



The Actuary

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The Newsletter of the Society of Actuaries

Vol. 17, No. 6

JUNE, 1983

ERAS IN LIFE CONTINGENCIES THEORY

by Roy Goldman, Part 5A Chairman

In the history of actuarial education on this continent, the subject of life contingencies has been successively presented to students in four major textbooks embracing almost exactly a century of instruction. The first two were written by British actuaries, viz.,

"Institute of Actuaries' Text Book, Part II", by George King, F.I.A., F.F.A., (later F.A.S.), published in 1887.

"Life Contingencies", by E.F. Spurgeon, F.I.A., published in 1922.

Soon after the Society of Actuaries was formed in 1949, the task of preparing "a modern text . . . capable of being applied directly to the benefits commonly offered by life insurance companies of the United States and Canada" was entrusted to C. Wallace Jordan, FSA 1946, then Associate Professor of Mathematics at Williams College. Jordan's first edition of "Life Contingencies" was published in 1952.

One way, surely, to differentiate among generations of actuaries is in terms of allegiance to King, or to Spurgeon, or to Jordan. Though they have served the profession well, these books were written for eras now gone in which the primary objective was to present calculating formulas and computational methods needed in the actuary's daily work. Today, computers perform the calculations; modern statistical methods have been developed to analyze the data. The actuary of the future will be called upon to explore the financial contingencies of wide ranges of random events, not just the expected values of insurance functions that the formulas of Jordan and its predecessor texts will furnish.

In June 1978, the Society selected Professors Newton L. Bowers, Jr., Hans U.

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NON-ROUTINE BUSINESS OF BOARD OF GOVERNORS AND EXECUTIVE COMMITTEE NOVEMBER 1982 TO MARCH 1983

by Kenneth T. Clark, Secretary

1. For future Fellows' votes on amendments to the Society's Constitution, the Board adopted a new policy aimed at assuring adequate discussion before a vote is called for, and appropriate communication of results.

2. The Board adopted a new policy for investing Society funds, distinguishing between funds for daily and seasonal cash needs and funds in excess of those needs.

3. Relocation of the office, which subsequently took place on May 6th, was approved.

4. The Board approved a notice, which then accompanied the February 1983 issue of this newsletter, inviting support of a Pension Section.

5. Now that several Sections are in operation, the Executive Committee approved organizing a Council of Section Chairmen.

6. The Executive Committee authorized exposure of the Report of the Committee on Annuities containing the 1983 Group Annuity Mortality Table.

7. Distribution for members' comments of proposed new Guides to Professional Conduct was arranged.

8. Having received at its request from the Task Force on Smoker/Non-Smoker Mortality scaling factors that may be applied to a composite table to develop separate smoker and non-smoker mortality rates, the Executive Committee approved its distribution.

9. The Board has from the E. & E. Committee, for its consideration, extensive recommended changes to the Society's examinations. If the Board ap-

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ACTUARIES NEED FEDERAL STATISTICS

by Robert J. Johansen

Since 1981, U.S. federal budget cutbacks have clamped down hard on the federal agencies that produce all kinds of statistics—demographic, economic and regulatory data. Some programs were dropped; many were curtailed; survey samples have been cut in size and frequency. Studies aimed at improving quality of data have been postponed, and the federal statistical coordinating unit was disbanded. Throughout this chaotic period, the Council of Professional Associations on Federal Statistics (COPAFS), of which the Society was a founding member in 1980, has worked effectively with Congress and the agencies to preserve essential programs.

At the requests of various Congressional Committees, COPAFS has arranged hearings and workshops so that Congress could be apprised of the concerns of those who depend on federal statistics. These valuable efforts have been the work of COPAFS' small professional staff, its Executive Committee (on which I have served from the beginning), and representatives of its member associations.

Our Role In All This

We actuaries use federal statistics to develop mortality tables, to make marketing studies, to examine economic trends, and to study health costs. Yet input from Society members has been almost nil so far.

Through our representation on the Council and on its Executive Committee, we can make our voices heard. Shouldn't many of us think hard about our direct and indirect use of federal statistics, then make concrete suggestions to the Society's Committee on Government Statistics or to its COPAFS representatives? Those who do will be influential.

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EDITORIAL

THE NEW SOUTH LIFE CASE

With the notable exception of some Southeastern Actuaries' Club members who heard a spirited presentation by James L. Athearn (then Professor of Insurance, University of South Carolina) at that club's 1973 fall meeting, few actuaries are acquainted with the financial problems suffered by the New South Life Insurance Company, a small debit company that was licensed only in South Carolina.

The New South Life happens to be one of the (mercifully) few life companies in which a major deficit has been directly linked to miscalculation of policy reserves.

Two sources from which the underlying facts are readily obtainable are:

"New South Life: A Case Study", by James L. Athearn, in the April 1973 issue (Vol. XIX, No. 5) of *Business and Economic Review*, published by the Bureau of Business and Economic Research, University of South Carolina;

and

"Report of the American Academy of Actuaries Committee Regarding The New South Life Insurance Company", a manuscript dated August 30, 1973.

Until recently, the second of these two documents was kept confidential for reasons associated with the life company's rehabilitation. We are pleased to learn that secrecy about it is no longer necessary; now the excellent work done ten years ago by an actuarial trio, Messrs. John M. Bragg, Delos H. Christian, and Allan F. Lebourveau (who died in 1982), can and should belatedly receive our profession's recognition.

The underlying cause of the company's financial troubles was the writing, for 17 years dating from its inception in 1955, of business at premium rates that weren't even close to being sufficient to support its expenses and mortality. But the state of affairs that enabled the company to continue selling insufficiently priced business for so long was its mis-reporting of its policy reserves. Many endowment and 10-payment life policies were being valued by whole life reserve factors, the consequence being that a financial statement that corrected for this suddenly brought to light liabilities totalling \$25 million in a company whose assets were but \$15 million.

Case studies are widely recognized as immensely valuable aids to professional education. Here's one that we in the Society ought to milk of its object-lesson potential. Practicing actuaries should study the committee's approach, its conclusions and the outcome. Plenty of thought should be given to whether attention to the reserve reconciliation on page 6 of the Annual Statement might have readily shown that something was seriously awry.

E.J.M.

LETTERS

Actuarial Notation

Sir:

It appears to me that Turvey's notation, well described by Frank G. Reynolds (Dec. 1982 issue) aimed at getting a notation linear in nature and resembling FORTRAN, presumably because it would lend itself directly to computerization and would minimize ambiguity.

But we may be shortchanging a notation system that represents decades of accumulated decisions. The central symbol with multiple subscript and superscript make it easier to keep the problem's dimensions straight, but is this the right direction? Maybe what we need isn't a new notation, but a new computer language?

APL was developed to be a mathematical concise language, general in nature and able to accommodate powerful vector operation. Since then, computers have become increasingly adept at handling characters, even those in Oriental languages. Why not, then, incorporate existing actuarial notation into an actuarial computer language.

For us as a profession to develop a new language is easier said than done. But, isn't it shortsighted to think that the only answer is to make our notation linear? Would doctors or chemists alter their professional notation just to accommodate a computer?

Larry Lang

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Language Aptitude

Sir:

I would object to re-introduction of a language aptitude test into our examinations. About seven years ago, I took such a test and did very poorly, but, disregarding that result I switched to an actuarial career and passed most of the exams at first attempts. Although FSA doesn't necessarily imply success in our profession, my experience as an actuary already suggests that the language test was misleading.

Furthermore, when I started graduate study for a Ph.D. in mathematics thirteen years ago, universities administered a special English test to foreign students. I did poorly, was instructed to enroll in an English class, but, ignoring this, went on and completed my Ph.D. smoothly.

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Letters

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My brother, whose English was even poorer than mine, completed his Ph.D. in math in two years.

What is important in a professional society is a member's creative ideas and ability to solve problems, not the ability to manipulate the English vocabulary. Studies have shown that those who are analytically-minded are usually not good at language, so imposing a language test upon them is an unnecessary burden.

Our Society, like our great universities, should concentrate upon developing creative capacity and problem-solving ability. To this end, I favor reorienting our Fellowship exams to put more emphasis upon those capabilities. And our E & E Committee might take a closer look at British actuarial exams. Our current exams go too far in testing which candidates can dump most materials from memory in the allotted time.

Chiu C. Chang

* * * *

Sir:

My evidence, solicited by Roy R. Anderson (Feb. issue), is subjective, inconclusive, and probably prejudiced.

I passed the English exam with flying colors, but my progress through the other ten was much slower and less spectacular. I believe that a high grade in the language test indicated reasonable ability to communicate, whether or not it predicted actuarial success. Hence, I agree with Mr. Anderson that dropping the English exam may have been a mistake, and that our actuarial perception can be enhanced by broadening our horizons to embrace the total environment in which we must operate.

John W. Grantier

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Social Security Recommendations

Sir:

I fail to see why release of the National Commission's recommendations (Feb. editorial) places any responsibility on actuaries' shoulders "to make sure that people recognize the chaos that impends if the Congress fails to enact them promptly", or "to do whatever we can to encourage passage of the essential legislation".

And I fail to see what the profession has to gain by endorsing these recommendations whose strongest selling point seems to be that they disappoint almost everyone.

If we have a responsibility by virtue of our training and profession, it is to represent the interests of future taxpayers and beneficiaries, who are likely to be ill served by this supposed solution.

Kenneth A. Steiner

* * * *

One Student Lost

Sir:

Although long an avid Actucrostic fan, until now I'd never even looked at an Actucrossword.

I can't believe what I've been missing! Now I'll never pass Part 2.

David Ross

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Late Study Material

Sir:

With utter disregard for its students needs, the Society failed to send notification of significant changes in the Part 10 course of reading, together with hundreds of pages of new study notes, until mid-March. Students were misled into studying TSA papers no longer on the syllabus, and were deprived of needed study notes until less than eight weeks before the examination.

Such cavalier behavior makes a cruel mockery of the labors required to prepare for exams while employed full-time. Steps must be taken to assure that such unconscionable delays never occur again.

Peter S. Kreuter

Director of Education Linden N. Cole replies: It is true, and most unfortunate, that the second mailing of Part 10 study notes was very late. We have no excuses, do not wish to see this happen again, and are looking into seeing that it doesn't.

* * * *

The General Math Exam Prizes

Sir:

While, through many years, responsible for tutoring the General Math correspondence course in Canada, I kept track of the correlation, such as there was, between prize-winning and later exam progress. During the sixties I shared Prof. Fischer's skepticism (March issue), but in the seventies, after the demand for pure mathematicians had shrunk, our

profession itself became inviting enough so that few examinees were after just the prize money.

I strongly favor a prize for the early exams but think the present system can be improved. Why not replace the present cash prizes by scholarships awarded to the those scoring highest in each of the Associateship exams? The scholarship's value might be waiver of exam and study note fees for the next Part not already passed. We would no longer have prize winners, but scholarship winners—more prestigious and permitting the sponsoring bodies to put the money to better use.

Frank P. Di Paolo

Ed. Note: The four letters that follow were solicited from past prize-winners. Mr. Di Paolo is close—father of one.

Sir:

The premise of the Society's prizes is that they'll attract, ultimately to our profession, students who otherwise might be unaware of our existence. For me, this wasn't the case; I had already accepted an actuarial student post with my first employer.

My surprise that the prize system has survived for more than thirty years is rivalled by astonishment that the general math exam has done so. In that period the computer has trivialized our traditional techniques. Facility with mathematics is being tested as an index (sometimes faulty) of problem-solving ability and intellectual discipline. The general math exam and its actuarial counterparts (Parts 2 to 4) have become more a barrier than a hurdle—they discourage people we should welcome and admit those we might better do without. Many actuaries and employers of actuaries may agree that graduation in the top half of a good business school is preferable to having passed Parts 1 to 4.

William A. White

Sir:

My recollection after a score of years is that the early exams were merely another challenge to a college math student; I didn't know much about actuarial science and had no intention of becoming an actuary.

And yet, winning a prize did influence my becoming an actuary. It en-

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CRISIS IN THE WORLD FINANCIAL SYSTEM

Ed. Note: This is an abstract by James W. Snell of an April address by University of Manitoba Professor John McCallum to the Winnipeg Actuaries Club.

The world financial system is an institutional arrangement among corporate banks, national banks, the International Monetary Fund, and others, set up at Bretton Woods, New Hampshire in 1944 to improve post-war international trade by fostering efficient flow of money and credit to facilitate transfers of goods and services, capitalizing on each country's relative strengths.

But this arrangement began to break down in the late 50's and early 60's when the U.S., partly from financing the Vietnam War, rang up huge trade deficits. Then came the oil price increase of the early 70's. No more than an inconvenience to the developed nations, it faced the lesser developed with a decision: cut back their development, or borrow. Meanwhile, the OPEC nations became rich beyond description; they deposited their excess funds in western banks at relatively low short-term rates.

These banks, assuming that a country couldn't fail, started a vicious circle by lending these deposits at supposedly profitable rates to the lesser developed countries for oil purchases and other consumption items. Next, the Reagan administration stepped in and decided to get inflation in the U.S. under control, a factor in plunging the U.S. and the world into recession. World trade broke down, bartering came to the fore, and the lesser developed countries found their own commodity prices down and their export revenues no longer meeting growth in their interest charges.

Suddenly, financial institutions found that multiples of their total equity were at risk to countries that couldn't even pay the interest on their obligations. Simultaneously, OPEC's oil revenues were down and they drew on their deposits to pay current bills.

Weekly, the crisis is held at bay as there is yet another delayed failure—a country is saved by having its loan repayments delayed, and further loans made to help pay the interest on the existing loans. We can't afford to let one bank go because the ripple effect would cause the whole house of cards to tumble.

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THE 1978 INSTITUTE AND FACULTY PROPOSAL ON NOTATION

by Frank G. Reynolds

(This is Article No. 10 in a series.)

A proposal presented in June 1978 by a study group of the Institute and Faculty Joint Working Party on Computers and Actuarial Notation provides an excellent summary of the problems faced by innovators in this field, as well as the consequences of clinging to the present notation. By developing a systematic translation from the present symbols to those proposed, headway is made toward achieving a computer-compatible language while avoiding a complete break with tradition.

The authors begin by noting that within every actuarial function exists a natural linear sequence, viz.,

Lower Left Prefix / Main Function Letter / Lower Right Suffix.

In the proposal, all symbols are on one line; accents follow the symbol they modify; the upper right superfix is placed between the main function letter and the lower right suffix. The upper left superfix, optional in present notation, is dropped. At this stage of the translation, the point reached can be illustrated thus:

Present	Becomes
$a_{x:y:\overline{n}}$	$ax;y:\overline{n}$
$t \overline{A}_x$	$t A^x$
$A_{x:\overline{n}} \frac{1}{n}$	$Ax:\overline{n}1$

Here the authors pause to note that since certain of our present 30 symbols and 15 accents are rarely used and some can be adequately represented by a combination of symbols, their number can be cut to 26 and 10. The proposed notation emerges by associating a number with each accent and special character; for example, a bar becomes 3, and the customary angle, $\overline{\quad}$, becomes the 7 it already resembles. The outcome then is:

Present	Fully Translated
A_x	AX
\overline{a}_{xy}	B3XY
$A_{xy:\overline{n}} \frac{1}{n}$	AXY8R71
$t a_{x:\overline{n}}$	T6BX8R7
$a_{55:70}^{(4)}$	BK9XY(4,55,70)
$10 \overline{a}_{x:y:15}^{(4)}$	T6B2K9X8Y8R7(10,4,X,Y,15)

The authors proceed to tidy the mechanical translation with logical simplifications, even managing to reduce T6B2K9X8Y8R7 (10, 4, X, Y, 15) to T6B2KXYR (10, 4, X, Y, 15) by noting that colons needn't be translated and that R can represent the angle bracket.

This proposal, admittedly not the end of the author's trail, seems to present three main difficulties:

1. The main or central symbol doesn't always come first, and often must be searched for.

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2. Replacing the special characters by numbers creates sequencing problems and detracts from readability.
3. The total expression quickly becomes unwieldy.

Yet, this plan represents progress on several fronts. It directly and systematically addresses the problem of computer-compatibility; it reduces the needed letters to the 26 of the English alphabet; it demonstrates that some of our present symbols aren't needed.

Ed. Note: This brings to its end Mr. Reynold's informative series. We look forward to his reports of future notation developments. □

THIS MONTH'S QUERY FOR ACTUARIES

Never before has a newspaper's remark about actuaries stirred up so much mail to us. A record, that may stand for a while, was set by a piece in the March 21st *Wall Street Journal* describing a planned TV game show in which unemployed contestants are to display their qualifications "for a genuine job with a genuine employer".

After citing some unusual careers that may be featured, the article closed thus: "Mr. Vane (the directing executive) concedes that the demonstration part of 'Help Wanted!' may cut down on its ability to offer white-collar jobs. The show's producers haven't yet thought of an exciting way for, say, an actuarial statistician to show his stuff on the air."

We are most grateful to the readers who have drawn this to our attention. This month's query is:

What is an exciting way for an actuarial statistician to portray on the air just what the work entails, and also to demonstrate his or her own job skills, as the show will require?

Please send answers to the Editor at his masthead address, for summarization with attribution.

E.J.M.

ACTEX STUDY MANUALS

Actex Study Manuals are available for all Fall 1983 exams except Part 9. New editions include Part 2 (much expanded), Risk Theory (slightly so), and Part 7 (complete for all four specialty options of 1983 syllabus). Particulars, if not already in your company, from: ACTEX, Box 2392, Framingham MA 01701.

Richard L. London

TWO-TIMERS

There was a time when our students had the opportunity to display their fortitude, and perhaps to increase their chances of achieving a passing grade, by sitting for both of the separate sets of examinations administered by the then independent actuarial bodies, the Actuarial Society of America and the American Institute of Actuaries. Long before these two merged to form our present Society, joint examinations came into effect in three stages, viz.,

- 1929 Associateship, Parts 1-4
- 1932 All Associateship, Parts 1-8
- 1938 All Associateship and Fellowship Parts

In *T.A.S.A.* 50 (1949), 212, Reinhard A. Hohaus recorded the names of 35 members, dubbed "two-timers", who had earned Fellowship in both bodies "by passing separate and distinct examinations in each body from the first Associateship part to the last Fellowship part". Mr. Hohaus went on to comment thus:

"While this group, being closed to new entrants, can claim to be exclusive, they certainly will not be envied by the others who had the good sense or good fortune to have one or more examinations of either body waived. Incidentally, one of these others is the man who wrote all the Fellowship examinations in both bodies one year, and passed the first half and failed the second half in one body, and failed the first half and passed the second half of the other. That was a striking illustration of the need for joint examinations, because recurrence of such cases would certainly not reflect favorably on the prestige of the examination standards, etc., of the two bodies.

"A movement is under way to have the two-timers form an informal organization with purely social objec-

tives. I hope it materializes because it would be a unique experience to belong to an actuarial organization in which there will never be a debate as to the requirements for admission to membership."

If such a club materialized and still exists, its complement now is 16, five of them Canadian. Arrayed in order of Fellowship (in whichever body each got there the earlier), these two-timers are:

1924

Reinhard A. Hohaus

1925

William F. Poorman

1926

Joseph A. Budinger

1927-28

(None)

1929

Elgin R. Batho

Walter O. Menge

Carroll E. Nelson

1930

Harry M. Atrubin

Alton O. Groth

Benjamin T. Holmes

Daniel J. Lyons

1931

Joseph B. Glenn

John H. Miller

1932

George Kenigson

Thomas B. Morrison

1933

Harold R. Lawson

1934

(None)

1935

Edgar M. Jackson

We hope that some of these oldtimers seeing this may be moved to comment upon their motivations as they now recall them, and their reflections in retrospect upon the wisdom of having voluntarily endured those extra hours in purgatory.

E.J.M.

COMMUNIQUÉ

We warmly welcome, as a sister actuarial publication, this monthly news-sheet being sent to its member-subscribers from the headquarters of the Canadian Institute of Actuaries.

Letters

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couraged the company in which I was a summer student to offer me a part-time job during the rest of the school year. I suspect that the resulting familiarity with actuarial work was a major cause of my going back to it after my post-college army service.

Howard Young

Sir:

My impression is that the prizes add a certain incentive. The money is nice to have and the recognition good; they put one's focus on the exams, and encourage achieving more than a passing grade. At a stage in life when one isn't employed, a cash prize does excite interest.

John R. Gardner

Sir:

Although I know of prizewinners with no interest in actuarial work who were just after the money, I believe that the possible benefits of the prizes outweigh the risk.

The prizes serve to publicize our profession; I personally first heard of actuaries through the exam notice posted on a bulletin board. Even if no prizewinners continued in actuarial science, the publicity alone is surely worth the small cost.

The question whether I would have entered the profession if there had not been an award system is too difficult for me to answer. But I feel sure the award system should be continued; if anything, the prize amounts should be increased beyond their 1946 levels.

Steven F. McKay

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Theory Of Interest

Sir:

May I point out that Cauchy's equation $f(x+y) = f(x) + f(y)$ discussed by S. David Promislaw (March issue), which is a characterization of linear transformation under continuity assumptions, is a special case of the Sinzow functional equation $F(x, y) = g(x) - g(y)$ where g is arbitrary. To obtain Cauchy's equation, put $F(x, y) = f(x - y)$. The solution to Cauchy's equation is arrived at by taking $g(x) = cx$ where c is a constant.

Mr. Promislaw's last paragraph isn't clear to me. If he means that the continuous solution $f(t) = ct$ can be obtained by assuming continuity at only one point, I'd enjoy seeing that proven. There are infinitely many solutions of Cauchy's equation if the solution's continuity isn't assumed.

Dan Quick, Jr.

Ed. Note: Mr. Quick is a student of the Society.

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Unisex

Sir:

Kudos to Allan Hale Johnson (April issue) for his exposé of the invidious discrimination being perpetrated by the horse-racing industry. Alas, recent Capitol Hill developments may require that piece to be re-titled "The Race Is Not To The Swift . . ." (Eccles. 9:11).

Harry I. Klaristenfeld

* * * *

Sir:

The balanced treatment of unisex pricing that Daphne D. Bartlett seeks (April issue) has been given. The Wall Street Journal, USA Today's editor, syndicated columnist William Raspberry, Fortune's Daniel Seligman and others have espoused the anti-unisex position. One can hardly turn on the TV without seeing Barbara or Mavis—two actuaries so well known that last names are superfluous—jousting with the enemy on talk shows.

There are four positions, the first three of which are held by actuaries:

- *Chicken Little & Co.* If we use unisex annuity rates, the resulting assessment spiral will bring the pension and insurance industries crashing down.
- *Domino Theory.* If we give in on sex, next to fall will be age and health. The actuary's tools will rust.
- *Survivalists.* Unisex annuity pricing in employee plans is feasible, and, prospectively applied, won't bring the industries to financial ruin.
- *Well Intentioned But Misguided.* Used to describe those who hold that the Civil Rights Act requires non-discrimination in pension benefits, and those who espouse theories that actuaries dislike, e.g., the overlap theory and the theory that people are individuals.

The preponderance of female Domino and Chicken Little actuaries in the forefront of public discussion is intriguing. Is this the result of random chance, or genetic differences, or is some unseen force at work?

Conrad M. Siegel

* * * *

Sir:

The position that Mr. Siegel dubs "Survivalist" has been supported by many actuaries, including me, for some time. Today's primary issue is whether the traditional classification system involving age, sex and state of health should be allowed to continue for voluntarily purchased non-employer-related insurance and annuities.

I believe that it should, and that keeping it is entirely consistent with the stand Mr. Siegel calls well intentioned but misguided, that people are individuals. Far better to have ALL individual characteristics considered when applying for life insurance or an annuity than only those that somebody in authority decides are acceptable under civil rights policy.

Daphne D. Bartlett

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The Dropping Out Hazard

Sir:

Having seen three cases of students who studied hard and yet failed, I share Dorn H. Swerdlin's view (April issue) that Part 7E is too difficult. In another case, a student failed three times, though knowing the subject thoroughly for at least the last two. I have sat seriously for Part 7E twice without success, an experience completely different from those on my earlier parts. I had thought I understood how hard one must work to pass a Society exam; Part 7EA changed all that.

I don't advocate making the Society exams easier in general. We would pay a dear price for that. But I do wonder about that one part. One difficulty with it is its overemphasis on speed and exam-taking technique. I applaud recent actions to put more of the regulatory element of pension consulting into the exams.

One of the reasons that many aren't going after FSA is that the FSA designation just isn't as essential to success in pension consulting as it is in insurance.

Mr. Swerdlin's prediction about future pension actuaries turning to ASPA deserves attention. ASPA has come a long

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Letters

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way. Many who were laughing a few years ago are no longer doing so. ASPA represents the interests of the small plan consulting world better than any other group, and bids fair to eclipse the Society in that field. While we're smug in our superiority, ASPA is out there playing catch-up ball.

(Name withheld, but revealed to the Editor.)

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Sir:

A possible solution to Dorn Swerdlin's problem might be for all similarly concerned employee benefit actuaries to stem the drop-out hazard by dropping into the E. & E. Committee activities.

Roland A. Dieter

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Forgetting Our Purposes

Sir:

Once upon a time the Society functioned solely as a professional and educational body. It carefully avoided being used as a forum for promoting any of the industry's partisan viewpoints. But here are some ways in which those hallmarks have become vestigial:

- Disclaimer clauses in our professional journal, the *Transactions*, are notably inconspicuous.
- Authors now exercise some control over what discussions of their papers get printed.
- Candidates for Society office neither publish nor debate their views on issues of the day.
- Control of committee memberships and responsibilities is indirect.

And two recent events show that elements in our membership are using the Society for promotion of partisan viewpoints that formerly would have been inadmissible:

1. A committee dominated by mutual company actuaries proposes, via Opinion 13B, to extend professional guidelines for allocating divisible surplus to non par products on which no dividend warranties had ever been made.
2. A paper "written to demonstrate that universal life and indetermi-

nate premium products are participating plans in disguise" has been accepted for *TSA XXXV*.

Now is the time for members to ask whether our basic professional and educational aims are served when the Society is used in such ways—and, if so, what ground rules must be established to keep the Society from being fragmented into separate bodies promoting various industry viewpoints.

Unless something is done, the Society's control of professional and educational standards, and the respectability that these have brought to each of us, will become nostalgic memories. The Society will be sadly remembered as an organization that forgot, rather than outlived, its basic purposes.

J. Calvin Winter, III

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Health Care Cost Control

Sir:

Daniel W. Pettengill (March issue) suggests ways for actuaries to handle the havoc wrought by steeply rising health care costs. This is also a major issue for corporations; in a recent Business Roundtable survey, member companies viewed the collection of health care claims data as a critical prerequisite to control.

At AT&T, where the health care bill is almost 50% of pension expense and ranks second in all fringe benefit costs, we have developed a data base for medical care claims throughout the Bell System. This, of course only the first step in the control process, will permit monitoring cost containment features, measuring the financial effect of benefit planning activities and of life-style and consumer education of employees relative to quality of care, and interaction with providers and carriers.

Each inpatient hospital stay is classified into one of 467 Diagnosis-Related Groups (DRGs), which may be summarized into 23 major diagnostic categories.

Various standard reports are produced, and direct access by individual companies in our system to the data base enables them to answer questions that these reports raise. Standard report items include a listing of hospitals with excessive weekend admissions, long pre-operative stays, or greater than expected lengths of stay for individual DRGs. The data base also facilitates audit functions such as detecting duplicate claim pay-

ments or payments to ineligible persons.

The majority of Business Roundtable companies have indicated that our data requirements provide adequate information for their health care cost containment efforts.

Donald P. Harrington

Michael J. Gulotta

Neela Ranade

* * * *

Pork Chops

Sir:

Word in your March issue that eight learned actuaries, not one of whom works for an insurance company, have taken issue with the Academy, the ACLI and the NAIC in the Norris case, brings to mind the conversation in a butcher shop:

Customer: Your \$3.00 a pound for pork chops is exorbitant! The store down the street is charging \$2.50 a pound.

Butcher: Why don't you buy your pork chops there?

Customer: They didn't have any.

Butcher: If I didn't have any, I'd charge \$2.00 a pound.

Jack W. Roberts

'UMBLE PIE DEPT.

The closing paragraph of Warren R. Luckner's letter, "Grasping Life Contingency Principles", on page 8 of our April issue, failed to appear in the printed version. We apologize to Prof. Luckner and to puzzled readers for having omitted his key summing-up, which was this:

"In Jordan's text *both* his intuitive argument *and* the basic principle of equating present values, yield the standard approximation for insurances with claims paid at the end of the year of death. This is *not* true for immediate payment of claims, and thus, although it is important to develop some intuitive feel for actuarial concepts, an understanding of the basic principles is perhaps most important. We should never lose sight of those principles."

E.J.M.

DEATHS

Ross E. Moyer, F.S.A. 1926
Ralph H. Niles, F.S.A. 1951
Peter M. Tompa, F.S.A. 1948

CONGRESS PAPERS FROM NORTH AMERICA

From our respective National Correspondents—Michael Rosenfelder, Canada, and John C. Angle, U.S.A.—comes word that the following papers have been received for presentation and discussion at the International Congress in Sydney, in October 1984:

From Canada

Computational Techniques in Reinsurance

by Harry H. Panjer and Gordon E. Willmot

Introducing Employee Choice Into Benefit Design

by Frank Livsey and John C. Roberts

Models of Moral Hazard

by Phelim P. Boyle, John E. Butterworth and Piet de Jong

From U.S.A.

Partial Disability Insurance

by John H. Miller

Life Company Policyholder Protection in the United States: An Examination of the Options for Assuring Reserve Adequacy

by Robert L. Collett

Optimal Allocation of Assets for Pension Plans

by Irwin T. Vanderhoof

Managing Relationships Between Assets and Liabilities for Insurance Companies and Pension Plans in a Changing Interest Environment

by James A. Attwood

Political, Social and Other Influences on the Actuarial Profession in the United States of America

by William A. Halvorson

Inflation Rates and Investment Yields: The Interrelationships

by John M. Bragg

Women, Pensions and Mitigated Injustice

by Ralph E. Edwards

Reserves and Solvency in a Fluctuating Interest Rate Environment

by Charles Greeley and Harold Leff

Variable Actuarial Assumptions and the Solvency of Private Pension Plans

by Paul H. Jackson

The New Era of Tax Effective Employee Contributions

by Arthur B. Kagan

Mandated Equality By Sex In Pension Plans

by Ardian C. Gill

Providing United States Social Security

Coverage on a Privately Funded Basis
by Rudolph M. Lohse and
Alexander Sussman

Impact of Inflation on Pension Benefits
by William C. Hsiao

Comparing The Accuracy of Some Liability and Property Insurance Forecasts

by John S. McGuinness

Measuring Solvency and The Adequacy of Casualty Loss and Expense Reserves from the Point of View of Insurance Regulation

by Richard J. Roth, Jr.

World Financial System

(Continued from page 4)

Prof. McCallum's closing comment: "Talks like this probably shouldn't be given as they get people depressed about something they really can do nothing about." In reply to a question about imminence of collapse, he said that he personally rates it in the neighborhood of 25%; another observer has placed it at between 25% and 40%.

Federal Statistics

(Continued from page 1)

Suggestions for improving communication are also welcome. You can begin by subscribing to "NEWS FROM COPAFS"—just send \$30. to COPAFS, 806 15th Street N.W., Ste. 440, Washington DC 20005. You will find it interesting as well as enlightening.

Non-Routine Business

(Continued from page 1)

proves them, which it may have done before these words appear in print, the transition will start next year.

10. At its customary planning meeting, the Executive Committee this year studied the following questions:

- Whether the Society is adequately equipping its members to do their jobs (a topic scheduled for debate at the Chicago and Vancouver Spring Meetings).
- Whether the Society is meeting the needs of pension actuaries.
- Whether FSAs should be accredited to sign life company statements.

Life Contingency Theory

(Continued from page 1)

Gerber, James C. Hickman, Donald A. Jones and Cecil J. Nesbitt to write the successor to Jordan's text; their task was to introduce the subject "from a generalized viewpoint using a variety of insurance examples to illustrate applications of principles . . . The central thrust of (the) preliminary chapters will be the random or probabilistic nature of the insurance business. Application sections should discuss the deterministic or expected value approach to net premium calculations." Risk theory was to be taught also.

My present aim, is to assure all concerned that the mathematics in the new text is easily accessible to those familiar with the basic concepts in Parts 1 and 2 of the Society's syllabus. Once the nomenclature is grasped, a striking parallelism between the old and new approaches can be recognized and the advantages of the modern approach appreciated.

An Offer To Interested Actuarial Clubs

I have developed a 3-page comparative summary of the deterministic and probabilistic approaches which I believe captures the essence of the theory. It has been tried out at one actuarial club meeting. The reaction of the students and the actuaries there struck me as favorable; they found the probabilistic notions understandable, the use of statistical variance acceptable, and the mathematics readily within their grasp.

In order that others may decide about this for themselves, I am sending copies of this material to all the actuarial clubs listed in our 1983 Yearbook, with a suggestion that they devote a few minutes at a forthcoming meeting to distributing copies and discussing the subject under the leadership of any club member who feels comfortable about serving as discussion leader.

BANNER BOOK BOUNTY

Up to the eve of its move to new quarters, the Society office had received 700 orders in its Two Dollar Book Sale. Net receipts were well above \$20,000. This was after refunding more than \$5,000 tendered for requests that outran the available copies.