is wait for the future; any good actuary could inform them when the right time had come for another referendum."

In this context, "good" means no more than "competent"; too bad, since references outside actuarial literature to us as "good guys" are rare.

Linden N. Cole

LIBRARIES AND BOOK COLLECTORS PLEASE NOTE

The first 8 volumes (1850-1860) of the *Journal of the Institute of Actuaries*, then called *The Assurance Magazine*, are available for the cost of shipping only. These are bound and in reasonably good condition. The name of a reputable insurance company is embossed on each volume. Write to *The Actuary* at our masthead address. □