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EDITORIAL
"RENDER THEREFORE TO ALL THEIR DUES"
- Romans 13:7

At the Actuarial Society's 40th anniversary in 1929, Archibald A. Welch F.A.S., then president of Phoenix Mutual Life, ended his reminiscences of early actuaries thus:

> "I should like the historian of our Society forty years hence to choose (as his text) when he is describing you, the active members of our Society today: Genesis, sixth chapter, fourth verse: "There were giants in the earth in those days."

In hindsight, what Biblical text the actuaries of that generation merit is a matter not considered here. But we do believe they deserve better treatment than has been accorded them in the Society's 1984 Speaker's Kit (announced elsewhere in this issue).

A section of that kit labeled "Important Dates In The Development Of Actuarial Science", gives one listing for 220 A.D. (Ulpian's table of life expectancies), five listings for the 17th century and seven for the 18th. Apart from dates of formation, merger and dissolution of actuarial bodies, one finds five listings for the 19th century, the latest being 1875, *and none at all in the 20th century.*

Surely the thought that there have been no worthy developments in our profession since 1875 is a staggering one for our members and a source of material discouragement to high school and college students who might consider joining us.

We had occasion recently to invite views on the achievements of the 1900-1929 era from some of today's veteran actuaries. Our correspondents easily identified original thinkers in that thirty-year period, linking, for instance, Franklin B. Mead with the science of underwriting and pricing of substandard life insurance, M. Albert Linton and O. J. Arnold with innovations in agency compensation, and several professors with fostering actuarial courses in U.S. and Canadian universities.

And the years since 1929 have witnessed pioneer actuarial work on such subjects as unemployment and social insurance, nonforfeiture benefits, forecast tables for life annuities and effective use of computers in actuarial operations. The dates to be attached to some of these might well be the publication dates of Society papers or committee reports that deeply influenced thinking and subsequent actions.

Let us make sure that young people realize that our profession did not pass its final frontier in 1875.

E.J.M.

REFLECTIONS ON "ACTUARIAL MATHEMATICS, VOL. 1"
by John M. Boermeester

Ed. Note: Learning that the author of the 1956 Society paper "Frequency Distribution of Mortality Costs" has reviewed our new life contingencies text, we asked him what he would say about it to an imaginary group of actuaries able to stay with him for but a few fleeting minutes. This is the result.

Greetings! You may be described as a motley group of actuaries — but surely only in the sense that your activities embrace a wide variety of pursuits. You achieved Society membership after studying life contingencies according to Jordan, or perhaps Spurgeon; you also met the requirements of your generation in probability, statistical theory and numerical methods. What is it that unites your "motleyness"? The oustanding bond is that you are recognized as authorities in measuring the impact of contingent events on diverse types of financial security plans.

Because of this, you have become responsible for conveying to one or more of your many publics what the effects of randomness in any of these plans might be. And this implies responsibility to use the best available statistical tools for analyzing the effects of randomness in the elapsed times to death, disability, or retirement and in other elements such as salary scales, interest and inflation rates. The effects of randomness are often too significant to be left out of consideration.

Neither Jordan's nor Spurgeon's text explored uses of statistical tools to analyze the effects of, say, random time till death on premiums and reserves. Yet, ability to use such tools flows naturally from statistical theory that nowadays is taught in undergraduate courses offered in many of our universities. In effect, the new Society text brings us, perhaps belatedly, into a new era in the study of life contingencies.

Some Illustrations

Let's examine a few possible applications suggested by formulas developed in the text.

First item: What is the premium for a whole life policy such that 95% of the time this premium will cover random mortality fluctuations? The answer will not be the expected value obtained from a formula in Jordan. If the premium

(Continued on page 3)

REFLECTIONS

(Continued from page 2)

computed by processes set forth in the new text proves to be competitive, your company might use it. But — what happens if the calculated premium isn't competitive? I will let you mull that over; the new text, sorry to say, doesn't give that answer.

My next example concerns a life annuity. Question: What should your company charge as a single premium scale for a closed block of annuitants such that a profit will emerge at a confidence level of 90%? (Whose confidence are we talking about? Yours? Your President's?) The new text, unlike Jordan, offers a procedure for deriving statistical theory benchmarks to answer this question.

My last illustration brings up a thoroughly modern problem which Robert J. McKay discussed at our 1983 annual meeting in Florida. Question: What would be the increase in your company's risk if it were forced to use unisex mortality for ordinary life annuities? Conclusion: For a 60/40 blend, the variance, calculated from the principles set forth in the new text, would increase by 93%, i.e., nearly doubling that for a single sex table. This result clearly warns that companies in this field will need additional margins.

These three illustrations comprise but a mere sampling of cases in which the probabilistic approach can be used to solve problems which have always existed but are most severe in unstable times and environments. The new text provides a wealth of charts, graphs, tables and exercises, making it a first class teaching tool.

Yet the text is not a break with the past. It provides continuity by developing the traditional formulas of your and my student days for expected values. I heartily commend it to every one of you who has been interested enough to attend this little session.

But — keep in mind that the new text doesn't consider the possible effects of variable interest yields, making the observation that the theory of combining fluctuations in life contingencies with those in interest rates has yet to be completely developed. This leaves us with a challenge for the immediate future. □

A NEW SEMINAR VENTURE THAT WORKED

by Linden N. Cole, Director of Education

The Society recently presented an experimental seminar designed for chief actuaries of mutual life companies. Until now our seminar offerings had tended to attract the up-and-coming group rather than senior actuaries; this was an attempt to move closer to having programs attractive to members of all vintages. It was received enthusiastically by 30 participants in New York and 24 in Chicago.

Capably led by John C. Angle and Rodney R. Rohda, it featured short presentations on topics previously identified as of particular interest to this audience, followed by free-wheeling discussions. Topics included:

- Profit as a measure of performance
- Federal income tax issues
- Demutualization
- Dividends, updates & replacements
- Interest-sensitive products
- Planning and the role of senior actuarial officers
- Responses to the financial services revolution.

The Seminar Department at Society headquarters will gladly send an outline of the presentations to anyone requesting it.

In this experiment we tried to identify members in the target audience and to send invitations only to them. But for the future we seek a more efficient and flexible method. We will define the target audience and a cut-off date in the seminar brochure; after that date any remaining openings will be offered, first come first served, to other Society members.

Seminars of this type are planned for many audiences with special responsibilities. We are arranging one for chief actuaries and corporate actuaries of small life companies this fall, and contemplating another one for chief actuaries and corporate actuaries of stock life companies in spring 1985.

Ideas from members about our seminar program, sent to me, will be warmly welcomed. □

JOINT BOARD LENGTHENS TRANSITION PERIOD

The Joint Board for Enrollment of Actuaries has announced that, with respect to the restructuring of its examination program, the transition period for persons credited with either the Joint Board's basic or pension actuarial examination before the commencement of the new examination program has been extended from two years to three years from the onset of such program, i.e., from January 1984. It is also announced that for persons who have successfully completed both the basic and pension actuarial examination requirements of eligibility for enrollment before January 1984, credit will be accorded those persons for a period of at least five years from January 1, 1984.

Readers may recall that our April issue exhibited an appeal from an unhappy student who maintained, correctly, that the Board would give sympathetic consideration to appeals against the two-year limit.

The full text of this announcement may be requested from the Joint Board for the Enrollment of Actuaries, c/o Department of the Treasury, Washington DC 20220. (We misstated the address in our April issue, creating difficulties that we regret.)

CONTINUING EDUCATION OPPORTUNITIES

If you are responsible for determining company solvency, don't miss the "Open Forum" on THE ROLE OF THE VALUATION ACTUARY IN THE U.S., to be held in Chicago on October 3rd. It's sponsored by our Financial Reporting Section.

If your concern is with the wonderful new world of interest-sensitive products, come to one of the seminars on INVESTMENT STRATEGIES FOR INTEREST-SENSITIVE PRODUCTS. They are scheduled for: Chicago, October 1; New York, October 22; Dallas, October 23.

To register for any of these or to get information on these or other fall offerings, phone the Society office, Seminar Department.