



SOCIETY OF ACTUARIES

Article from:

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**Actuarial Notation***(Continued from page 4)*

For

 $n P_x$  write  $npx$  $A_{x:\overline{n}}$  "  $A_{x:n}$  $t|\overline{a}_{x|y}$  "  $t|a-x|y$ 

When numeric values occur, these are substituted out by appropriate letters ( $x$ ,  $y$ ,  $n$ , etc.), and then reappear in brackets at the end:

 $A_{10:\overline{20}}$  becomes  $A_{x:n}$  (10,20) ${}_5 P_{25}$  "  $npx$  (5,25) $\overline{a}_{65|60}$  "  $a-x|y$  (65,60)  
and so on.

The rules are simple: as far as possible, follow the left-to-right ordering of the IAN symbols; and without discarding any, bring them into line. Because the familiar A's, a's, p's and q's, etc. remain, together with the usual punctuation strokes such as : - and  $\overline{\quad}$ , the resulting formula is still quite readable, though it has well and truly lost its halo.

**Falling From Grace**

This apostasy won't please the holy men; it is a good question whether it will even please the actuaries, a conservative breed at heart. Our group has put the work forward in a spirit of experimentation—If we want to linearise, what can we do? And having seen what is possible, is it then desirable? These are questions which the profession must answer as we progress into the age of the all-accomplishing but all-demanding computer.

Interesting and germane comments from actuaries in England tend to suggest that we are not yet ready to abandon our traditional notation; indeed, intelligent adaptation of IAN to modern needs may be the best approach. The question remains open: Should actuaries keep our haloes, or find some other sign of our devotion to the chosen path?  $\square$

**Welcome**

... to more than 100 students who have recently decided to become readers by the subscription route. We hope all of them will quickly become Associates and begin to get their copies gratis.

**PUBLICATION NOTE***by Charles A. Siegfried*

A. Haeworth Robertson, *The Coming Revolution in Social Security*, 1981, pp. 376, Security Press, McLean VA 22101, \$19.75.

Several years ago, our profession's Social Insurance Committees concluded that actuaries could perform a useful public service by spreading information about Social Security through programs sponsored by local actuarial clubs. Experience since then indicates, however, that there is no widespread burning desire for such information, and that providing it in an exciting way is no easy matter. Nevertheless, it is somewhat startling, at a time when national policy is so much affected by the "red menace" of the U.S.S.R., to see our distinguished colleague, A. Haeworth Robertson, use "Revolution" in his book's title and use bright red for its cover and dust jacket. And he uses the label "Freedom Plan" for the proposals he favors as improvements on the current program. Whether such devices will attract the attention the subject deserves remains to be seen.

One of the author's major themes is that there is dangerous lack of information about the current program. He demonstrates much skill in providing enlightenment but he seems convinced that with enlightenment will come demand for basic changes — "revolutionary" changes, it would seem.

Another major theme is that there have been many significant changes in the U.S. economy and society since the present system was adopted, that a new situation exists today, and that likelihood of further important changes calls for something fundamentally different from, and more flexible than, the system we now have.

Perhaps the most fundamental question the author raises is whether the current program is so deficient and incapable of acceptable correction that a revolutionary new approach is either necessary or desirable. His "Freedom Plan" is certainly revolutionary; whether it is an improvement is far from clear.

The Social Security program must of course be responsive to changes in our social and economic life, and must be capable of being adjusted in acceptable ways. But it is likely that the nature of the adjustments that will be most appro-

*(Continued on page 7)***NON-ROUTINE BUSINESS OF BOARD OF GOVERNORS AND EXECUTIVE COMMITTEE, December 1980 to May 1981**

*Ed. Note: We hope readers will find this account (composed from the Minutes by one who wasn't there) so inadequate that they will complain to the Secretary at his Ontario address.*

1. A Year Book Editor was appointed. (See his message elsewhere in this issue).

2. Rules for expressions of opinion by Society committees were drafted.

3. A task force was appointed to explore new guidelines for professional conduct. (See its message in our March issue).

4. The year 1981 is reportedly viewed by the Education & Examination Committee as one of consolidating what has been accomplished.

5. The Canadian Institute's special examination may henceforth be used as an alternative to one of the Society Fellowship parts as one of the Society Association requirements for students of the Institute or Faculty.

6. The Executive Committee devoted a study session to the following broad topics: Supply of and Demand for Actuaries; Inflation and our Profession; Our Election Process; What Is the Society of Actuaries?; Society Meetings; Administrative Services.

7. The Board endorsed, by majority vote, the terminology recommended by the Joint Committee on Pension Terminology.

8. The Board expressed general agreement with our profession's broad requirements set forth in the Academy Committee's Report on Long Range Planning.

9. A Health Insurance Section was authorized.

10. Increases in examination fees for 1982 and annual meeting registration fee for 1981 were adopted.

E.J.M.

## Publication Note

(Continued from page 5)

appropriate need not be revolutionary. Much of what contributes to concerns about the present system stems from excessive liberalizations of benefit levels, especially those associated with the 1972 Amendments. It is to be hoped that over the years aberrations of this sort can be dealt with acceptably without revolutionary changes.

It is natural that a program affecting so many people and involving such huge sums will involve many differing views and difficult political problems. How to carry on effective, constructive examination of these issues and how to deal with the complex political aspects are challenges of a high order to all responsible segments of our population. Actuaries who have the advantage of having insights into many of these issues can be especially helpful to their fellow citizens. Mr. Robertson is commended for making a contribution to this end. □

## Sightings

(Continued from page 4)

Heinlein's Podkayne of Mars (1963). In reporting that, on the planet Venus, murder is "a very serious violation of regulations", Podkayne adds:

"You'll have your pay checked for years to offset both that employee's earning power for what would have been his working life, and his putative value to the Corporation, all calculated by the company's actuaries who are widely known to have no hearts at all, just liquid helium pumps."

Daniel Desfosses has been saving for us this two-year-old fragment from the *Worcester Evening Gazette*:

"The (Massachusetts) Senate gave initial approval to a bill giving savings bank actuaries a \$55,000 salary. Sen. David H. Locke, R-Well-sley, who tried to block the bill, complained, 'The highest salary ever endorsed by the Senate is . . . not for a great doctor or a great scientist, but an actuary.'"

Kenneth A. Rothschild picked up, from the life story of Robert Noyce in *The Economist*, December 27, 1980:

"He was sacked from college and trained to be an actuary, which he found thoroughly boring . . . He then went to MIT and got top grades in all subjects but one. (He found fame in electronics)."

E.J.M.

## ADVERSE DEVIATION DELTAS

John C. Wooddy et al, *Adverse Deviation*, 1981, pp. 105, Society of Actuaries, Chicago, IL. \$20.

The Society has published this monograph in which Mr. Wooddy and his project associates describe in useful detail the approach, devised by the Committee on Theory of Risk, to the problem of providing appropriately for the risks of adverse deviation in a GAAP valuation under the specifications of the *Audit Guide for Stock Life Insurance Companies*.

Such deviations may arise from chance fluctuation, secular variation, catastrophic variation, cyclical variation, incorrect classification, or insufficient knowledge of the mortality rates or other basic probabilities.

After a Preface and then James C. Hickman's Introduction, the contents are:

- Chap. 1—The Problem
- 2—Development of the Solution
- 3—The Model, "SOFASIM"
- 4—How to Calculate GAAP Deltas
- App. 1—Academy Recommendation 1 and its Interpretations
- 2—SOFASIM Assumptions and Some Results
- 3—Table of Corporate Bond Yields, 1899-1976

### Bibliography

Mr. Wooddy points out that the SOFASIM model can be and is being used to solve a wider class of problems than just those under GAAP. The broad subject of Possible vs. Expected Values will be explored in Panel Discussion 6 at the Society meeting in Atlanta on October 20, 1981. Anyone who attends it is well advised to have read this clearly written book beforehand.

E.J.M.

## • THE E. & E. CORNER

*Ques.:* Unsuccessful students are given their 0 through 5 score, describing their failure only in its degree. Why can't they be given particulars to show where the weakness was found, so they can concentrate future efforts productively?

*Ans.:* As an experiment, we have begun providing an analysis of exam results to all failing candidates for Parts 3, 5A and 5B, two or three weeks after results are mailed. If this proves successful and is well received, we will try to extend it to other Parts.

*Ques.:* Why is it sometimes so difficult to obtain application forms and sample questions?

*Ans.:* We apologize for the difficulty that prompted this question. One person in the Society office, surrounded by an impressive array of materials, responds to these and other requests; when she's absent, substitutes do their best. Such service lapses—rare, we believe—should always be called to the attention of the office.

*Ques.:* Why is Chapter 7 of Kellison's *The Theory of Interest* omitted from the Part 4 syllabus? Can one become an actuary without having learned what's in that chapter?

*Ans.:* The miscellaneous topics that make up that chapter appear elsewhere in the Course of Reading. □

## MAIL ALERT

Since September 1st you should have received the *Record*, Vol. 7, No. 1, covering our first 1981 Spring Meeting, and the *Transactions*, Vol. XXXII, 1980. If you haven't, better let Society headquarters in Chicago know you haven't.

## Gregorian Calendar

(Continued from page 6)

A plan exciting enough to ignite a unifying spark among progressive actuaries may lurk somewhere in all the above. But will this spark become a consuming fire before the end of (1582 + 400) A.D.?

E.J.M.