

The Newsletter of the
Society of Actuaries

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APRIL 1993

THE Actuary

New ASA requirements go into effect in 1995

by Walter S. Rugland
SOA President

At its January 1993 meeting, the Board of Governors approved the strengthening of educational requirements for the Associateship level from the current 200 credits to 300 credits. The change will take effect in July 1995. Anyone who has earned the ASA designation before then will not be affected. Although not required, candidates who anticipate completing ASA requirements before July 1995 may elect to qualify for Associateship under the new requirements, which allow credit for an expanded list of elective courses.

Requirements for Fellowship will not change.

Details of changes

The additional 100 credits required for ASA come from the current core Fellowship exams — 200, 210, 220, and 230. Adding these courses to the Associateship syllabus means that candidates will not only be well grounded in mathematical methods but also will demonstrate an understanding of a range of basic practice-based courses in financial security programs, financial management, and general actuarial practice. In addition, while courses totaling 155 credits currently required for Associateship will remain in place, the options available for earning the 45 elective credits will more than triple. Candidates should find these changes particularly attractive, since they will allow candidates to gain exposure to the more practical aspects of actuarial practice early in

continued on page 3 column 1

Reflections on leadership

by David M. Holland

*"Would you tell me, please, which way I ought to go from here?
"That depends a good deal on where you want to get to," said the Cat.
"I don't much care where —," said Alice.
"Then it doesn't matter which way you go," said the Cat.*

Alice's Adventures in Wonderland

Going from where you are to where you want to be is the challenge of management; leadership involves bringing others with you. Leadership should not be a random walk, but a carefully planned journey. As the Cheshire Cat reminds Alice, the way you should go is dependent on where you want to get to.

A leader should have a vision of how things should be. Contrary to Alice's wanderings in Wonderland, someone who takes the responsibility of leading others should care passionately about the ultimate destination.

"Before I draw nearer to that stone to which you point," said Scrooge, "answer me one question. Are these the shadows of the things that Will be or are they shadows of the things that May be, only?"

A Christmas Carol

A leader's sense of vision shows the things that will be if certain paths are followed. That vision of the future may not be pleasant. Scrooge's glimpse into the future convinced him to change his course to change his destination.

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Editorial

Broader horizons for extended impact

by Barbara J. Lautzenheiser
and William C. Cutlip

Venture capitalists tell us that people with good ideas are a dime a dozen. It's the people who can carry out those ideas — who can provide the leadership and management skills to get them accomplished — that are valuable and worthy of their investment.

The actuarial profession's foundation — the quality that makes us unique — is our technical expertise. Our exam syllabus gears us to handle complex mathematical and technical situations. We must be able to use that expertise to implement and produce results.

The future of our profession will take us into some jobs with nontraditional roles. Our traditional work also will see dynamic change. The strong foundation of our problem-solving, mathematical, statistical, modelling, risk selection, and legal and economics education position us to do excellent work. When you add to that a set of well-developed personal/

management/leadership skills, you'll be positioned to do that work with excellent results.

For the past three years, *The Actuary* has featured a recurring set of articles under the banner, "The complete actuary." This series, developed by the SOA Committee on Management and Personal Development, has presented discussions on a variety of subjects to help you develop these skills. This issue contains another article in this series.

Other special articles in this issue give you a perspective on how some have used these skills or why they are needed. These perspectives are shown from several vantage points: a CEO, an international consultant, a recruiter who has heard what employers expect of actuaries, and a public servant.

We hope these articles will stimulate you, lead you to act on improving and developing your skills, and help to broaden your horizons, expand your impact, and take leadership roles.

Reflections cont'd

Goal setting is a way for the leader to define a vision of the future as it should be. Plans then have to be made to achieve those goals. With training to model the outcome of future contingent events, the actuary is well equipped to be a major participant in management and leadership planning. Although there are often jokes about the actuary as cartographer, understanding the map is often the key to getting from here to there.

The management planning process is consistent with the analytical skills inherent in the actuary's training and experience. Consider the following process:

- Set goals of where you want to be.
- Develop projections of where you will be if you follow your current course.
- Consider various scenarios to determine what changes have to be made

to reconcile your current course with your desired destination.

- Test the sensitivity of underlying assumptions to evaluate potential risks of various courses of action.

Although this may be simple in theory, implementation in practice often is a real challenge.

As a final allegory on leadership, I recommend the recent movie,

Homeward Bound, The Incredible Journey. Shadow, who became the leader, had a nobility of purpose and a clear vision of what his mission should be. Although he could have had greater depth in planning, he met the one real qualification of leadership — followers.

David M. Holland is president and chief executive officer at Munich American Reassurance Company, Atlanta.

New requirements cont'd

the examination process.

Current elective courses now include:

- Mathematical methods, such as operations research, numerical methods, demography, and graduation
- The recently added CAS Part 4B on credibility theory and loss distributions
- Intensive seminars in applied statistical methods and risk theory.

New elective courses available in addition to those previously mentioned include:

- Courses from the Fellowship 300 series
 - several basic pension exams, including EA-1, Segment B, and EA-2
 - design and distribution of group benefits
 - survey of actuarial practice in individual life insurance and annuities
 - life insurance law and taxation
 - financial management
- Three casualty exams – CAS Part 3B, Part 6, and Part 7 (See box for course descriptions.)
- The 30- credit research paper

Advantages of changes

What these changes mean for both candidates and employers is that candidates not only will have mastered the mathematical core that actuaries need but also will have a stronger practical foundation.

By the time candidates complete Associateship, they will have a portion of what they need for their FSA specialty areas. The number of specialty credits (90) remain the same for Fellowship, so if Series 300 courses are used as electives toward ASA, FSA candidates must subsequently replace them with other electives.

Attention pension students

Pension actuaries should be aware of the need to take core courses earlier in the exam process under the new requirements to become ASAs. U.S. pension candidates in particular have tended to defer writing what now will become part of the Associateship core exams. If that pattern continues, some pension actuaries may find themselves becoming Associates and Fellows at about the same time.

The box outlines the required courses and elective options that will satisfy the strengthened requirements for ASA.

ASA Course Description

Required Courses	Description	Credits
100	Calculus and Linear Algebra	30
110	Probability and Statistics	30
120	Applied Statistical Methods	15
140 or 141	Mathematics of Compound Interest/ EA-1, Segment A	10
150	Actuarial Mathematics	40
151	Risk Theory	15
160	Survival Models	15
200	Introduction to Financial Security Programs	30
210	Introduction to Actuarial Practice	25
220	Introduction to Asset Management and Corporate Finance	30
230	Principles of Asset/Liability Management	15

* * *

Candidates must attain 45 credits from elective courses.

Elective Courses	Description	Credits
130	Operations Research	15
135	Numerical Methods	10
CAS Part 4B	Credibility Theory and Loss Distributions	20

The following courses are eligible for elective credit toward ASA or FSA. Where specialty courses (Series 300) needed to complete a Fellowship specialty track are used as elective credit toward Associateship, it is necessary for the candidate to replace those elective course credits through additional courses.

Elective Courses	Description	Credits
121	Intensive Seminar on Applied Statistical Methods	10
152	Intensive Seminar on Risk Theory	10
161	Mathematics of Demography	10
165	Mathematics of Graduation	10
G320	Design and Distribution of Group Benefits	30
I340	Survey of Actuarial Practice - Individual Life Insurance and Annuities	30
I342C	Life Insurance Law and Taxation - Canada	15
I343U	Life Insurance Law and Taxation - U.S.	10
P360U	Principles of Pension Valuation I - U.S. [EA-1, Segment B]	15
P361C	Design of Retirement Programs - Canada	20
P362U	Design of Retirement Programs - U.S.	15
P363	Pension Funding Vehicles	15
P364C	Regulatory Requirements for Retirement Plans - Canada	20
P365U	Regulatory Requirements for Pension Plans - U.S. [EA-2]	25
V385	Financial Management	15
CAS Part 3B	Introduction to Property and Casualty Insurance	10
CAS Part 6	Principles of Ratemaking and Data for Ratemaking	20
CAS Part 7	Premium, Loss, and Expense Reserves Insurance Accounting, Expense Analysis, and Published Financial Information	20
Research Paper		30

E & E CORNER

- ▶ A major news item is the changed educational requirements for the ASA designation approved by the Board of Governors on January 21, 1993. An article on page 1 in this issue describes those changes. We have received our first formal request from a candidate to become an ASA by virtue of the strengthened educational requirements. For more information on the subject, call Pat Holmberg, 708/706-3527.
- ▶ The examination for Course 210, Introduction to Actuarial Practice, will be a three-hour, 30-credit examination for the last time in November 1993. Originally, plans called for Course 210 to be reduced to 25 credits starting with the 1993 session. However, sensitivity to the concern raised by candidates that they had not received enough advance notice has led to changing that schedule.
- ▶ The eligibility period has been expanded for the Intensive Seminar program. Candidates who have passed Course 120 (Applied Statistical Methods) or Course 151 (Risk Theory) within the past two years are eligible to sign up for the corresponding Intensive Seminar program. Eligibility was previously one year. For the August 1993 sessions, this means that candidates who passed the required examination during one of the sessions from November 1991 through May 1993, inclusive, are eligible for the Intensive Seminar.
- ▶ The interactive voice response system adopted for the exam hotline for the November exam results proved very popular. We logged 16,526 calls to the system, many occurring outside of regular office hours. The only problem reported was candidates having trouble getting through, because all lines were busy. We will expand the number of lines to the system for the May results.
- ▶ Success on the November exams resulted in 511 new ASAs and 156 individuals completing educational requirements for Fellowship, needing only to complete the Fellowship Admissions Course.

An international consultant's views

What leadership and management skills do actuaries need?

by Sue A. Collins



Leadership is a necessary quality in any organization. Actuaries, whether employed by life insurance companies or by independent firms, should place an equally high premium on training in leadership and management as they do on technical training. Unfortunately, this has not been the case.

Once I passed the actuarial exams, I assumed I had all the skills necessary to be a successful actuary. It was a rude awakening to discover my first job demanded the ability to manage and lead people as well as to perform actuarial tasks. It took me some time to realize that management skills were an essential part of being a successful actuary and not an optional extra.

With the benefit of hindsight and practical experience, I now can name more easily the leadership and management skills that are important to a consulting actuary:

- Communication
- Ability to set an example
- Co-working
- Being an acknowledged expert
- Project management
- Problem-solving
- Business development
- Negotiation

I will cover the first three skills listed, those that have assumed more priority as my career has progressed.

Communication

Communication involves listening, as well as talking. When listening, I play back to the client or colleague what I have understood to see if it matches what they have said. This is often a very revealing process. When talking

or writing, I often use graphic representations to aid understanding. Above all, I try to communicate in a way that is appropriate for an audience usually less technical than I am.

Ability to set an example

One can set an example in many ways. One of the most important is to ensure that all work is accurate and meets our quality standards and the client's expectations. Equally important, especially in consulting, is the need to meet very demanding deadlines. I never have expected more from my colleagues than I am willing to give myself. To show mutual respect for colleagues and clients also is a very positive aspect of leading by example.

Co-working

Co-working is the ability to work effectively with peers, junior staff, more senior staff, and clients. For me, this ability consists of being sensitive and open to suggestions, communicating clearly and frequently, and directing rather than dictating.

The importance of a well-rounded actuary is clearly demonstrated in the role of the appointed actuary in the United Kingdom and the emerging role of the valuation actuary in the United States. These roles encompass statutory and professional responsibilities relating to the financial health of an insurance company and are carried out for that company's board of directors. The performance of these duties requires not only technical competence but also broad-based management skills.

Sue A. Collins is with Tillinghast/Towers Perrin in London, England.

A professional recruiter's view

What are companies looking for in today's actuary?

by Terri Michalewicz

Conceptualize... negotiate... communicate... manage... adapt to change... business sense... influence... bottom line orientation... market sensitivity... technical strength... people skills... continuing education... leadership... listening skills... industry involvement... social mobility...

As recently as three to five years ago, the demand for actuaries exceeded supply across the board and at all levels. Companies were much less selective in the recruiting process. A math, statistics, or actuarial science degree, combined with reasonable exam progress and some experience in a desired specialty, was a virtual assurance of employment and job security. Exam and credential status, rather than performance, determined progression up the ladder, both in title and compensation. Advancement opportunities were primarily within the actuarial hierarchy, and a career path was relatively clear cut.

Today, companies are looking for and, in some cases, demanding a breadth of skills above and beyond technical competence. This is because management now requires that more be done with less. We've all seen a contraction in the industry through reorganizations, consolidations, and downsizing; controlling and reducing expenses is vital in today's marketplace. While some may consider these occurrences as negatives, it increases opportunities for the actuary with both technical and leadership skills. Demand is high for actuaries who are poised to help solve today's complex business problems. The focus is on hiring for long-term potential and mobility, rather than a short-term immediate need. Individual contribution is more closely scrutinized and measured.

What skills are paramount for increasing an actuary's value to the organization and improving marketability? All the points listed at the beginning

of the article are important. Hiring authorities, however, request the following five attributes most frequently.

1) Ability to be an effective communicator

An effective communicator has both verbal and written skills. Often companies ask for a candidate to provide a writing sample. Presentation skills are more important than ever. Both actuaries and non-actuaries could be in an audience, so a presenter needs to know how to tailor approach and subject matter accordingly. Training in presentations is available from universities, extension courses, seminars, and reading material. Many companies are willing to pay for this added training.

2) Ability to influence people and to negotiate when necessary

Teams formed to solve problems and involving people with different responsibilities are becoming more prevalent in companies. Usually most of the team members have no direct reporting relationship to the team leader. The leader can help the team achieve goals only through influence and negotiation and "management by persuasion."

3) Management/leadership skills

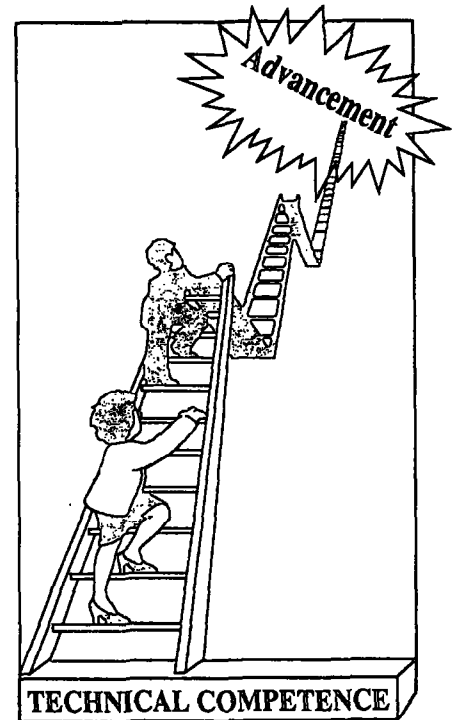
This includes both project and people management. The ability to facilitate, delegate, and motivate are recognized assets.

4) Understanding general business principles

This includes an ability to demonstrate "big picture" thinking while remaining sensitive to detail.

5) Technical and analytical strength

Sound actuarial competence remains the cornerstone. Companies now seek actuaries with expanded skills, yet



these skills are sought "in addition to" not "instead of" sound technical competence.

The insurance industry is changing, and actuaries are being asked to change with it. The actuary who successfully blends technical, managerial, and leadership capabilities will find increasing, not diminishing, opportunities in today's marketplace.

Terri Michalewicz, not a member of the Society, is principal at LCM Associates, Newnan, Georgia.

Math Awareness Week

The Joint Policy Board for Mathematics has designated April 25-May 1, 1993, as Mathematics Awareness Week. The theme for this year's activities is "Mathematics and Manufacturing." Related to this, the Society for Industrial and Applied Mathematics (SIAM) has published a report on "Mathematics and Manufacturing: The Mathematical and Computational Sciences in Emerging Manufacturing Technologies and Management Practices." The Society of Actuaries library has a three-page abstract of this report on file. The complete report is available from SIAM, 3600 University Science Center, Philadelphia, PA 19104-2688, 215/382-9800.

From a public service perspective

Leadership and management skills

by A. Haeworth Robertson

In 1973, I asked C.L. Trowbridge, then incumbent chief actuary of the Social Security Administration, what characteristics a person should have to be effective in that job. (This was during the early stages of assessing my own suitability for the position.) He said that one needed to be "feisty" and "confrontational," that is, full of nervous energy and eager to engage in the clash of forces and ideas. He thought that an experienced, successful consultant might be right for the job. Of course, he took it for granted that one had the necessary technical background and intrapersonal skills to harness and direct the energy of a group of actuaries — not always an easy task.

Trowbridge did not consider himself feisty. His call for feistiness was because of the difficulties dealing with the myriad of competing interests outside the Office of the Actuary, as distinguished from managing a discrete group of actuaries.

The problems and pressures of actuaries in public service may not be unique, but their challenges are sometimes more diverse and magnified than in private employment. Suffice it to say that not every player in the game really wants to have actuaries produce and publicize their best estimate of the future financial consequences of decisions made today.

To further assess my suitability as a public service actuary, I talked at length in 1974 with Robert J. Myers, Social Security's chief actuary from 1947-1970, on this same question of desirable leadership and management skills. My initial reaction was that Myers and I were so different from each other that since he had been a good chief actuary, I couldn't also be one. Upon further analysis, I decided it is reasonable for a particular job to be filled from time to time by individuals with different skills and personalities. Also, though a job description may remain unaltered, changing

conditions may require the incumbent to emphasize different "standard" leadership and management skills to remain effective.

The point in relating these anecdotes is that textbook leadership and management skills are not enough. The individual and his or her skills must be suitable to the exigencies of the job. The individual must be comfortable and natural in having and exercising those skills if he or she is to maintain equilibrium.

In his review of Jimmy Carter's new book, *Turning Point*, Richard J. Tofel (*The Wall Street Journal*, February 4, 1993) states:

Here is a man reserved and high-minded but with a passion for decency. The paradox of Jimmy Carter as president, of course, was that his greatest strengths — his essential modesty, quiet integrity, unwillingness to compromise on principle — were also his most glaring weaknesses. What *Turning Point* vividly illustrates is that this dichotomy was present from the earliest days of his political life.

Planning and executing your own life-journey is a challenging and dynamic process. You must continually learn about yourself, the nature of the various opportunities that are available to you, make as good a match as possible, and then not hesitate to change yourself or your job when the match is inappropriate. My suggestion is to be daring and take a few risks. I've always liked what Henry David Thoreau wrote in his conclusion to *Walden*:

I left the woods for as good a reason as I went there. Perhaps it seemed to me that I had several more lives to live, and could not spare any more time for that one. ...I did not wish to take a cabin passage, but rather to go before the mast and on the deck of the world, for there I could best see the moonlight amid the mountains. I do not wish to go below now. I learned

Why should I vote?

by Daphne D. Bartlett

It's time for Fellows to vote to elect the Society's next President-Elect, three Vice-Presidents, and six members of the Board of Governors. First ballots for the 1993 elections were mailed on March 23, and the deadline for them to be returned is April 23. Results of the first ballot assist the Committee on Elections in determining who will appear on the second ballot, which will be mailed on July 20.

You may ask, "Why should I vote? I don't know any of the candidates."

The elections booklets attempt to provide you with some information about the candidates, including statements by candidates for President-Elect (both ballots) and Vice-President (second ballots). Some of you may not find this to be enough. In that case, I strongly urge you to discuss the candidates with someone whose opinion you respect.

The percentage of Fellows voting in 1992 on the second ballot increased to 42.1% from 40.0% in 1992. This is an improvement that I hope can be continued in 1993. Let's try to get the percentage over 50% for the first time since 1984.

Voting is a right you have earned as a Fellow of the Society of Actuaries. It is your duty to select those leaders you think can best guide our profession into the 21st century.

Please invest a few minutes of your time in the Society's future and vote!

Daphne D. Bartlett is the Society of Actuaries Penultimate Past President and Chairperson of the Committee on Elections. She is president of Interim Actuarial Resources, Inc., in Hermosa Beach, California.

this, at least, by my experiment: that if one advances confidently in the direction of his dreams and endeavors to live the life which he has imagined, he will meet with a success unexpected in common hours.

A. Haeworth Robertson was chief actuary of the Social Security Administration from 1975-78. He is president of The Retirement Policy Institute, Washington, D.C.

The complete actuary

Demand better results and get them

by Leonard E. Tandul

As the business environment becomes increasingly competitive, our organizations must be more effective. We must establish high performance expectations to get the results we require.

First step toward results

The first step to get the results you want is to set objectives or goals. Previous articles in "The complete actuary" series have detailed how to set objectives. Important points to remember are that objectives should be:

- Set with staff's participation
- Clearly stated and easy to understand
- Measurable, with deadlines
- Related to specific work
- Meaningful and "owned" by those who must fulfill them
- Realistic and able to be accomplished

A good model for writing objectives is given in a book by the Minnesota Viking's former football star quarterback, Fran Tarkenton, on *How to Motivate People*. His model was: "To (action verb) (quantifiable improvement in designated area) by (date)."

An example of a well defined objective is: "To reduce expenses of the administrative department by 10% by September 30, 1993." A poor example is: "To reduce administrative expenses this year."

Realistic deadlines take into consideration all the jobs required of the staff and have a cushion built in for the unexpected. The longer the total job will take, the more important it is to break it down into smaller steps with intermediate deadlines.

Staff motivation as the driving force Just setting objectives will not get the job done. If your staff does not understand how the objectives fit into an overall plan, it may not be motivated to do the job. If you have involved the staff in the objective setting process, you are way ahead. Fran Tarkenton writes, "People don't resist their own ideas."

Because motivation comes from within, you need to develop

an atmosphere that fosters self-motivation, self-assessment, and self-confidence. Some ways to do this are:

- Assume that people want to achieve.
- Build on strengths and help individuals overcome weaknesses.
- Let your staff know when you think they are doing a good job. Do this on an ongoing basis, rather than sporadically.
- Emphasize teamwork as your staff integrates with those in other areas who have to put the work to use.
- Delegate not only responsibility, but also the authority to do what is necessary to achieve.

The last item relates to the current motivational buzzword, "empowerment." Delegation or empowerment does not mean abdication of a manager's responsibility. The manager must provide the information and resources needed to do the job, monitor the process to see if deadlines are met, and be flexible enough to make mid-course corrections or even changes in objectives if needed.

Trust important to achievement

You can best help your staff achieve by developing a relationship of trust through openness. Your staff must not be afraid to make honest mistakes. If finger pointing becomes common, your staff will develop a defensive attitude and be reluctant to offer new ideas or suggestions for solving problems that develop. Avoid the blame game.

Without trust, people will not put themselves at risk. Without risk, no growth or self-confidence can develop.

An anonymous author tells this appropriate story, named "Who's on First?":

This is a story about four people named Everybody, Somebody, Anybody, and Nobody. There was an important job to be done, and Everybody was sure Somebody would do it. Anybody could have done it, but Nobody did it. Somebody got angry, because it was Everybody's job. Everybody thought Anybody could do it, but

Nobody realized Everybody wouldn't do it. So Everybody blamed Somebody when Nobody did what Anybody could have done.

More on this subject

If you are interested in reading more on this subject, these books may be helpful:

- *A Passion for Excellence* by Tom Peters and Nancy Austin, 608 pages, published by Warner Books, New York, 800/733-3000
- *How to Motivate People: The Team Strategy for Success* by Fran Tarkenton, 243 pages, published by HarperCollins, New York, 800/331-3761
- *Management: Tasks, Responsibilities, Practices* by Peter F. Drucker, 839 pages, published in 1985 by HarperCollins, New York, 800/331-3761
- *The Man Who Discovered Quality: How W. Edwards Deming Brought the Quality Revolution to America — The Stories of Ford, Xerox, and GM* by Andrea Gabor, 326 pages, reprinted and published in 1992 by Penguin Productions, New York, 800/933-4942

Leonard E. Tandul is a member of the Committee on Management and Personal Development and the Actuary of the Future Section Council.

Mail alert

The first ballots for the Society's 1993 elections were mailed to all Fellows on March 23. If you are a Fellow and have not received the first ballot, please call Marilyn Meier at the Society office, 708/706-3500. To be valid, ballots must be returned to the Society office by April 23.

* * *

The 1993 Society of Actuaries Yearbook was mailed to members during the first week of March. If you have not received your copy, please call Laura Kammeier at the Society office, 708/706-3526.

'Ask an Actuary' carries well-received message

by Cecilia Green
Staff Editor

Since SOA President Walter Rugland offered members "Ask an Actuary" buttons (January 1993 issue of *The Actuary*), Society staff have shipped out almost 8,000 buttons with information cards. Added to the 4,000 buttons handed out at the 1992 annual meeting, this means more than 10,000 "Ask an Actuary" buttons now are in circulation. (Don't worry, we still have plenty. Call Connie Tegeler at the Society office, 708/706-3500, and she'll send you any quantity you need.)

Buttons hit bulls-eye

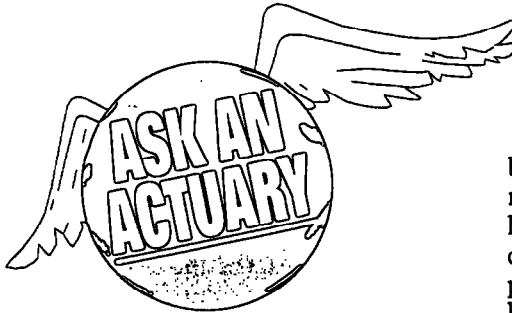
What made so many eager to pin on and hand out buttons? From the enthusiastic response, it's apparent Rugland's message was on target. Actuaries are ready to step forward and say, "Ask me when you have a question involving financial risk. I have some unique skills that can help us keep our business and financial systems strong." Some members in leadership positions have suggested that actuaries should not only answer the questions they are asked, but also be more creative in pointing out what questions should be asked.

A letter attached to a button request relates a common situation:

Working for a large organization, . . . the actuarial staff do not receive the recognition they deserve. Many senior executives do not realize the actuarial staff here are "business people" who are quite "capable of participating in solutions to any financial problem involving risk." They believe we are here only to tell them how big our liability is (especially the unfunded part).

Besides requests for buttons for clients, co-workers and upper management, other popular button uses are for successful exam-takers and celebrations for new ASAs and FSAs.

Buttons have gone outside the workplace to career fairs, news media, university students, civic organizations, and even the governor of Missouri. Buttons traveled outside



North America, as requests rolled in from the Institute of Actuaries (England) and from travelers who took them to the Caribbean, Swedish, Norwegian, and Japanese actuarial societies.

Button stories, just for fun

Frank Repp, of FDR Associates in Dallas, wrote that he "impaled" a button on each copy of the company newsletter. "Individual reaction is generally favorable," he said, "but there's always one voice crying in the wilderness. As usual, Mom was it. 'I guess you'd better ask an actuary, because you can't tell them anything,'" she said.

Another actuarial comic said his "Ask an Actuary" button really worked, because when he wore it on the street, he was asked twice in one block if he had any spare change.

Button campaign spurs comments and ideas

Only one person, Donald B. Warren, a retired member in St. Louis, wrote in opposition to wearing "Ask an Actuary" buttons. "It smacks of cheap advertising," he said, and questioned whether an actuary would want to show up for a job interview wearing this button.

Two letters commenting on the program suggest ways to expand the "Ask an Actuary" concept.

Dale Lamps from Deloitte & Touche, Grand Rapids, Michigan, wrote that he has often wondered how to convince his clients that they should "ask an actuary" when they have questions about risks. He thinks clients believe they have dealt with their "global" risks (life, health, liability, fire) but haven't considered how actuaries can help them with their "local" risks specific to their

businesses or industries. He says he's not sure they could even define their local risks well enough for someone outside the business to address and points out that a company might not be willing to spend the money to have an actuary study the company or industry in depth from the inside.

"Every company should conduct a risk inventory," Lamps suggested. "This would include a description of each risk — local and global, internal and external — to which the company is exposed. Each risk would be broadly quantified to establish its level of magnitude. A rough model would be constructed of interactions of the set of risks. A summary report would be prepared, on actionable areas, including a description of those risks or combination of risks that might present a possible ruin situation."

David Crawford, a consultant in Washington, D.C., notes that "Ask an Actuary" is a snappy imperative to which a likely response may be "Why?" Because the campaign may reach many who have not worked with actuaries, hard-hitting specifics, not generalities, are needed to get communication rolling, he said.

He suggests that actuaries could reply with short success stories in which actuaries played a key role. He told of his experience in launching a new consulting practice in Japan, where "consulting actuary" had hardly been heard of. When they described actual successful projects in 10 words or less, they caught the attention of prospective clients.

"A key challenge in making President Rugland's campaign work is for each participating actuary to have at the tip of his or her tongue those snappy and impressive replies," he suggests. "Maybe one or two of the success stories should be the actuary's own, but the rest should have come from our collective successes — a mix of recent stories and ones from deeper in history, some in our traditional life/health/pension work and others in more exotic areas."

Crawford has issued the challenge — now can you deliver a real life example when you're asked the "why?" question? We think you can — that you have success stories to share with all actuaries trying to promote the "Ask an Actuary" concept. If you are willing to write them down or tell them to us, we'll gather them into short vignettes, even condense each into the 10-second sound bite Crawford suggests and publish them. Because we're trying to help the profession as a whole rather than promote individuals, we'll use no names in the stories. Please fill out the form on this page and return it by June 1.

"Ask an Actuary" Success Stories

Yes, I have a success story to share in which an actuary played a key role in solving a business, governmental, or societal problem. I will describe the problem, the actuary's role, and what the measure of success was (profit, gain, cost savings, coverage, social good accomplished).

_____ I have attached a 100-word or less summary.

_____ Please call me. I will tell you my story; you can write it and get it back for my review.

NAME _____

TELEPHONE NUMBER _____

Return by June 1, 1993, to: *The Actuary*, Society of Actuaries, 475 N. Martingale Road, Suite 800, Schaumburg, IL 60173-2226; fax: 708/706-3599, or call Cecilia Green, 708/706-3561.

Dynamic Solvency Task Force report available

by Godfrey Perrott

The Board of Directors of the American Academy of Actuaries adopted a position statement last year suggesting insurance company management obtain each year a written report on financial solvency by an appropriately qualified actuary. This reflects the Academy's belief that actuaries are suited to advise insurer management on its company's future probable solvency in view of its current assets, liabilities, and business plan.

To respond to the recognized role Society of Actuaries members would be asked to assume in this context, an SOA task force was appointed to:

Produce a plan of action to accomplish the necessary research and to produce the needed educational materials on dynamic solvency issues so that by 1995 the following is a true statement: *An actuary has access to necessary research, education and training, techniques and industry-wide data needed to select appropriate methods and assumptions in order to provide a life and health insurer's management with a report on its financial solvency.* The plan needs to cover the research needed and how to accomplish it and what programs in basic and continuing education will need to be put in place. Research will include methodologies, applications, and experience studies needed to provide appropriate data.

The Dynamic Solvency Task Force (DSTF) specifically was charged not to

comment on the Academy board's position, but to focus on what support the SOA should provide members who might be asked to undertake such an assignment as outlined in the position. Also, it was clear that the DSTF was not developing any basis for standards of practice.

The DSTF reported as scheduled at the January 1993 Board of Governors' meeting with the following recommendations, which were approved:

- Make the DSTF report available to the membership and conduct open workshops and discussion groups at spring SOA meetings with focused discussion on the concept of financial solvency as it applies to life and health insurers. This has been done.
- Appoint a task force to oversee the basic research needs identified by the DSTF.
- Appoint a task force to prepare a handbook for actuaries who would provide such a financial solvency report. The handbook would be an educational resource and a bibliography similar in concept to the Valuation Actuary's Handbook and perhaps a successor to it.
- Appoint a task force to develop dynamic solvency seminars offered on a continuing basis by the SOA.

Members of the Financial Reporting Section will receive copies of the task force report. Other members may request a copy by writing Laura Kammeier at the Society office or by calling her at 708/706-3526. Any

member who wishes to participate in any of the task forces being assembled should call Richard Mattison at the Society office, 708/706-3576.

This is an important issue for SOA members who practice with insurers, as well as for the profession. Actuaries who currently report on a company's financial solvency or may need to in the future will want to participate in the discussions at the spring meetings in San Diego, April 14-16, and in Boston, May 3-4. It is important that the concept be aired so a consensus definition can be set soon for U.S. practice. Canadian actuaries already have a statutory duty to prepare this type of report.

The SOA focus appropriately is directed to the education and research needed to support members reporting on an insurance company's financial solvency in U.S. terms. At the same time, the Academy is wrestling with the issues of how to limit the actuary's legal liability and how to preserve the confidential nature of the actuary's report, since supervisory authorities will want access to it.

The Dynamic Solvency Task Force consisted of Chairperson Godfrey Perrott, Jeffrey A. Beckley, J. Peter Duran, Larry M. Gorski, John J. Palmer, James F. Reiskytl, Alan J. Routhenstein, Gary E. Wendlandt, John B. Yanko, and staff liaison Richard S. Mattison.

Godfrey Perrott is a consulting actuary in the Boston office of Milliman & Robertson, Inc.

SECTION CORNER

This column reports on activities and newsletters of all special interest Sections on a rotating basis. This month covers Health and Investment Sections.

Health Section

Membership in the Health Section is more than 3,000. New council officers for 1992-93 are Greg Herrle, chairperson; Richard Helms, vice-chairperson; Frank Morewood, secretary; and Nancy Nelson, treasurer.

The editor-in-chief of the *Health Section News* is Paul Fleischacker. The lead article in the January 1993 issue, "Implications of Explosive Growth of Autologous Bone Marrow Transplants," is by Harry L. Sutton, Jr., who participated in a Health Care Technology Symposium. The newsletter also includes an article by Maleta Simek, "Small Group Reform - Impact of NAIC Model Act on Insurers," and "Care Management in Long-Term Care Insurance" by Saul M. Spivack, Ph.D. Holly King asked readers to "Test Your Full-Flex I.Q."

The Health Section is sponsoring a Small Group Health Reform Seminar on April 13, the day before the SOA spring meeting in San Diego. It also is sponsoring a research project on large claims incidence with about 30 companies to submit data by May. The Section is compiling a professional database to identify Health Section members with specific areas of expertise.

Investment Section

Membership in the Investment Section is more than 3,250. Newly elected council members are Cindy Forbes, Robert Reitano, and Bruce Vane.

Its newsletter is *Risks and Rewards* and is edited by an editorial board. David A. Hall is the council chairperson. Hall's article in the January 1993 issue, "Taking Stock," reflects on this Section's first five years, giving Eric Lofgren special thanks for his leadership as he "retires" from the council.

The front page article is "The Role of Emerging Markets in Global Investment Strategies" by G. Mark Armour. The newsletter also includes a letter sent to the Actuarial Standards Board on behalf of the Investment Section Council on the "Exposure Draft of Proposed Standard for Selection of Economic Assumptions for Measuring Pension Obligations" by Richard Q. Wendt. Conwill comments on "The Financial Analyst Journal: A Retrospective and a Speech on Wall Street." Mark W. Griffin reports on "PWBA Deputy Addresses Investment Section Breakfast," and Wendt reports on "Pension Forecasting Boot Camp a Success."

The Section is sponsoring the Reddington Prize, a biennial prize of \$1,000 for the best paper written on an investment-related topic by a Section member. Papers must be submitted to Elias Shiu by June 30, 1993.

This Section is sponsoring the Investment Spring Training for Life and Annuity Actuaries in New York, May 26-27.

Donations needed for minority scholarships

by Edward John Mullen

The Joint Committee on Minority Recruiting meets in early June to award scholarships to encourage qualified minorities (African Americans, Hispanics, Asian Americans, and Native North Americans) to pursue actuarial careers.

With many well-qualified minority applicants, the committee hopes to award scholarships for the 1993-94 year at the same level as last year. In 1992-93, 42 students received undergraduate scholarships totaling \$35,000. In addition, the committee helped fund successful summer actuarial programs at Florida A&M and Howard University and wants to continue funding these programs at comparable levels. Contributions have fallen in the last two years. To fund the committee programs, we need your continued support.

We encourage companies to donate \$35 for each actuary on staff. Individual contributions also are needed and can be doubled if an employer has a "matching contribution" program for donations to a 501(c)(3) organization.

Please mail your checks payable to "CAS/SOA Minority Recruiting Program" to the Society of Actuaries/ Casualty Actuarial Society, P.O. Box 95668, Chicago, IL 60694. Contributions are deductible for U.S. federal income tax.

Edward John Mullen, Chairperson of the Joint Committee on Minority Recruiting, is a principal with Ernst & Young.

Intensive review seminars

The following intensive review seminars will be offered in Philadelphia:

Temple University Actuarial Institute	CAMAR (Casualty Actuaries of Mid-
Course 151	Atlantic Region)
Course 160	Course 100
Course 162	Course 110
Course 165	Course 120
Course 200	Course 135
April 15, 16	April 15-18
April 22, 23	April 14-17
April 24	April 25, 26
April 17	April 23, 24
April 14-18	

For more information, contact Bonnie Averbach, Program in Actuarial Science, Ritter Annex 475 (004-00), Temple University, Philadelphia, PA 19122, or call 215/204-8153.

CAIRE Insurance Conference

The International Center for Actuarial Research and Education (CAIRE) offers an advanced course on Marketing for Insurance in Chania, Crete, Greece, on May 10-14, 1993. The course is aimed at actuaries, statisticians, and marketing and management executives from banks and insurance companies. Lectures by leading experts in the field will be in English. For more information, contact W. James MacGinnitie at his *Directory* address.

Take fresh ideas from Chief Actuaries Open Forum back to job

by Richard L. Mucci

If this describes you —

- A chief actuary or senior actuarial officer at your insurance or consulting company
- Want an excellent overview of key actuarial issues facing the insurance industry
- Like to have fun and meet colleagues from diverse companies throughout the United States and Canada

— then the Chief Actuaries Open Forum in San Antonio, sponsored by the Society of Actuaries, is where you should be May 19-20, 1993.

Last year's forum included more than 50 attendees representing small and large, stock and mutual, U.S. and Canadian insurance and consulting companies, as well as some European visitors. Although the material and meeting sessions are reason enough to attend, the most value of this meeting comes from discussing key issues with your counterparts in other companies. Comparing notes with others stimulates innovative thoughts and fresh ideas to bring back to your job.

Meeting agenda

The forum officially begins the evening of May 18 with a reception where you can renew old acquaintances and meet new colleagues. During the mornings of May 19 and 20, all attendees will participate in a series of discussions on key issues. Breakout sessions during the afternoon of May 19 will divide participants into smaller groups for more discussion, followed by a dinner. All meeting activities are in an informal, relaxed atmosphere with casual dress.

Key issues

A real bonus to attendees is receiving before the meeting a comprehensive notebook of key issues facing the senior actuaries of the insurance industry today. The notebook supplies supporting reference material on many issues, so you can do some research before the meeting on issues that interest you. The results of a survey conducted before the meeting prioritize these issues and also identify any new "hot" issues. This notebook with references and notes from the meeting

provides a valuable resource for attendees and their companies.

Some issues already identified for discussion are:

- Living with the new Standard Valuation Law and Appointed Actuary regulations
- Dealing with a flat growth life insurance industry
- Determining the proper investment in an insurance company actuarial function
- Managing implications of the new NAIC Risk Based Capital Formula
- Controlling the life insurance illustration

Who should attend?

Not sure what the definition of a chief

actuary or senior actuarial officer is? It is an actuary who:

- Is in charge of the actuarial responsibilities for a company, setting policies and goals for those actuaries within the company
- Has responsibilities beyond pricing products or valuation
- Is involved in the overall management of the company or lines of business
- In a consulting firm, sets goals and direction of the company's actuarial function

Invitations are out, so watch your mail. Please contact me or other faculty members — Greg Strong, Jerry Brown, and Gerry Lockwood — at our *Directory* addresses for more information. If you think you should have received an invitation and did not, contact any faculty member or call the SOA Continuing Education Department, 708/706-3545.

Richard L. Mucci is senior vice president and chief actuary at Paul Revere Insurance Company, Worcester, Massachusetts.

Seminar Calendar

May 3-4	Spring Meeting (Product Development, Financial Reporting)	Marriott Hotel Copley Place Boston
May 5	Individual Annuity Seminar	Marriott Hotel Copley Place Boston
May 5	Credit Risk Loss Experience	Marriott Hotel Copley Place Boston
May 19-20	Chief Actuaries Open Forum	Hyatt Regency San Antonio
May 26-27	Investment Spring Training	Marriott Marquis New York
June 2	FAS 106 (Intermediate)	Westin O'Hare Chicago
June 3	FAS 106 (Advanced)	Westin O'Hare Chicago
June 3	Small Group Health Care Reform (Expanded Program)	Marriott Inner Harbor Baltimore
June 3-4	Postmortem on 1992 Reserve Adequacy Analysis — Where Do We Go from Here?	Walt Disney's Yacht and Beach Club Orlando
June 14-15	Spring Meeting (Financial Reporting, Product Development)	Hilton International Quebec City
June 16	Credit Risk Loss Experience	Hilton International Quebec City

This is a listing of SOA seminars and meetings in May-June 1993. Watch for additions published in *The Actuary* throughout the year. For more information, please call the Continuing Education Department, 708/706-3545.

FACTUARIES

This is another in a series of profiles of members of the Society's Board of Governors.



Name: Patricia Scahill

Current hometown: Columbia, Maryland

Current employer and function: Employee Benefits Consultant, William M. Mercer

Marital status: Married, no children

Birthday: August 15

Birthplace: Indianapolis, Indiana

My first job was: Calculating unemployment rates

People in high school thought I was: Serious

I'd give anything to meet: Katherine Hepburn

The number of exams I flunked: Five

The book I recommend most often: *Generations* by William Strauss

The movie I'd most like to own the tape of: *Night Mother*

Nobody would believe it if they saw me: Doing nothing

The TV show I stay home to watch: Kennedy Center Lifetime Achievement Awards

If I could change one thing about myself, I'd: Work less and play more

When I'm feeling sorry for myself, I: Pet my dogs

My fantasy: Make a difference in the world by helping save endangered animal species

The silliest thing I've ever done: Visited Washington's Mount Vernon home on the Fourth of July (the line was ridiculous)

If I could do it over, I'd: Start law school right after getting my FSA instead of waiting 12 years

My proudest actuarial moment: Helping launch the Fellowship Admissions Course

I'm passionate about: Justice and kindness

My favorite way to spend a Sunday: Relaxing

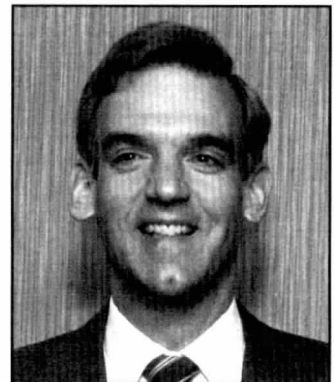
Transactions authors profiled

Fourteen papers have been accepted for publication in Volume 44 of the *Transactions*. The following biographical sketches briefly describe 7 of the 18 authors. Three were profiled in the November 1992 *Actuary*, four in the February 1993 issue, and the remainder will be featured in a future issue.

"Reverse Mortgages" by William A. Phillips and Stephen B. Gwin



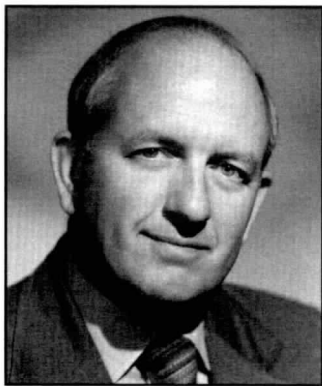
WILLIAM A. PHILLIPS, FSA 1977, MAAA, is vice president and actuary, product development at Capital Holding Corporation. He has a bachelor's degree in chemistry and physics from Haverford College and a master's degree in geochemistry from the California Institute of Technology. He began his actuarial career at Transamerica Occidental Life in 1973 and joined Capital Holding in 1977. He has served on Society of Actuaries and American Academy of Actuaries committees, as a panelist at Society and industry meetings, and as a speaker on home equity conversion mortgages.



STEPHEN B. GWIN, FSA 1979, MAAA, is second vice president and actuary, product development, at Capital Holding Corporation. He

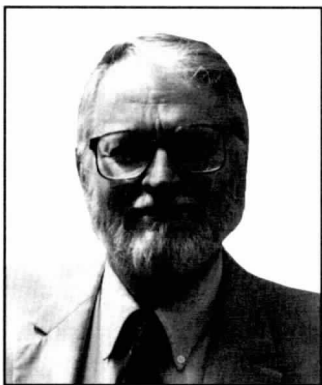
received a bachelor's degree in business administration and a master's degree in actuarial science from the University of Michigan. He began his actuarial career with American United Life. He also worked for National Life & Accident and for Blue Cross and Blue Shield of Kentucky before joining Capital Holding in 1984. He was a panelist at the National Conference on Home Equity Conversion.

"An Actuarial Analysis of the AIDS Epidemic as It Affects Heterosexuals"
by Peter W. Plumley



PETER W. PLUMLEY, FSA 1958, MAAA, is a consulting actuary whose current interests include expansion of mortality and morbidity research and actuarial aspects of the AIDS epidemic. He was executive director of the SOA in 1975-79 and served on the Board of Governors in 1981-84 and on various SOA committees. He currently serves on the HIV Research Committee. His papers have been published in the *Transactions* in Vol. 27 (1975), Vol. 28 (1976), Vol. 30 (1978), Vol. 33 (1981), and Vol. 41 (1989).

"A Method to Determine Confidence Intervals for Trend" by William A. Bailey



WILLIAM A. BAILEY, FSA 1962, MAAA, is research actuary for Kemper National Insurance Company. He

majoring in mathematics and graduated from Clark University in Worcester, Massachusetts, spent 17 years with Massachusetts Mutual, 1 year with Bankers Life & Casualty, 5 years with Milliman & Robertson in Milwaukee, 3 years with PolySystems in Chicago, and the last 12 years with Kemper in Long Grove, Illinois. His primary vocational interest since 1969 has been generalizing numerical convolutions for application to various actuarial and statistical problems. He created the "C"-language program COCONUT (COmand-and-CONvolute) that enables personal computer users to apply a handful of commands to perform convolution-like operations on from one- to five-dimensional empirical probability distributions. Bailey served on the Society's Examination Committee for Theory of Risk in 1985. He has published papers in the *Transactions* Vol. 26 (1974), *ARCH* (1978.2), and in the *Scandinavian Actuarial Journal*.

"Modeling Flexible Benefits Selection" by Charles S. Fuhrer and Arnold F. Shapiro



CHARLES S. FUHRER, FSA 1977, MAAA, has been pricing actuary of the employee benefits division at Washington National Insurance Company since 1990. Previously, he was group actuary at Health Care Service Corporation (Blue Cross/Blue Shield of Illinois) and at Benefit Trust Life Insurance Company. He received a bachelor's degree in mathematics from the University of Chicago. He is currently vice-chairperson of the Course 151 Examination Committee, vice-chairperson on the Committee on Papers, co-editor of *ARCH*, and a member of the Education and Research Section Council. He has served as chairperson of the Society's Committee on Research on Theory and Applications and is currently

serving on the Committee on Review of Literature and the Task Force on the Encouragement of Literature. His papers in the *Transactions*, Vol. 40 (1988), and *ARCH* (1988.3) received the 1988 AERF Practitioners Award. The paper in Vol. 43 (1991) won the Health Section Research Papers Prize in 1991.



ARNOLD F. SHAPIRO, FSA 1976, MAAA, MSPA, EA, is professor of actuarial science and insurance, Robert G. Schwartz University Endowed Fellow in Business Administration, and director of the Pension and Welfare Research Center at The Pennsylvania State University. He received his Ph.D. in applied business and economics from the University of Pennsylvania (Wharton) in 1975. He is a vice-chairperson of the Education and Research Section. He is a co-editor of *ARCH* and associate editor of *Insurance: Mathematics and Economics*. His articles have appeared in *Insurance: Mathematics and Economics*, *Journal of Risk and Insurance*, *The Millbank Quarterly*, and *Journal of Econometrics*.

"A Practical Guide to Interest Rate Generators" by Sarah L. M. Christiansen



SARAH L.M. CHRISTIANSEN, FSA 1991, MAAA, is a senior actuarial

continued on page 14 column 1

TSA authors cont'd

associate at The Principal Financial Group. She received her bachelor's degree in mathematics from the University of California, Riverside, and master's and Ph.D. degrees in mathematics from the University of New Mexico. Before joining The Principal in 1985, she taught mathematics at Drake University, Des Moines Area Community College, and Grandview College. She serves as the Education and Research Section representative to the Society's Program Committee and is a member of the Course V-480 Examination Committee. Her published works include a paper in the *Transactions*, Vol. 41 (1989), and articles in *Health Section News* and Education and Research Section's *Expanding Horizons*.

Library adds services

To expand its ability to meet the information requests of members, the Society of Actuaries library recently has gone "online" with NEXIS to access business files and with OCLC for interlibrary networking. The library also can search new and old actuarial literature through Actuarial Source and Cowman's Index.

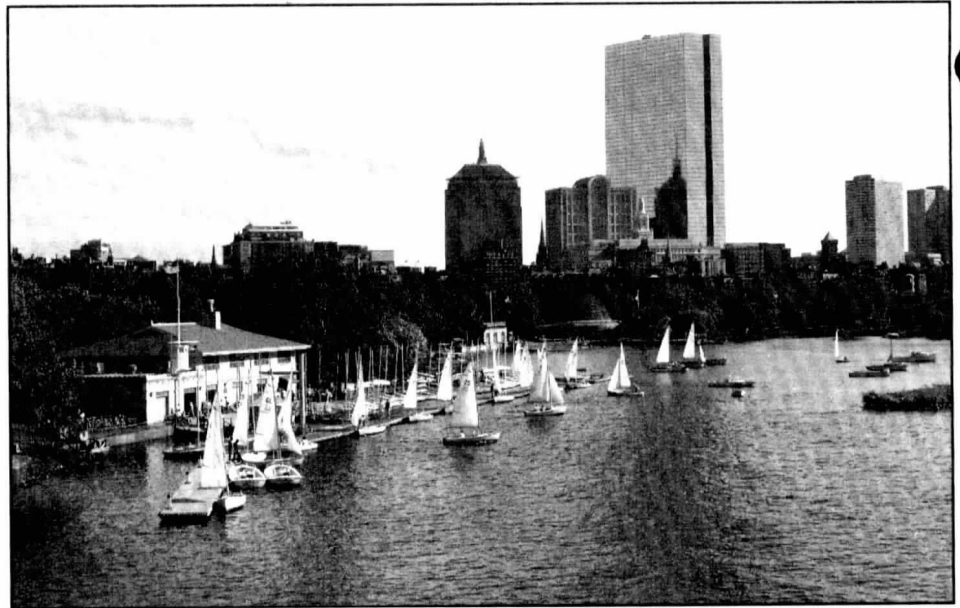
Below is an abbreviated list of the Society of Actuaries library's quarterly list of items received. A photocopy of the entire list for current or previous quarters may be obtained by calling the library at 708/706-3538 or 708/706-3575.

American Academy of Actuaries
1993 Yearbook, American Academy of Actuaries, January 1993

Canadian Institute of Actuaries
"1982-1988 Individual Mortality Table," Committee on Expected Mortality Experience, November 1992

"Canadian Institute of Actuaries English-French Lexicon," Committee on Bilingualism, CIA, Juin/June 1986
"Valuation Technique Paper No. 9: Valuation of Single Premium Annuities, Exposure Draft," CIA June 1992

Casualty Actuarial Society
1993 Syllabus of Examinations, Thirty-Eighth Edition, CAS, 1993
1993 Yearbook, CAS, January 1, 1993
Casualty Actuarial Forum: Special Edition, 1993 Ratemaking Call Papers, CAS, February 1993



Something for everyone at Boston meeting

With more than 60 sessions on everything from product development and financial reporting to management and international issues, the Society of Actuaries Boston spring meeting, May 3-4, will have something of value to everyone.

Topics will include new product ideas from around the world, NAIC risk based capital standards, AIDS update, trends in technology, important working relationships for the valuation actuary, and the mutual company dilemma. A management workshop reveals the "Secrets to Better Writing Skills."

Keynote speaker Lee Sherman Dreyfus, governor of Wisconsin from

1979-83 and former president of Sentry Insurance Corporation, will talk on professionalism at the May 3 general session. Speaker Steven T. Foster, president of the National Association of Insurance Commissioners, will give the late breaking news from the NAIC at the May 4 general luncheon.

The meeting hotel, the Boston Marriott Copley Place, is in the heart of the Back Bay, one of Boston's most lively areas. Free time can be spent visiting cultural and historic landmarks, art galleries, theaters, shops, and restaurants, all within walking distance.

Circulating

Barrow, John D., *Pi in the Sky: Counting, Thinking, and Being*, Oxford University Press, 1992 (uncatalogued)

Brackenridge, RDC, *Medical Selection of Life Risks, Third Edition*, Stockton Press, 1992 (HG 8886 .B67)

The Complete Internal Revenue Code, January 1993 Edition, Research Institute of America (HJ 3521 .R4 1993)

Crow, Edwin L. and Kunio Shimizu, *Lognormal Distribution: Theory and*

Applications, Marcel Dekker, Inc. 1988 (QA 273 .6 .L64)

Foulkes, Fred K., editor, *Executive Compensation: A Strategic Guide for the 1990s*, Harvard Business School Press, 1991 (HD 49655 .5 .U6 E87)

Hopkins, Bruce R. *The Law of Tax-Exempt Organizations*, Sixth Edition, John Wiley & Sons, 1992 (KF 6449 .H6)

Soule, Charles E., *Disability Income Insurance: the Unique Risk, Second Edition*, Business One Irwin (uncatalogued)

Early-release copies of TSA papers

The following paper has been accepted for publication in Volume 45 of the *Transactions*. Members who would like an early-release copy before it is published in a preprint should send \$5 for each paper to the SOA Books and Publications Department.

"Valuing American Options in a Path Simulation Model" by James A. Tilley

Simulation models are familiar to actuaries and are being used more in product pricing and cash flow testing for insurer solvency. In such simulation models, paths of interest rates, stock market prices, and other relevant economic variables are generated. Asset and liability cash flows are then projected along each path. It is generally believed it is impossible to value American options (for example, those embedded in callable corporate bonds) properly in a path simulation model, because optimal exercise of the options cannot be determined. This paper demonstrates that this belief, which is even taught in finance classes at graduate schools, is a myth.

In the paper, an algorithm is presented for valuing American options properly in a path simulation model. It then is used to solve a "textbook" option pricing problem. Tilley first presented this technique at a derivatives symposium at Queen's University in May 1992. Academic researchers have begun to use it to develop new prepayment models for mortgage-backed securities, and Wall Street practitioners have begun to use it in their exposure systems for derivative securities.

In memoriam

Allen C. Eastlack ASA 1925,
MAAA 1966

Brendan Hayes ASA 1985, FIA 1971

H.J. Stowe FSA 1925, FCIA 1965

Ailey Bailin FSA 1975, MAAA 1976,
FCIA 1975, EA 1976

Carol Chamberlain ASA 1971,
MAAA 1980

A. Herve Hebert FSA 1957, FCIA 1965

Robert L. Jex FSA 1941, FCIA 1965,
MAAA 1966

Robert McCorkle FSA 1948, MAAA 1965

Dear Editor:

Mailings addressed again

The January 1993 issue had letters by Robert Larson and Jeffrey Stevenson about eliminating some mailings to certain members. Executive Director John O'Connor described the problems involved. Although this is a minor matter in the Society's agenda, I've had it in mind for some time.

If Larson's suggestions would create "30 different setups" for the mail department, then suppose we retreat to a much simpler idea for retirees with waived dues. Eliminate all involvement of the Sections and have only two groups: (1) those retirees who want to receive only the *Directory* and *The Actuary* and (2) all others.

About 2,000 Society members now are either retired or have "no indicated business connection." Several hundred of these retired as long ago as Larson did (12 years). Many of us old-timers would welcome the elimination of all but the two items mentioned above. We can no longer attend meetings because of distance, age, or health. We are unable to keep abreast of the many new developments in the actuarial field, and we feel a diffidence about voting for officers and on amendments.

The limited mailing group that I am suggesting could be established by inserting a question in the next mailing of dues notices: "Do you wish to receive only the *Directory* and *The Actuary*?"

J. Ross Adams

Reply from President Walt Rugland

Ross's concern about the amount of mail is shared by both retirees and members who are not retired. The new Committee on Member Communications chaired by Brad Smith has made the mail blitz issue a priority item. Its first action was to form a staff subcommittee, chaired by Peggy Grillot, to take a disciplined look at the Society's systemic mailings, document the number and types of pieces sent to members, and research paper elimination practices that

have proved successful in other organizations. The subcommittee will report in July. If members have any knowledge of how others have reduced mail/paper overflow, please contact Peggy Grillot in the Society office.

Not a fair trade

In his editorial (February 1993) bemoaning the outlook for retirement costs in Canada and the United States, Michael McGuinness wrote the "projected ratios of workers to retirees in Mexico make U.S. and Canadian planners wish they were so fortunate."

Does he really think that anyone who considers the overall situation would trade the current or future economic and demographic status of Canada or the United States for that in Mexico? (On page 4 in the same issue, it is noted that only about half of Mexicans age 20 to 60 live above the poverty level.)

I suggest McGuinness made the same mistake that others do when they focus on an issue (e.g., increasing proportion of retirees) without considering the overall environment or the impact of alternatives. For example, it is true that the U.S. payroll tax rate for OASDI will have to increase. However, that doesn't mean future workers will have lower real disposable income than now, nor does it mean the country would be better able to cope with the economic and social consequences of high fertility.

Howard Young

Insurance did exist in U.S.S.R.

The January 1993 issue ("Refugees master universal language") reports on the statements of two Russian refugees about insurance in the former U.S.S.R. One says that it was non-existent, while the other states that it only covers a small part of the cost of loss.

The U.S.S.R. had a flourishing, widespread individual life insurance system. For evidence of this, see my TSA papers, "The New Voluntary Annuity Program in the Soviet Union" (Vol. XLI, 1989) and "Economic Security in the Soviet Union" (Vol. XI, 1959).

Robert J. Myers

ACTUCROSSWORD

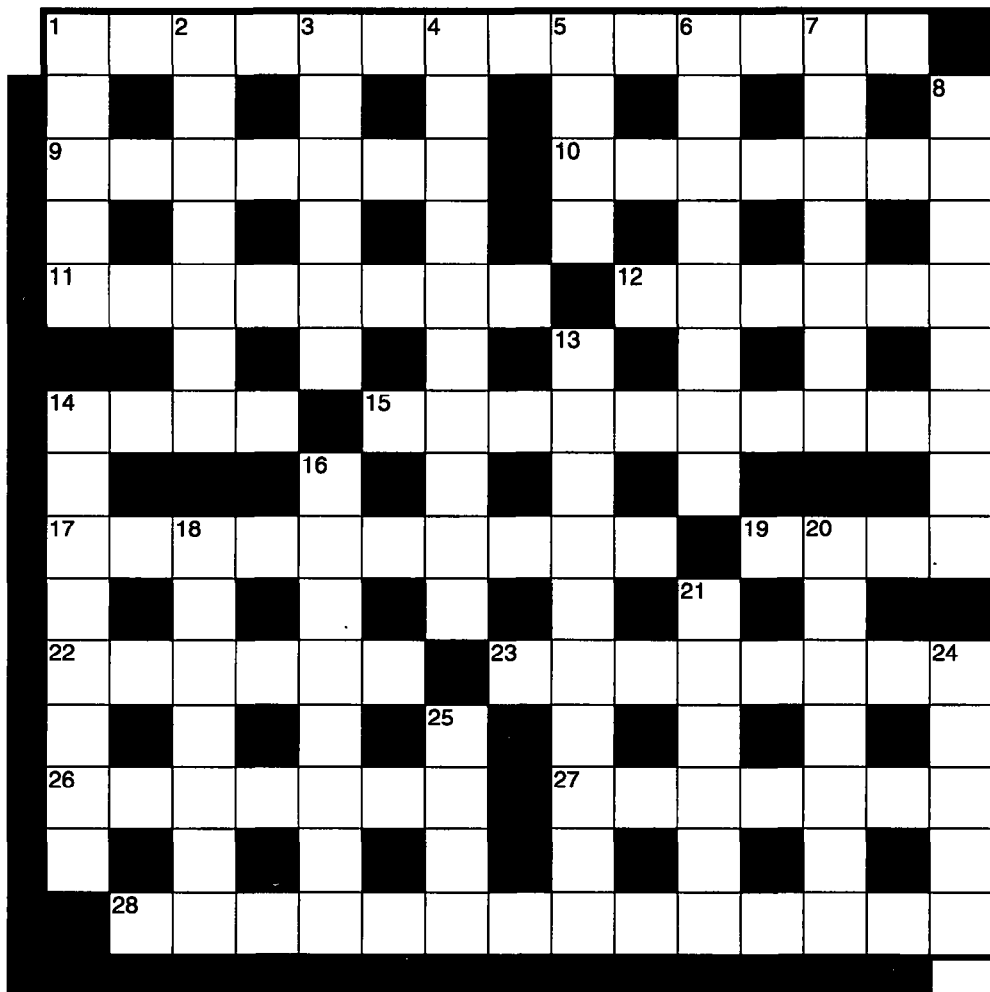
by Julian Ochrymowych

Across

1. Falsify entire story about the actuarial exam material (8 6)
9. Shirley's roommate's returning gun found in street (7)
10. Chop up Angela's pasta dish (7)
11. Was carrying dancing Tharp in "Indian Rituals" (8)
12. Suddenly pick up garbled chants (6)
14. Prying — no, heartless — spy (4)
15. Germans' broadcast, after cry of disapproval, backfires (10)
17. Thief's car circling at large about town (3 7)
19. Nora's tamely holding the Charles' dog (4)
22. Also clutches purse from West Indies island (6)
23. Malevolent goddess takes in Zero Mostel's first two characters (8)
26. Without end, relate novel about North (7)
27. Sparked manic dieting (7)
28. Dave Mill sours, upset, getting 5 in Course 160 (8 6)

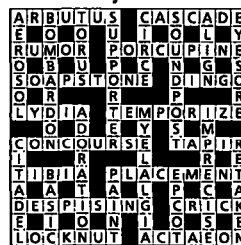
Down

1. Broken nail on Howard's third wife's mother (2-3)
2. Servant going wild in alehouses (7)
3. Again perused back of the sports: "Challenger making a comeback" (6)
4. Fume endlessly on unfinished transparency (3-7)
5. Story's end, reportedly (4)
6. Iron cast in other castle in Denmark (8)
7. Tackle not up to first of handoffs? Correct (5 2)
8. Wager he's district attorney for Maryland district (8)
13. Unimportant and confused, I am a timer at trail's finish (10)
14. Subtle points in French city relationships (8)
16. Russian author's desire in beginning to translate *Nevada* (8)
18. The French actor's first seen in banned picture (7)
20. Dog from South Carolina returning to center of Latta, that is (7)
21. Mid-October, gave birth on island (6)
24. Teams spied Jets in odd positions (5)
25. Pole, e.g., in men's lavatory (4)



100% Solvers - November: W Allison, A Amodeo, A Bailey, T Boehmer, E Broge, J Brownlee, R&M Buck, G Cameron, S Colpitts, P&E Danyo, J Darnton, B Dibben, E&G Fairbanks, R Fleckenstein & P McEvoy, P Gollance, E Goral, J Grantier, R Harder, P Hepokoski, R&J Koch, L Lana, W Lumsden, M Lykins and J O'Connor, M MacKinnon, D&S Magnusson, R Martin, G&D Mazaitis, J&D Mereu, R Miller III, C Monroe, B Mowrey, J Palmer, E Ripstein, LG Rollerson & C Ream, J Schwartz, C Shalit, E&L Shane, G Sherritt, D Taub, H Teich, E Thompson, M Thompson & D Elbaum, E Tittley, M Vandersteeg & A White, D Weill, A Whiton, V Young & T Luker, F Zaret, Anonymous

February's Solution



Send solutions to: Puzzle Editor, 35 Smithfield Court, Basking Ridge, NJ 07920