



# The Actuary

The Newsletter of the Society of Actuaries

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## ACTUARIES AT WORK IN OTHER LANDS: THE PHILIPPINES

by Alfonso P. Garcia, Jr.

*Ed. Note: Readers around the world are invited to contribute companion articles for this series. Having visited the Philippines, all too briefly, in 1981, this editor heartily draws attention to Mr. Garcia's closing paragraph.*

The Actuarial Society of the Philippines began its organizational evolution (as the Philippine Actuarial Society) on March 12 1953. Its eight founding members—one American and seven Filipino actuaries—were Emeterio Roa, Sr., Luis Salvosa, Exequiel Sevilla, Federico Roa, Sr., Manuel Hizon, Orvar Ehrenclou, Emeterio Roa, Jr., and Conrado Roa. Notably, all these seven Filipinos had their actuarial education beginnings at the University of Michigan at Ann Arbor. Although envisioned as a vehicle by which practicing actuaries could exchange views on professional and procedural topics, the Society served in those days more as a social forum.

In 1959, spurred by strong desire to emphasize more the professional, technical, and academic aspects of actuarial work, the Society assumed a more formal structure. Its first Annual Actuarial Convention proved to be a big success as selected members presented thought-provoking actuarial papers for discussion.

Then, on January 20, 1969, the Society officially began to assume a juridical personality by virtue of its incorporation. Its name was changed to "Actuarial Society of the Philippines," and by-laws were adopted conducive to "study and discussion of actuarial and allied phases of life and disability insurance, annuity and pension funds, accident and health insurance, with

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## SEE HOW WE GROW

At the end of 1929 our roster of Fellows (counting both the Actuarial Society and the American Institute but eliminating duplications) totalled 360. Half a century later, the number was 4,024. Here are the details by decades:

| End Of | Number of Fellows | Compound Annual Growth Rate For Decade |
|--------|-------------------|--|
| 1929   | 360               |  |
| 1939   | 471               | 2.7%                                   |
| 1949   | 673               | 3.6                                    |
| 1959   | 1,081             | 4.9                                    |
| 1969   | 1,888             | 5.7                                    |
| 1979   | 4,024             | 7.9                                    |

The corresponding average annual growth rate through the first two years of the decade of the '80s has been 6.7%. These two years are measured, in conformity with our current Yearbook practice, from November 1, 1979 (3,934) to November 1, 1981 (4,480).

## Doubling Times

Starting from 1893 when the 80-Fellow mark was reached, our doubling periods have been:

| Number        | 160     | 320     | 640     | 1,280   | 2,560   |
|---------------|---------|---------|---------|---------|---------|
| Yr. Reached   | 1909*   | 1927    | 1948    | 1962    | 1974    |
| Doubling Time | 16 yrs. | 18 yrs. | 21 yrs. | 14 yrs. | 12 yrs. |

\*The 160-Fellow milestone might not have been reached until about a decade later had not the American Institute come into being in 1909 with 42 Charter Fellows.

If, as seems likely, we reach 5,000 Fellows by 1984, thoughts will naturally turn to a 10,000-Fellow organization in the 1990s. Director of Education Linden N. Cole cautions us though that the number of Part I candidates has been declining.

E.J.M.

## SOCIAL SECURITY DIARY: 1981-1982

by Robert J. Myers

*Ed. Note: At our request, Mr. Myers tells of a recently ended segment of his remarkable career, and another just beginning. Readers may care to look also at his one-page statement at an earlier turning point (TSA XXII (1970), D313).*

In March 1981, I accepted a political appointment as Deputy Commissioner of Social Security (for Programs). The basic responsibilities were to develop policy and aid in legislative steps, to

implement enacted legislation, and to have general supervision over SSA's actuarial and research functions. Although often tempted to don my "actuarial hat" I tried hard to avoid interfering with the professional work of OACT, the Office of the Actuary.

It will be no surprise to my fellow actuaries that I strongly supported the OACT in its many important activities. I was particularly pleased to be able to restore its independence, so that after having been relegated to a lower level it again reports directly to the Commissioner of Social Security through the

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**Letters**

*(Continued from page 2)*

Sir:

"Hooray!", say I (from Australia). I shall have to found a new society, the S.M.H. (Society for the Misuse of the Hyphen) to put alongside the already swollen S.A.S., S.A.A. and S.A.H. (Societies for the Abolition of the Subjunctive, the Apostrophe and the Hyphen) to which so many of my acquaintance belong.

*Lawrence J. Cohn*

\* \* \* \*

**Studying Group Health Experience**

Sir:

Although in agreement with Robert H. Dobson (November 1981 issue) that employment (or unemployment) is a good indicator of health insurance enrollment experience, I think we must recognize that change in the unemployment rate is a resultant of two elements: growth in number of available jobs, and growth in the labor supply.

In sixteen of the months during 1976-80, fluctuations in the non-agricultural labor supply have caused the unemployment rate to move in the same direction as that of total employment. This is true also of six quarters during those five years.

To avoid being misled by this phenomenon, we should look to total employment, rather than to the unemployment rate, as our safest indicator of the population eligible for group health coverage.

*Andrew H. Hiles*

*Ed. Note: Mr. Hiles is one of our students with a degree in economics.*

\* \* \* \*

**A Job For E. & E.**

Sir:

Our E. & E. Committee has structured the Associateship exams so that six exams are numbered one through five—reminiscent of proving that a dog has five legs if you call its tail a leg. Maybe we should turn that committee loose on pi; they might get rid of those pesky numbers after the decimal point.

*Peter A. Fox, Jr.*

\* \* \* \*

**Loss Ratios**

Sir:

By way of comment on Godfrey Perrott's letter (November 1981 issue): Minnesota has passed a law which, *inter alia*, requires point-of-sale disclosure of credit insurance loss ratios. This may be the wave of the future, and quite heatedly debated problem.

The fact remains that only by coincidence (or piracy) will two companies have equal loss ratios, even with identical forms, rates, underwriting and claim handling. If Company A's loss ratio is 50% but Company B's, because of large claims or random fluctuation, is 65%, is Company B's policy the better buy? If B's higher ratio results from more liberal underwriting, B's product would be no better than A's for those who meet A's standards; but B's would be the better buy if that higher loss ratio results from more liberal benefit definition or claim administration practice.

Merely publishing loss ratios won't be of much help to the public in this choice.

*Charles M. Underwood, II*

\* \* \* \*

**Propensity and Celerity**

Sir:

Of each 18,000 members of the North American adult population, one is an actuary. Yet John H. Cook reported (December issue) 44 calling themselves actuaries among 16,000 New York City Marathon entrants. And among 1,734 finishers last November in the Ocean State Marathon I personally counted four F.S.A.s. So there were about 50 times the expected number in the one case, and at least 26 times the expected in the other. Were these mere fluctuations, or is our profession so disproportionately represented in marathon running generally?

In Rhode Island our quartet all finished within about 15 minutes on either side of 3 hours: Frederic W. Corwin, 2:53:51; David W. Buddington, 2:57:40; Michael J. Cowell, 3:13:46; and Robert L. Knowles, 3:15:40. One comes readily to the conclusion that New England actuaries are much swifter than their New York counterparts.

*Michael J. Cowell*

\* \* \* \*

**Law of Mortality**

Sir:

If two remarks in *T.S.A. XXXII* (1980) are placed next to each other, perhaps together they give a clue to why mortality curves obstinately refuse to adhere to Gompertz' law.

On page 166, Michael Cohen mentions that Frank M. Redington in 1969 (*J.I.A. XCV*, 243) visualized the population as consisting of a mixture of "pure strains." On page 209, Michael J. Cowell and Brian L. Hirst suggest that the sex differential in mortality can largely be explained by differences between men's and women's smoking habits.

If smokers and non-smokers are indeed two pure strains, each with its own limiting age, that is, if their  $\mu$  values perhaps approach but never merge, might this account for the well-known falling away from Gompertz values at the high ages?

*Carl J. Strunk*

\* \* \* \*

**Rate Schedules**

Sir:

A possible answer to Charles A. Will's objection to talking about "non-smoker discounts" (October issue) is to design premium rates for the non-smoker, then to quote "good smoker add on." Smokers could be categorized by the number of packages smoked per day all the way up to those seen unacceptable for insurance.

*Bruce E. Olson*

\* \* \* \*

**Fractured French**

Sir:

I hope Ernest R. Vogt (Nov. issue) doesn't cause distress to our French-speaking members. When I took high school French, "this" was "ceci"; "ça" was a colloquial pronoun for "cela" ("that"), never used as an adjective.

I'm told Quebec French is different. Is it really that different?

*Gilbert V. I. Fitzhugh*

Conceding the point, Mr Vogt comments:

"The fact is, I do speak French badly. Rest assured that what I do to the French in Quebec, a group of whom I'm proud to call my friends, is done with affection."—*Ed.* □

### SOME ACTUARIAL QUESTIONS ON MARITAL DISSOLUTION

by Ralph Garfield

A growing field for actuaries in these disharmonious times is the value, in event of marital dissolution, of fringe benefits, specially of pension benefits earned while married.

Discussion centers on the assumptions used to determine the present values, e.g., the "right" interest rate, the "right" retirement age, the effect of taxation; seldom do we discuss the life contingencies involved. I suppose this is because it's natural to calculate the present value using the factor  $\ddot{a}_{r-x}|_x^{(12)}$ , where  $r$  is the assumed retirement age. I am questioning this factor! But first I want to raise a similar question in "wrongful death" cases.

#### Wrongful Death

In calculating a settlement for loss of income in the event of "wrongful death", it seems natural to use the factor  $\overline{a}_{x:r-x}$ . Any argument typically involves assumptions for interest rates, future pay raises, inflation, etc. However, since the plaintiff is suing for loss of income and would only have enjoyed the deceased's income if both were alive at the same time, surely the factor should be  $\overline{a}_{x:y:r-x}$ , where  $y$  is the plaintiff's age. After all, if the plaintiff dies along the way, he or she would receive no benefits from the income; they would hardly bury the money along with the plaintiff.

I have not searched the literature to see if this view is accepted; however, Miles M. Dawson in his 1904 paper to the International Congress gave formulas involving joint life contingencies. Also a Swiss actuary discussing J. H. Prevett's 1968 Institute of Actuaries paper (J.I.A. 94, 293) asserted that in his country the courts have accepted use of joint annuity values.

#### The General Case

Returning to the divorce situation: to avoid repeated use of phrases such as plan participant, spouse, him, her, let us define the following:

- A — denotes plan participant currently age  $x$  retiring at age  $r$ .
- B — denotes spouse currently age  $y$ .
- $u$  — denotes difference in their ages, i.e.,  $x-y$ , which may be negative.

P — denotes a straight life pension accrued to A while married.

The actuarially equivalent qualified 50% joint and survivor pension we'll call  $\hat{P}$  where:

$$\hat{P} = P \cdot \frac{\ddot{a}_r^{(12)}}{\ddot{a}_r^{(12)} + \frac{1}{2}(\ddot{a}_{r-u}^{(12)} - \ddot{a}_{r:r-u}^{(12)})}$$

Now B will only enjoy A's pension if both are alive when A reaches age  $r$ . After all if B dies while A is in active service, then B is in no position to enjoy any of those pension credits. Once A retires and while B is also alive, B, under

the equitable distribution rules, would receive 50% of the joint pension; furthermore, if B is alive at A's death, B would enjoy the full 50% reversionary annuity, (after all, these are the benefits being given up because of the divorce). Thus at retirement B's share is

$$\hat{P} \left[ \frac{1}{2} \ddot{a}_{r:r-u}^{(12)} + \frac{1}{2} (\ddot{a}_{r-u}^{(12)} - \ddot{a}_{r:r-u}^{(12)}) \right] = \frac{1}{2} \hat{P} \ddot{a}_{r-u}^{(12)}$$

The value of B's share should be:

$$\hat{P} \cdot \frac{D_{r:r-u}}{D_{x:y}} \ddot{a}_{r-u}^{(12)}$$

If the actual pension is other than the above 50% joint and survivor annuity, the formulas would be changed.

Then there is the question of the ERISA death benefit in the event of A's death while in active service during the time he was eligible to retire early.

All this is very complicated especially to judges and attorneys who usually have only a rudimentary knowledge of discounting anyway.

Could it be that the whole premise of calculating the present value of the accrued pension is wrong? One might argue that the "right" amount to go into the pot for equitable distribution is the amount contributed to the plan on A's behalf plus interest, since if there had been no pension plan this amount could have been paid to him as salary and perhaps gone into savings. True, in large plans no individual allocation by participant is made; however, an estimate using an individual level premium funding method is feasible.

Much of the above can be considered as random muse (to steal an old actuarial quotation). I would be interested in other views. □

#### PARADOX

"It is an irony of existing regulation that, if the life insurance industry in the United States were required to file financial statements according to the statutory rules of the United Kingdom, most companies would be insolvent; and if the life insurance industry of the United Kingdom were required to file financial statements on the basis of statutory requirements in the United States, most companies also would be insolvent."

James C. H. Anderson,  
in his company's publication  
**EMPHASIS**

#### Study Note Service

Members are again reminded of the Society's Study Note Service, making available to you what students get, though not quite so promptly, and without previous exam questions and illustrative solutions. Order from Chicago, sending \$ US 250 if you're a new subscriber who will get a complete set—or \$ US 80 if you are renewing and want revisions and new material only.

L.N.C.

## SIGHTINGS

At least three of our members have received attention lately in *The New York Times*.

Joseph H. Mirzoeff and his wife Charlene were featured in a November 25th piece about joys and tribulations of spouses who are especially good at the same competitive recreation. Both excel at backgammon.

Jerome M. Stein took issue with sports columnist Red Smith (since deceased), the question being whether the controversial playoff system in baseball's major leagues last fall was a "Shaughnessy playoff"; Smith had said Yes, Stein argued No. The Shaughnessy system, dating from 1933, calls for a first-place finisher to play the fourth-place team, and the second to play the third.

Robert J. Myers, in a letter, disputed a correspondent's remark that Otto von Bismarck selected age 65 for retirement in Germany's social security system a century ago. Mr. Myers made reference to the April 1978 issue of this newsletter.

In the November 14th issue of that same newspaper, in a description of New York State's \$5 million Lotto prize for a \$1 ticket, it was reported that "Actuaries for the lottery say the odds against a better winning the entire \$5 million are one in 1,919,190 . . ." The identities of those actuaries weren't revealed.

Conrad M. Siegel sent us a description of a foundation's "validation study of insurance actuaries": "We tested 39 actuaries for a large insurance company in the Northeast. In addition, we tested 14 employees of the company who had tried, but failed, to become actuaries. . . . The successful actuaries scored higher than the unsuccessful ones on Paper Folding. . . . The best predictor of success as an actuary was surprisingly, our Paper Folding test." The writer warned that this intriguing result should be considered tentative until duplicated in another sample.

Mark J. Gallagher told us that *People* magazine of November 2nd quoted Australian actor Bryan Brown on his prior work as an actuary: "It was close to being the most boring job in the world, but I had to make a living."

Rolf Trautmann reports that a character in the movie "Four Seasons" is a

middle-aged life insurance salesman who wins the heart of a beautiful blonde by impressing on her that he knows actuarial tables. Rolf recommends that the unmarried among us start studying 1980 CSO.

Ralph E. Edwards observed in the December 2nd *Baltimore Sun* the sad case of a Vermont exam grader who erroneously reversed the grades, giving a grade of one to the best answers, down to five for the worst. The candidates aimed to be lawyers.

From Michael Mudry came an account, in Eastern Airlines' inflight magazine but originally in *The New Yorker*, of Prudential Insurance Company's imaginatively designed Princeton, N.J. buildings, described as "provident in use of resources, durable, sensible, actuarial . . .".

And Robert J. Myers draws attention to this remark in the famous *Atlantic Monthly* article, "The Education of David Stockman": "The Social Security problem is not simply one of satisfying actuaries," Stockman conceded. "It's one of satisfying the here-and-now of budget requirements." *E.J.M.*

## COINTRA CONFERENCE IN STOCKHOLM

by Helga Kronheim, D.Sc.

*Ed. Note: Dr. Kronheim, an Amsterdam actuary, kindly permits us to print excerpts from her report of this Conference. She mentions that the Sveriges Reinsurance Company publishes the full Conference proceedings.*

Continuing a line which started in Vienna as far back as 1927, COINTRA (an acronym for "Coopération Internationale pour les Assurances des Risques Aggravés") held its 14th conference in Stockholm from 9th to 12th June, 1981. Some 110 representatives from life assurance and reinsurance companies, established in more than a dozen countries, were in attendance for the purpose of exchanging information and reviewing developments in substandard life assurance.

COINTRA has 9 active members—so described because they operate a Pool for reinsuring substandard risks—from 8 European countries, and 37 corresponding members from 19 different countries. The Pool has been in exist-

tence for over 20 years . . . From all that was heard at the conference it was apparent that in general COINTRA members (correspondent as well as active) are continuing their attempts to grant terms, though expensive, to applicants who "nobody would have even looked at some 8 or even 4 years ago". . . . Most impairments associated with a high extra mortality are represented in the cases submitted to the Pool, including two which were subjects at the conference, viz. Hodgkin's disease and kidney insufficiency with renal transplantation. . . . Problems of heart arrhythmia and strokes formed the subject of (other) contributions.

Also considered was the suicide risk, on which a Swedish University Professor contributed to the discussions with an introductory lecture. Here the situation is rather sad on various counts; suicide rates increase as the standard of living goes up and all kinds of prevention programmes have proved ineffective. One of the few positive developments is that the introduction of carbon dioxide free gas in British household ovens appears to have led to a fall in the number of suicides in that country!

A problem in many fields is nowadays the question of privacy for the citizen, who looks with great suspicion upon the data-banks which are being set up by government bodies and private enterprise organizations. Chosen as another conference subject was therefore privacy protection in life and health insurance and professional secrecy on the part of medical practitioners. Reports about the current situation and proposed legislation in various countries were submitted . . .

The question whether one day for the acceptance of disability business on impaired lives it will be possible to leave the experimental stage and achieve a degree of expertise similar to that in substandard life assurance must be answered in the negative. Consumerism and the liberalization of conditions by social security organs means—in the words of one author—that "substandard disability risks are increasingly in a position to submit claims at almost any time." □

## Deaths

Marian R. Albright, F.S.A. 1928  
Dickinson C. Duffield, F.S.A. 1947

### Spring Exam Preparation Seminars

Temple University and Casualty Actuaries of the Mid-Atlantic Region will again offer 3-day seminars: for Part 1, April 22-24; Part 2, April 15-17; Part 4, April 15-17. Particulars from Prof. Murray Silver at his Yearbook location.

### OUR MEMBERS AROUND THE WORLD

A reasonably large hall would be needed to accommodate all our members outside Canada and the U.S.A. if those interesting actuaries could be brought together. An informal count, i.e., by the [ ] method, places the number of such members in active practice at 406.

Associates among them outnumber Fellows by 9 to 1, but the large majority are fully qualified members of other actuarial bodies.

By occupation, 208 are in insurance companies; 158 are in consulting firms; 15 in government; 5 in universities; and 20 we label miscellaneous.

Thirty-two countries are represented. The five leaders are: England, 165; Australia, 79; South Africa, 35; Hong Kong, 19; and the Philippines, 18.

Scotland has 9, New Zealand and Malaysia 8 each, and Switzerland has 6. The others are:

- 5 each: Bermuda, West Germany.
- 4 each: Ireland, Singapore, Thailand, Trinidad.
- 3 each: Brazil, India, Israel, Jamaica.
- 2 each: Egypt, France, Greece, Iran, Japan, Mexico, Pakistan, Taiwan.
- 1 each: Arab Emirates, Bahamas, Saudi Arabia, Swaziland, Sweden.

Happily, we hear from some of our overseas members occasionally. We hope several will contribute to our new series starting in this issue, *Actuaries At Work In Other Lands*. *E.J.M.*

### CORRECTION

The cover letter of January 15, 1982 to the Exposure Draft labelled "Statutory Reserve Principles for Individual Health Insurance" mistakenly says this subject will be discussed at a Society Spring Meeting. That discussion will be at our Annual Meeting in October 1982.

### REGULATION OF UNIVERSAL LIFE

by Charles D. Moore

On December 7th, 1981, the Los Angeles Actuarial Club was fortunate to hear a discussion on regulating universal life products by several actuaries prominent in that field — John O. Montgomery, David R. Carpenter, Allan L. Chapman, and Lynn C. Miller.

Mr. Montgomery distributed a preliminary draft of a California Department bulletin setting forth requirements for universal life valuation, nonforfeiture benefits, disclosure to the public, and state reporting. He termed the meeting a "hearing" to test his bulletin, commenting that this was a rare opportunity to see legislation in the making.

Mr. Carpenter, noting that a security depends on another party's performance, urged that externally indexed universal life forms, having no such dependence, not be considered securities. In his view universal life policies shouldn't be burdened with constraints any greater than those for conventional products.

Mr. Miller traced the thinking of an ACLI committee that has worked on the valuation and nonforfeiture questions, and problems they encountered in developing guidelines.

Mr. Chapman urged deregulation of the insurance industry. He endorsed R. Fred Richardson's opinions expressed in *The Actuary* (October 1981 issue).

Shane A. Chalke and Michael F. Davlin of Transamerica Occidental Life distributed a critique (obtainable by writing to either of them) of portions of Mr. Montgomery's draft bulletin, focusing on ways in which the guidelines are more restrictive than current law.

In the general discussion, it was questioned whether any regulations at all should be framed in these early stages of universal life development; Mr. Montgomery reminded us that his bulletin is not a regulation. Other questions discussed were whether illustrations issued by all companies should use the same range of interest assumptions, and whether immunization, if considered necessary, is enforceable. □

### "Employee Benefits: Managing In The New Age"

The above is the title of a meeting of The Conference Board scheduled for New York City, April 5-6, 1982. Any Society member who decides to attend it is invited to consider whether a short report on what was said might be of value to other actuaries—and, if yes, to submit it to this newsletter. To volunteer, please phone (919) 998-5335.

### OUR 1982 YEARBOOK

You should have your copy already or soon. It is the first to be produced under the direction of Editor Roland A. Dieter, himself the first to grace that post. Among noteworthy innovations and changes are the following:

(1) Pages C-1 and C-2 at the back give users a sorely needed alphabetical index. We are inclined to suggest that this replace rather than supplement the frustrating Table of Contents.

(2) The list of mortality and morbidity tables on p. 68 has been pruned and modernized. Mr. Dieter asks that nominations for future lists be sent him now while readers think of them.

(3) "Historical Background" (which perhaps should be indexed under H rather than S) gives John Frederic Entz—see this newsletter's October 1981 issue—his new and so far undisputed recognition as America's first consulting actuary.

(4) "Year Book" has been compressed, and we suppose modernized, to "Yearbook".

We believe users will be pleased with this tidy volume. Appreciation goes to Mr. Dieter, and also to John E. O'Connor, Jr. and his faithful Chicago staff specially Linda Delgadillo, Marilyn Myers, Deborah Sampson, who maintain our membership and other basic Society records. You can make future editions even better by sending your ideas to the Editor at his Yearbook address. □

## THE E. & E. CORNER

*Ques.: Why aren't computers and computer systems on our syllabus?*

*Ans.:* Objections to having these are both philosophical and practical: (1) The computer, though so obviously important, is but a tool, not an element of actuarial theory. (2) Rapidity of EDP development would quickly make syllabus items obsolete. (3) There is no consensus on a universal computer language for actuaries. (4) Exam questions on computers would be bound to give some students an unfair advantage, conflicting with the Society's self-study philosophy. (5) There is enough exam material already without adding computers.

*Ques.: When exams are split, i.e., between Canadian and U.S. content, or between Individual and Employee Benefits, is each subgroup graded independently?*

*Ans.:* Recognizing that these exams contain questions that are common and questions that differ, our practice is first to grade each question without reference to its subgroup, then to compare the performances of the two groups of students on the common questions. Each subgroup's final pass mark emerges from combining the result on common questions with the result on those unique to that subgroup. □

## SISYPHEAN INVERTEBRATE

*by Michael J. Cowell*

The last item in the "Puzzle Corner" before that feature was abandoned by the *Academy Newsletter* in 1976, invited solutions to the question whether a worm, starting at one end of a magic meter stick, and crawling toward the other end at the rate of 1 cm./second while the stick expands instantaneously by 1 meter at the end of each second, would ever reach the other end.

Several actuaries sent their proofs that the worm would indeed do so; mine, based on numerical analysis, demonstrated that it would take the poor worm something on the order of  $4.78 \times 10^{35}$  years, and I posed the question whether it would have enough time to make it. This is about  $3 \times 10^{25}$  times as long as the 15 billion years that the

## Reinsurance References Needed!

The E. & E. Committee has created a Task Force on Reinsurance to improve our syllabus material on that subject.

Please tell me, at my Yearbook location, about sources that we might otherwise overlook.

*Mcville J. Young, Chmn.*

"big bang" theory says that our universe has existed.

Now comes a fascinating article (GEO magazine, August 1981) suggesting that time is on our worm's side. Scientists at the Argonne National Laboratory, working with their counterparts at Oxford University, probing the future, have explored proton decay to estimate that the universe will last for  $10^{52}$  years, by which time there will be no heat, no light, no matter, no anything; time itself will have ceased to exist.

This helpful information puts a new cast on such notions as "infinity" and "forever." If their theory holds water, forever, though still a long time, will be reached someday. □

## COMPETITION NOTE

*by Charles G. Groeschell, CE*

The first man to send in a correct solution to the January ACTUCROSSWORD was a woman, Betsy K. Uzzell. She mentioned that her lawyer-husband had helped her—possibly the first case on record of an actuary admitting having heeded a lawyer's advice.

Betsy duly sent along the name of a student who will receive a year's subscription to *The Actuary*. But Thomas A. McCrosson and Walter C. Hill, composers of the next two perfect solutions, didn't—gentlemen, please send me your nominations. And will Christopher Doyle, No. 4, to reach Milwaukee, please do the same; the reason for this uncharacteristically generous gesture is given below.

David R. Bassindale, Harold J. Brownlee and Martha B. Graham all sent solutions that contained only minor errors. Congratulations to all seven of you.

We have discovered that the vagaries of our economical mailing system make it unfair to award the winner's palm to the first correct solution to reach Milwaukee. From now on we will employ the honor system. Each entrant is, please, to show the lapsed time in days and hours—including sleeping, eating, working, play and other time—from the first look at the puzzle to its completion.

Future winners will be announced on the puzzle page just below the previous month's solution. □

## MORTALITY ESTIMATION

"Estimation of Mortality and Other Decrement Rates" will be the main theme of the 17th Actuarial Research Conference sponsored by our Committee on Research, at the University of Waterloo, Canada, on September 30, October 1 and 2, 1982.

Emphasis will be on such topics as effects of smoking and other hazards on mortality and morbidity, methods of estimating rates, mortality and morbidity models, biological aging models, and various analytical procedures. Part of the effort will be to acquaint actuaries with techniques used by biostatisticians and others whose interests overlap ours.

## Call For Papers

You are cordially invited to submit a paper. It may be of a theoretical nature, or of an applied nature such as reporting an experience study for a particular class of risks. Since the conference is a forum for discussing current actuarial research, papers on other topics will be welcomed. If you are a potential contributor, please write to the program chairman, Prof. Harry Panjer, at his Yearbook address.

## Invitation To Attend

As well as being for theoretically-minded actuaries, this conference will appeal to actuarial practitioners wishing to learn more about how data can best be analyzed. For more information, write to Prof. Frank G. Reynolds at his Yearbook address, or phone the organizers at (519)-885-1211, ext. 3646, 3010 or 3550.

## Actuaries At Work

(Continued from page 1)

particular reference to conditions and problems obtaining in the Philippines."

Today, the ASP has a roster of 48 Fellow members, 23 Associate members, and 74 Affiliate members. It is run by a Board of Governors composed of four officers (President, Vice President, Secretary and Treasurer) and six governors including its Immediate Past President ex-officio. It has twenty standing committees, each chaired by a Fellow, the more important ones being the Career Development and Actuarial Placement Committee, the Education and Examination Committee, and the Committees on Mortality Studies, Persistency Studies and Expense Analysis Studies.

### Accreditation

Actuarial practice here finds support in the recently amended Insurance Code of the Philippines which now contains a title on Practice of the Actuarial Profession; it provides that the services of an actuary duly accredited with the Insurance Commission are necessary for a life insurance company to do business or to continue doing business in the Philippines. To become duly accredited, such actuary must be a Fellow in good standing of the Actuarial Society of the Philippines, which means passing a series of six examinations (the first three for associateship) along the lines of the ten-part Society of Actuaries examinations but adapted to the Philippine setting. Since November 1969, the ASP has been giving these exams regularly; nine of the 28 Fellows now registered as accredited became so via our exam system.

The ASP is actively carrying out the purposes for which it was formed. Our Annual Convention, climaxing a year-long program of meetings and symposiums, is usually participated in by actuaries from Japan, Taiwan, Hong Kong, Indonesia, and sometimes Singapore, Malaysia and Thailand. The ASP actively supports the teaching program leading to a Master of Science degree in Mathematics (with emphasis on Actuarial Science) at the University of the Philippines.

### Asian Actuarial Society (AAS)

At the international level, the ASP in 1975 spearheaded formation of the Asian Actuarial Society. Although rather slow to get off the ground, it was un-

der its auspices that the ASP sponsored the first Asian Actuarial Seminar in 1978 which lasted for 2½ weeks in Manila with participants from the actuarial organizations of Singapore, Malaysia, Thailand, Indonesia and Taiwan. The founders of the AAS nurture the dream that eventually it will be the vehicle for accrediting actuaries throughout South East Asia.

### A Cordial Invitation

On behalf of the officers and members of the Actuarial Society of the Philippines, I extend to one and all in the actuarial profession an invitation to visit our country and give us a chance to share not just the hospitality of the Filipino people but the friendship of Filipino actuaries. □

### Social Security Diary

(Continued from page 1)

Deputy Commissioner; and I supported Chief Actuary Dwight Bartlett in his successful effort to have Statements of Actuarial Opinion appended to the annual Trustees Reports. The OACT, now under Harry Ballantyne's leadership, is in excellent shape, well staffed by qualified actuaries and held in high esteem by the Executive and Legislative branches of the Federal Government.

### Resignation

After the close of the 1981 session of the Congress, I tendered my resignation, effective January 8, 1982. That session had produced significant legislation, but did not by any means fully address the short- and long-range financial problems of the Social Security program. The Reagan Administration had developed broad principles for solving these problems, which I supported and continue to support strongly.

Several considerations led to my resignation. First, I was dismayed at the layers of bureaucracy involved in decision-making within the Executive Branch—not that I had expected a free hand, but I had hoped to have a much more direct and influential role. Second, recognizing that the "action" in 1982 will be outside of the SSA, even outside of the Executive Branch, I came to believe that in a private capacity I could more effectively influence the difficult legislative decisions that must be made to put the Social Security program back on a sound footing.

### Creation of a New National Commission

A legislative package that would have solved these problems was developed by an interdepartmental group, but certain of its proposals, specially those eliminating the minimum benefit for persons already receiving it and immediately cutting benefits sharply for those electing to retire at ages 62-64, met with such widespread opposition that little of the package was enacted.

Faced with all this political controversy, President Reagan proposed that a bi-partisan 15-member group be established to make recommendations. This plan having been accepted by the leaders in Congress, a National Commission on Social Security Reform has been created; its distinguished membership includes Alan Greenspan (a former Chairman of the Council of Economic Advisors) as Chairman, four Senators and three Representatives.

I have been offered, and have accepted, the position of Executive Director of this Commission. □

### SOME MATHEMATICAL '82'S

Perhaps readers will send us additions to the following short list of events in the mathematical world associated with years ending in the digits 82. These ones are taken from IBM's history chart, "Men of Modern Mathematics."

**1382.** Nicolas Oresme died. He was Bishop of Liseux, France. Said to be the first western mathematician to use ordinate and abscissa, he also wrote the first treatise devoted entirely to theory of money, and denounced astrology as as false science.

**1482.** First year that a printed edition of Euclid was available in Latin.

**1582.** Pope Gregory instituted the present calendar.

**1882.** One noted mathematician died, another was born. In France, Joseph Liouville (1809-82) founded and for many years edited the Journal of Pure and Applied Mathematics, and *inter alia* introduced the concept of geodesic curvature. Amalie Emmy Noether, (1882-1935) was one of the great German scientists who fled Nazi political pressure in the early 1930's. She spent her last two years in Bryn Mawr College, Pa.

E.J.M.