
SOCIETY OF ACTUARIES

Article from:

# The Actuary

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## SIGHTINGS

Actuaries are being cited in sports articles these days—sometimes as authorities. Gerald A. Fryer found in the *Toronto Star* last February 14th, this remark by Peter Bavasi, President of the Blue Jays, about their efforts to sign Carlton Fisk:

> "He (Fisk) is the kind of player who can stabilize our kids. But we did an actuarial study of catchers and found that at his age, the 120-130-games-a-season catchers start to taper off, to 80, to 60."

Mr. Bavasi explained to Mr. Fryer that they hadn't hired a consulting actuary but had made their own attained age analysis of catcher's durability, and he was relieved to have an actuary's assurance that in using the adjective he was in the right ballpark—though possibly in left field.

Wayne E. Stuenkel noted, from the *Birmingham Post-Herald* of July 9th, that the Atlanta Falcons consider actuaries bad luck. Tom Braatz, Falcon's official, said when emphasizing his problems now that players he wants have more than just the traditional agents negotiating terms for them:

> "These guys all got lawyers . . . They've got actuaries, everything. You never talk to one guy. That's why it's taking so long. All the time you're running out for more proof or something."

There is notable overlap between readership of this newsletter and of Sports Illustrated. Gary J. Bacchiocchi, Peter Hepokoski, Walter J. McLaughlin and Stephen L. White all told us of the remark in its issue of May 25th:

> "Musing on the appeal that statistics have for the baseball fan, he ('deep-thinking baseball statistician Bill James') asks, 'How is it that a chart of numbers that would put an actuary to sleep can be made to dance if you put it on one side of a card, and Bombo Rivera's picture on the other'?"

Mr. Bacchiocchi went beyond just telling us about this; he sent us bulletins about the prowess and whereabouts of Mr. Rivera (hitting .295 for Omaha).

Frederic Seltzer contributed word from the *New York Times* of February 13th that the French painter Maurice Utrillo (1883-1955) "took his first name from his sire, an insurance actuary called Maurice Boissy."

Thomas K. Custis considers Paul A. Samuelson's "Economics of Old Age," in *Newsweek* of March 30th, notable because the reference deals with an important concept:

> "I have been pondering (an) article by Dr. James F. Fries of the Stanford Medical Center . . . His thesis is dramatic . . . Life, Fries argues, is in no danger of becoming inhumanely long. Science can't keep us going long after 85: our cells are programmed to self-destruct at the same maximal ages as in times past . . . From the standpoint of an actuary concerned about social-security burdens, that's the good news. Also good news is Fries's second finding. Even if 85 represents the cutoff point to the normal human life span, more and more people are reaching it. And they do so in increasingly good health."

Which brings Prof. Samuelson to discussing "the 'rectangular actuarial life tables' that Fries foresees":

> "What does a rectangular life table mean? Suppose all the millions born in 1981 lived to the year 2066, and all then died on their 85th birthdays. The curve showing how many out of 100 survived to each age would be a horizontal line up to age 85; then it would drop down to zero, like the side of a box or rectangle. This, of course, is the extreme case, one we're moving toward. . . . But M.D.'s can whistle in the dark reaching for an optimistic diagnosis that the cold facts may not sustain. Even as the actuarial life table . . . is becoming more nearly rectangular, the penultimate years of expensive and gloomy life are increasing, not decreasing. . . . When the actuaries put a microscope on the way that the force of mortality—the risk of dying each day—changes at 85 and after, they find no magic point of discontinuous acceleration. . . . Fries has taught us a moral: it makes no sense to encourage or force people to retire at 65 or earlier."

Thomas L. Bakos has passed along from his daughter a few words in Robert A.

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## ACTUARIAL NOTATION—GOING LINEAR WITH L.A.N.

*by Gary Chamberlin,*
*London Correspondent*

As a member of the Institute's working group that devised LAN, the Linear Actuarial Notation that made its appearance last autumn, I am happy to supplement your "IAN, LAN & CAN" article (Nov. 1980 issue). Actuarial notation has been a lasting interest of mine, almost from when I joined the Institute in the mid-seventies.

### The Halo Effect

The subject begins with the long espoused International Notation (IAN), which has a slightly eccentric quality about it, even to those well versed in mathematics. That quality is in keeping with its nineteenth century origins; although despite its wearing a halo, it would be going too far to describe it as "saintly".

Saintly or not, this corona of suffixes and superfixes is the stumbling block today. A computer that operates undeviatingly on a single track cannot accept them; so the cry goes out for a notation that is linear, mainly or entirely composed of alphanumeric characters, and with parameters in brackets following the main function on the same line. There have been many attempts to produce this, but the trouble is that the result never looks actuarial, and somehow lacks the character of the existing notation.

### Rubber Sheet Geometry

Faced with this dilemma, our working group proceeded to carry out its task in two distinct stages—first, linearising the notation but leaving it still with its actuarial facing, then by means of a coding chart going the rest of the way to the fully computible alphanumeric symbols. The final version, called CAN (Computible Notation) is by general agreement thoroughly unreadable: good food for automatons, but unfit for human beings.

The first step though, linearisation, is certainly worth our attention. Conversion to LAN is effected by "rubber sheet geometry," pushing the symbols about on the paper to achieve the desired result. A few examples show how this works:

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## Publication Note

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priate 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

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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-Wellesley, 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

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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.*