



# The Actuarial Review

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## From the President

### CAS Exam Restructuring



by Patrick J.  
Grannan

There has been a great deal of discussion by the CAS Board and committees, as well as by other members and exam candidates, regarding the content and results of the new Exams 3 and 4 first administered in May 2000. These two exams are given jointly by the CAS and the SOA, and are part of a broader restructuring of the CAS exams, which I believe will be very beneficial to the casualty actuarial profession.

We owe a great debt of thanks to the many CAS members who contributed their time and energy over the past few years to the restructuring of the exams. This was an important project to help prepare candidates better in several respects for their future careers. Some important accomplishments of the restructuring follow:

- This was a large step in the evolution of the exams to meet the changing educational needs of casualty actuaries. There has been significant evolution and expansion of the areas in which casualty actuaries work over the past several years. This has

→ page 4

## Annual Leadership Meeting Focuses on Perspectives

**PHILADELPHIA, Pa.**—CAS leaders met here on March 29 to discuss “External Perspectives on Casualty Actuaries,” the theme of the annual CAS Leadership Meeting. CAS President-elect **Bob Conger** conducted the meeting, which featured two panel discussions, with “consumers” of and “future suppliers” of casualty actuarial services. The CAS leaders in attendance were committee chairs, Regional Affiliate presidents, exam committee general officers and part chairs, and members of the Executive Council. After the panel discussion, attendees conferred in breakout sessions to consider the external

→ page 16

## The State of the Market

by Arthur J. Schwartz

To assess the state of the employment market for actuaries, I recently held a roundtable discussion with a number of prominent recruiters. Our panel included:

K.C. Cho, from D.W. Simpson, in Chicago: his firm specializes in placing actuaries of all stripes, whether casualty or other. Margaret Resce Milkint, from Jacobson Associates in Chicago: her firm places all types of specialties for insurers; actuaries of course, but also underwriters and claims specialists. Milt Dossin, from Nationwide Actuarial Search in Las Vegas: his firm specializes in placing casualty actuaries only.

→ page 20

## Francis, Collins, and Lowe Win Data Management Prizes

The CAS Committee on Management Data and Information and the Insurance Data Management Association awarded prizes to authors of two papers submitted in response to the CAS committee’s call for Data Management/Data Quality/Data Technology papers. Prize winners for 2001 are **Louise Francis** and the team of **Douglas J. Collins** and **Stephen P. Lowe**. Francis won for her paper “Neural Networks Demystified” and Collins and Lowe for their paper, “A Macro Validation Dataset for U.S. Hurricane Models.” Francis and Collins presented their papers at the 2001 Ratemaking Seminar, held March 11-13 in Las Vegas. ■



From left: Carole Banfield, president of the Insurance Data Management Association; Louise Francis; and Bob Wolf, chairperson of the CAS Committee on Management Data and Information; Doug Collins.

### Inside This Issue:

In My Opinion .....	2
From the Readers .....	4
Brainstorms .....	23
It's A Puzzlement .....	24

# Confidentiality of the ABCD Process

by Walter C. Wright

**T**he Code of Professional Conduct of the American Academy of Actuaries, which has been adopted by the Casualty Actuarial Society, spells out the high standards of conduct, practice, and qualifications of the actuarial profession. The Actuarial Board for Counseling and Discipline (ABCD) is a vital arm of our profession, necessary for investigating alleged violations of this code.

Most of us have never been the subject of a complaint to the ABCD, hope that we never will be, and therefore probably do not give too much consideration to the

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**“Generally...  
confidentiality is a  
very good thing...”**

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rules and procedures of the ABCD. We should, however, because even if the ABCD never affects us directly, it is likely to affect friends and associates within the CAS, and to affect the public perception of our profession. The “Random Sampler” by Michael J.

Miller, published in the last issue of *The Actuarial Review*, identifies a number of concerns he has about the ABCD process. One procedural area in which I am particularly interested is the confidentiality of proceedings.

An actuary who may be the subject of an ABCD inquiry (the “subject actuary”) deserves, and should expect, that the initial proceedings will be confidential. The ABCD may decide to either dismiss the matter or offer counseling to the actuary. If the ABCD conducts a hearing, the hearing might lead to dismissal, counseling, or a recommendation (to the subject actuary’s membership organizations) for disciplinary action: private reprimand, public reprimand, suspension, or expulsion. As a result, the subject actuary can expect the proceedings to be confidential unless the membership organizations decide on public reprimand, suspension, or expulsion.

Generally, this confidentiality is a very good thing and protects the rights of the subject actuary. But in some cases the rule of confidentiality may be abused. Two such cases are identified below.

First, an actuary who is the subject to an ABCD inquiry might actually want the matter to be made public. Article 10, Section 9(C) of Academy By-laws permits the ABCD to accept a waiver of confidentiality from a subject actuary and then disclose what would otherwise be confidential information, “subject to such terms and conditions as the ABCD deems necessary to protect the confidentiality rights of other parties and the integrity of the ABCD process.” This clause was added effective January 1, 1999 and gives the subject actuary an important option. Six years ago a subject actuary who thought he was being treated unfairly by the ABCD signed a waiver of confidentiality and requested that a representative of *The Actuarial Review* attend his hearing to witness the events, but this was disallowed under the rules then in place. The primary reason to maintain confidentiality of the ABCD process is to protect the subject actuary. One hopes the ABCD will make every effort to open the process to the public if requested by a subject actuary, and will not adhere to confidentiality in order to protect the ABCD process from public scrutiny.

Second, some violations of the Code of Professional Conduct may be made in such a way that the only proper response from the profession is a public announcement of the ABCD’s decision, even if the decision is limited to counseling. For

→ page 16



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Elizabeth A. Smith

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# The DFA Seminars Are Coming! The DFA Seminars Are Coming!

by Robert J. Walling, Chairperson, Committee on the Dynamic Financial Analysis Seminar

Both the CAS Special Interest Seminar on Dynamic Financial Analysis and the CAS Limited Attendance Seminar on DFA are coming to The Boston Park Plaza Hotel, June 6-8, 2001.

The Limited Attendance Seminar will be held on Wednesday, June 6. It is a hands-on workshop that will teach the basic concepts of DFA through case studies and the application of actual data. Attendees will become familiar with the fundamental interrelationships of DFA in a small-group, classroom environment.

The Special Interest Seminar on Dynamic Financial Analysis will be held on Thursday, June 7 and Friday, June 8. It will include a general session, featuring Ted Kelly, Chairman of Liberty Mutual Group, and concurrent sessions on a variety of DFA topics. This year's topics place a heavy emphasis on practical applications of DFA concepts. Among them are sessions on enterprise risk management, reinsurance applications, pricing and retention modeling, a variety of different risk metrics, and

nonactuarial perspectives on DFA. The seminar will also feature a presentation by authors of papers contributed to the 2001 DFA Call Paper Program. These papers are case studies of a sample insurance company using a common data source.

By having the Limited Attendance Seminar immediately precede the Special Interest Seminar, individuals can learn the basic concepts on the first day and then attend the DFA Seminar where more technical approaches and broader concepts will be covered. The common site and timing will also provide attendees a convenient forum to select from a variety of subjects and presentation styles. The CAS is offering a reduced registration fee for people attending both seminars.

Registration information is available



*Boston's Skyline*

Photo Credit: Greater Boston Convention and Visitors Bureau

in a brochure that was mailed in April and is on the CAS Web Site. Please note that the Seminar on DFA has been moved up from July to June to accommodate the ASTIN meeting in July. This will require earlier registration and hotel reservation deadlines than in previous years.

Please contact **Robert Walling** at robertw@mhlconsult.com for additional information. ■

## Coming to America—U.S. to Host ASTIN Meeting; CARe Meeting to Coincide

by David Skurnick, Chairperson, Task Force on the ASTIN 2001 Meeting

ASTIN (Actuarial Studies in Non-life Insurance) is part of the International Actuarial Association. The ASTIN meetings are an excellent place to meet actuaries from all over the world. This year, American actuaries can attend an ASTIN meeting in Washington, D.C. on July 8-11.

This meeting will have one day in common with the Casualty Actuaries in Reinsurance (CARe), a special interest group of the CAS, whose meeting runs July 11-12. Participants who want to attend both meetings will benefit from a reduced registration fee.

Topics for the 2001 ASTIN meet-

ing include reinsurance, regulation, dynamic financial analysis, and health and genetics issues. Dr. Samuel Broder, executive vice president of Celera Genomics will be the keynote speaker. A physician-scientist who has been with Celera since its founding, Dr. Broder served as director of the National Cancer Institute under the Reagan administration. His professional research interests are cancer, immunology, and AIDS (especially anti-retroviral therapy). His talk will address the human genome and the future of medicine.

The host city, Washington D.C., is

filled with attractions—unparalleled museums, splendid monuments, outstanding restaurants—many of which are within walking distance of the convention hotel. ASTIN attendees will have their choice of two tours included with the price of their registration.

The CAS hopes many of its members will take advantage of the opportunity to expand their global horizons by attending the ASTIN meeting. To register for either meeting, please check the CAS Web Site under "Continuing Education." ■

## Seeing the Elephant

Dear Editor:

The CAS has advisory committees on Asset/Liability Management [and Investment Policy], Enterprise Risk Management, and Valuation of P/C Companies; research and development committees on Dynamic Financial Analysis, Theory of Risk, and Valuation, Finance, and Investments; and [the former] Task Force on Fair Value Liabilities. Does the CAS run the risk of not seeing the elephant? Certainly these seven topics are merely different as-

pects of the same fundamental problem, which is the practical problem of measuring and maximizing the value of the firm in the context of uncertainty.

Each committee is doing important work, and each undoubtedly addresses an important aspect of the problem. Yet the communications are necessarily imperfect.

For our CEO clients, the practical problem of measuring and maximizing the value of the firm is the most important problem we can address. The recent survey of CEOs gave poor marks

for actuaries' ability to communicate in a language that CEOs can understand.

If we have seven committees working on a topic of great importance to CEOs and we aren't good at communicating to CEOs, the risk of poor communications is very real.

Perhaps a coordinated committee structure and participation by CEOs would improve our ability to communicate on this important topic.

*Oakley E. Van Slyke, FCAS*

# 2001 CAS Election Preferential Ballot

On April 9, the Nominating Committee sent preferential ballots to all Fellows, asking for recommendations for the next CAS president-elect and for new members of the Board of Directors. The Nominating Committee urges Fellows to recommend candidates by submitting their ballots to the CAS Office by May 14. The Nominating Committee's slate of candidates will be mailed to the Fellows in mid-July. ■

## From the President

From page 1

been a very positive development for our profession. It is essential that the exams reflect these changes, and that they do so without significantly increasing the total amount of effort required of candidates.

- The partitioning of exams was eliminated. There were good arguments for breaking some exams into smaller pieces. In hindsight, it is clear that partitioning had the unintended effect of lengthening the time it takes candidates to make their way through the exams. The overall percentage of candidates passing remained at about the same level as prior to partitioning. However, it became common for candidates to sit for only a portion of a partitioned exam. As a result, the average amount of exam progress per candidate per sitting dropped by about 20 percent during the 1990's as compared to the 1980's. This trans-

lated directly into longer "travel time" through the exams.

- Nation-specific material was brought together on one exam to the extent practical. This better accommodates the education needs of casualty actuaries in Canada. It also positions the CAS to better meet the needs of actuaries in other countries.
- Exams 3 and 4 became joint exams with the SOA. It is critically important that appropriate learning objectives for casualty actuaries be achieved by any joint exam, and some of the controversy over Exams 3 and 4 has focused on whether this is the case for these two exams. However, to the extent that the CAS and SOA have the same learning objectives for an exam, it is advantageous to give the exam jointly. This avoids the need by candidates still in school to choose between the CAS and SOA any earlier than necessary. It also allows more efficient use of volunteer time and other resources in giving the exams.

The CAS Board discussed Exams 3 and 4 at length in its last two meetings. The November 2000 discussion led to a reduction in the amount of material, especially on Exam 3 for the May 2001 sitting, and to a plan to develop syllabus material that will better facilitate study outside a classroom setting. At its March 2001 meeting, the Board concluded, after extensive discussion, that we should investigate restructuring Exams 3 and 4 to better meet the needs of CAS candidates. The Board looks forward to a report in May by a task force that is considering alternative exam structures.

The CAS has also hired education professionals from the Chauncey Group (an ETS subsidiary) to act as consultants to our Education and Syllabus Committees. We are optimistic that they will contribute to further refinement in the written learning objectives for the exams and in the quality of the exams themselves. ■



# Politics and Mathematics

by Charles L. McClenahan

**G**eorges Clemenceau (1841-1929) said that “war is much too serious a matter to be entrusted to the military.” Trained as a physician but also an accomplished politician, journalist, and teacher, Clemenceau never served in the military. While it is generally accepted that the decision to declare war is inherently political, not military, I believe that once declared, war is much too serious a matter not to be entrusted to the military. Imagine the Battle of the Bulge being fought based upon tactical decisions of the U.S. Congress and the British Parliament. When politicians get involved, somehow knowledge, experience, and expertise seem to become unimportant.

In 1897, *House Bill No. 246*, “A bill for an act introducing a new mathematical truth,” was unanimously passed by the Indiana House of Representatives. Before passage, the bill had been reviewed by the Committee on Canals (also called the Committee on Swamp Lands) and the Committee on Education. The bill, which among other things implied four different values for  $\pi$  and one for  $\sqrt{2}$  (all wrong), died in the Senate only because of disagreement as to whether Dr. Edwin Goodman, the author of the underly-

ing method for squaring the circle, should be allowed to collect royalties for the use of his discovery.

More recently, examples such as California’s Proposition 103 and 1996 electricity industry “deregulation” ex-

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**“I say enough is enough. It is time to take our subject back from the ‘ $2 + 2 = 5$  for sufficiently large values of 2’ crowd.”**

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periment have demonstrated that the “will of the people” is no match for underlying mathematical principles.

In October 2000, the American Academy of Actuaries released an analysis of Governor Bush’s and Vice President Gore’s proposals for Social Security and Medicare finding that they were *both* “incomplete, potentially misleading,” and that they “leave many questions unanswered.” Candidate Gore, as quoted in *USA Today* (November 2, 2000) stated that “the American Academy of Actuaries looked at his

[Bush’s] plan and concluded it would lead to catastrophic results.”

In the parlance of Washington’s “baseline budget process” any program receiving a lower-than-baseline increase is referred to as being “cut.” Social Security contributions, which are spent almost as soon as they arrive, are part of a “trust fund,” and income tax cuts are characterized as “spending” while increases are “revenue enhancements.”

Whether the near-total disregard for the concept of mathematical truth is simply a matter of political convenience or whether it arises from the nonjudgmental view of mathematics embodied in the U.S. Department of Education’s recommended math programs, I say enough is enough. It is time to take our subject back from the “ $2 + 2 = 5$  for sufficiently large values of 2” crowd.

For any one of us, about half of the political missapplications of mathematics tend to support positions we favor. This disparity of political interest should not keep us from railing against such prevarication. The truth should be more important than political capital.

Mathematics is much too serious a matter to be entrusted to the politicians. ■

## Syllabus Committee Seeks Asset-Liability Management Material

The CAS Syllabus Committee seeks appropriate current material on asset-liability management for property and casualty insurers for the CAS Syllabus. The material should include current accepted theory, including relevant and useful references, and, if possible, a presentation of current best practices. A consideration of theory and practice in non-property and casualty insurers and other financial services companies, including conglomerates, may be valuable. This material may be in the form of existing articles, papers, and the like; or in the form of a new study note or some combination. The material should be usable for self-study and lend itself to development of meaningful examination questions. The committee would also be interested in comments from actuaries with experience and/or knowledge in this area, whether or not they lead to a specific change in syllabus material.

Please respond to Syllabus Committee Chairperson **Nancy Braithwaite** at [nbraithwaite@iso.com](mailto:nbraithwaite@iso.com). ■

# Lubricating the Well-Oiled Machine—CAS Committee Focuses on Volunteers

by Roger A. Schultz, Chairperson, CAS Committee on Volunteer Resources

“**M**embers serving members” is an unwritten motto of the CAS. Consider that in 2000, CAS published 32 papers in the *Proceedings*, *Forums*, and the *Discussion Paper Program*. Think about the thousands of hours members have devoted to preparing professional, well-run, and informative meetings and seminars, which, in turn, have given other CAS members the opportunities to earn hundreds of hours of continuing education credits over the years. And what about our future members? In 2000 CAS created and graded four spring exams and two fall exams that all together were administered to a total of 2,428 candidates. Now consider these numbers: 56 committees, 12 publications, 14 Regional Affiliates, and 12 meetings and seminars a year. They’re all made possible by an army of volunteers who work closely with our dedicated professional staff. Their unheroic, day-to-day activities keep the CAS healthy, cohesive, and strong.

The CAS has a far greater percentage of member involvement than most

organizations. Almost 40 percent of all CAS members make some sort of unpaid contribution to the CAS. The actuaries who plan, organize, publicize, and conduct our meetings and seminars

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**“...committee chairs are now responsible for contacting every member who indicates a high level of interest...in ...a particular committee.”**

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are volunteers. The actuaries who speak at those meetings and seminars are volunteers. CAS officers and Regional Affiliate officers are volunteers. Volunteers write articles and papers, and volunteers edit those works and provide them to you in the CAS publications. Volunteers serve as CAS representatives to the American Academy of Actuaries and other actuarial organizations. And there were 56 different CAS committees last year, staffed by a total of 734 volunteer committee members!

How does the CAS recruit this efficient army of volunteers and make it operate at peak levels? The Committee on Volunteer Resources (COVR) is responsible for this. This group of volunteers focuses on the volunteering process and the volunteers themselves. In its short history (the committee was first formed as a task force in 1997), COVR has learned much about the process of volunteering inside the CAS.

In 1999, COVR designed and implemented a New Member Mentoring Program. This program provides new Associates and new Fellows with the opportunity to be connected with an experienced Fellow who can answer questions and offer guidance during the new member’s first year.

## The Participation Survey

COVR administers the annual Participation Survey, which is the major tool that the CAS uses to identify and involve its members in the work of the committees. Every summer, the CAS sends its members a Participation Survey to fill out and return. After the survey is complete, the names of members who expressed interest in a listed activity are forwarded to the appropriate committee chairs. The chairs recruit new members for their committees during September and October.

Some survey respondents felt frustrated by the participation survey process a few years ago, because no one contacted them. COVR changed the recruiting process, and committee chairs are now responsible for contacting *every member* who indicates a high level of interest (the top survey response) in serving on a particular committee. Beginning this year, COVR will also keep track of committee openings during the year, increasing the odds that interested members get an opportunity to serve.

## The Members’ Concerns

Last year, the response rate to the Participation Survey dropped. In an effort to understand this result, COVR conducted a series of interviews with CAS members. COVR gained significant insights from these interviews:

- Many Fellows are reluctant to put time into volunteer activities on top of a heavy workload.
- Most Associates spend their “free time” studying, but they also do not feel as if they are really encouraged to volunteer.

Thus, COVR found a significant amount of untapped interest by the membership in volunteering.

## The Committee’s Actions

COVR has been active in responding to these concerns. COVR has alerted the committee chairs to the con-

### COVR’s Charge

The Committee on Volunteer Resources is responsible for reviewing volunteer involvement in the CAS and recommending ways to increase volunteer involvement and improve member satisfaction with CAS methods for utilizing volunteers.

### Committee Members

**Roger Schultz**, Chairperson

**Regina Berens**

**Chris Carlson**

**Paul Cochran**

**Bob Conger**, ex-officio

**Jerry Degerness**

**Roberta Garland**

**Ted Kuss**

**Jeanne Swanson**

**Todd Rogers**, Staff Liaison

→ page 18

# Why We Are Leaving

by Gil Student

*Editor's Note: Due to a lapse in the editing process, we mistakenly published in the last issue an early draft of the opinion piece by Gil Student.*

*We sincerely regret the error, and we apologize to Mr. Student and to our readers. In fairness to Mr. Student, we have decided to publish his final draft in its entirety. We thank the readers who sent us letters responding to Mr. Student, for taking time to read Mr. Student's final draft and revising their letters accordingly. The letters appear right after Mr. Student's opinion piece.*

In the ongoing debate over the relevance of an actuarial degree, my viewpoint is one that might add to the dialogue. I was an actuarial student for four years before I left the profession. For the past year and a half, I have been working in the credit risk department of a major credit card issuer and I am currently pursuing a CFA degree (I still read *The Actuarial Review* out of nostalgia).

I strongly agree with **Sholom Feldblum**. While I am not able to judge my actuarial capability without bias, all indications were that I was at least an average actuarial student. However, my growing family was more important to me than my exams and I was therefore passing them very slowly. The frustration of failure combined with the knowledge of the many years it would take to finally finish exams led me to my current path.

**Don Mango** and **Thomas Struppeck** ("The Market Relevance of the Actuarial Profession," *AR* November 2000) justified the current exam process with the following explanation. "Every profession puts up barriers to entry. If the goal isn't difficult to attain, it is typically not highly valued—the two are inextricably bound together...Members have a stake in the exams' staying difficult—maintaining the value of the designation."

The main reason given for the difficulty of actuarial exams is so that outsiders will value the actuarial designation. If anyone can be an actuary, "real" actuaries will not be respected. The truth, however, is that the outside world considers anyone with a few exams and a little experience to be an actuary, lack of title notwithstanding. The underwriters with whom I once worked did not differentiate between those on the actuarial staff based on titles. One of my former supervisors, who had over a decade of excellent experience but only two exams, was highly regarded by the nonactuarial staff. When discussing my experience with my current colleagues outside of the insurance industry, most assume that after four years of taking exams I would be a fully certified actuary. In

→ page 8

# Why We Are Staying

by William T. Mech

Gil Student's opinion piece in the February 2001 issue of *The Actuarial Review* caught my attention for two reasons: his frequent comments about salaries and his concern about the 'artificially controlled supply of credentialed actuaries.' I'll comment on both and add my perspective to the debate.

Not everyone enters this field of actuarial science because of financial motivations. Heck, some of us are in the field because we actually *like* insurance—both the concept and the business of it, peculiar as that may seem to some! If you are in this field and your motives are less financial than Student's, and if you are not as concerned with your position in the industry or firm, it could be that you are attracted to our profession for some of the nonmonetary reasons mentioned in the *Jobs Rated Almanac* article of a few years ago. This was the article that prompted many new candidates into the exam pipeline.

While those who are financially motivated can certainly find a place in this profession to realize their ambitions, those objectives don't necessarily endure for the entire length of one's career. So often it is in the early stages of a career, during the exam process, when the value of the struggle to attain credentials is questioned. As Student mentioned, there are many conflicting priorities (often involving the "neglect" of loved ones), that contend for one's energy. I was no different, having entered this career later in life, studying for each exam while raising young children. I put up with 6 failures out of 16 sittings, went at a pace that my family and I could tolerate, and was content with a slower progression of salary and position as a result. It has still been a largely satisfying career to date, all things considered, and I see good things on the horizon as well.

It may be that the people who are most financially motivated are also the ones who have the greatest need to broaden their skill base and enhance their market value. That can indeed be accomplished by attaining multiple "sets of initials," along the lines of **Beth Riczko's** argument in her opinion piece of the same issue, "Strengthening The Profession." Which set of initials comes first on the business card (or the resume), I suppose, depends on whom you are marketing yourself to at any given time. Another way to enhance your value in the marketplace is to take work assignments that are not actuarial in nature and show by your work product that you are more than just a set of initials (or two, or three...).

In the same issue of *The Actuarial Review*, I noticed the double-page spread devoted to new Fellows and Associates.

→ page 10

## Why We Are Leaving

From page 7

fact, most treat me that way, which helps my marketability. In other words, it is too late. Anyone can be an actuary, regardless of the CAS's policies.

But even if this explanation were valid to students who spend hundreds of hours poring through extremely difficult study material with the knowledge that every minute footnote may be tested, this reason is not sufficient. If there was valuable knowledge to be gained by the added difficulty, maybe we could understand. Maybe. But the material can be learned to a working knowledge without being able to pass the exams. That is the ultimate frustration—knowing the material well enough to be able to teach a course on it but still being unable to pass an exam. And the main reason given by Mango and Struppeck is that we need to impress the nonactuarial world. Frankly, I think my nonactuarial former colleagues were greatly impressed with the actuarial staff's intelligence and knowledge of the business. They did not respect our exam experience; they pitied it.

It certainly is not the case that successful exam progress is a sign of competent actuarial behavior. We all know poor actuaries who readily passed the exams. Yet there are many who would make exemplary actuaries but cannot because of the exam burden.

While the above reason for the exam structure may be the opinion of Mango and Struppeck, I think there is another reason. Current Fellows had to sweat through this arduous exam process and consider it the only legitimate way to gain an actuarial degree. If new Fellows do not have to work as hard, why did they, the current Fellows, spend so much of their lives studying for exams? Thus, the difficulty of exams is more due to fairness to current Fellows than to external appearances. But that reasoning, which is frequently hidden in the back of Fellows' minds behind their logical actuarial exteriors, does not justify maintaining an irrational exam structure, because it is viewing the issue from the wrong perspective. If you want to have an exam process that is

fair and rewarding to students, you have to look at it from their perspective.

The question that every actuarial student asks himself is whether the long journey towards Fellowship is worth it. Coming out of college, everyone thinks that he can pass exams quickly. Sure we hear the warnings, but we figure we're probably smarter than the rest. After we finally realize how hard these exams are, and everyone eventually does, we start to wonder whether all of the time we spend studying is being wasted. We are spending our youth studying for exams. Will it pay off?

We all have friends who are making more money in other careers without having to take exams. But can we do it? Are we to believe the often-repeated mantra that passing actuarial exams is a guarantee of job and salary security? The average salaries for Fellows that I have seen range between \$90,000 and \$120,000. While that seems low, I view that as the guarantee that the letters FCAS offer. Is that kind of salary worth all those years of intensive study?

Mango and Struppeck wrote, "[An actuarial degree's] market value is to some extent a result of the difficulty."

But only "to some extent." Similar balances of salary and security are available elsewhere with less difficulty, so an actuarial degree is not worth its purported value. Since passing actuarial exams is harder than getting a master's degree in statistics or business, actuarial salaries should be much higher than in other industries. But they aren't. So why bother? I see statisticians and MBAs easily making over \$100,000. Those with the ambition and skill to finesse their way up the corporate ladder make much higher salaries.

I've posted my experience of leaving the actuarial field on actuarial message boards a few times and have been inundated with questions and private e-mails. The general feeling that I have gotten is that many students do not think that the actuarial path is worth the struggle. The same salaries (or more) can be made with similar work conditions and without any exam requirements.

Who are these people who succeed in leaving the actuarial field? Are they the ones who were never cut out for

such a prestigious and highly valued profession? More likely, they are the ones who are daring enough to leave their comfortable surroundings—the risk-takers. Those smart enough and presentable enough to be able to convince businesses to take a chance and hire someone without industry experience. After years of trying to shed the pocket calculator, back-office image, the CAS is causing an adverse selection that will bring it back.

Mango and Struppeck wrote, "Actuarially inclined students considering actuarial careers must first ask, 'Insurance, yes or no?'"

How many students really care whether they work in insurance or another similar mathematical or risk-related field? Why should it matter? No one I know, other than a few graduates of the College of Insurance, left college with a love for insurance. Frankly, I question why anyone would have such a passion. If anything, the trend towards nontraditional areas of practice seems to imply that actuaries are trying to reach out beyond insurance.

I am not an actuary and I analyze a noninsurance contingent liability with a very different cash flow. It took a while to get used to it, but I am using the same skills I was always using in a slightly different context. I am using the same analytical skills, the same spreadsheet and programming tools, and I still have the occasional obscure theoretical discussion about the statistical behavior of losses and premiums. The only difference is that we discuss loss rates instead of loss ratios and my colleagues are statisticians and MBAs instead of actuaries (by the way, I hold no graduate degree but no one seems to care because I am an "actuary").

There are many different areas where an actuarial student's skills can be used and, particularly for those with only a few years of experience, there is very little practical difference. And the need for talent is very real. My company is dying for anyone with mathematical skills and I have recruiters calling me all the time for other companies with similar needs.

Mango and Struppeck also wrote, "Exams 3 and 4 teach the fundamen-

→ page 9



## Why We Are Leaving

From page 8

tals of the ‘actuarial approach,’ unique to our profession. We have both worked with financial engineers and capital market quantitative professionals, at firms such as Center, RiskMetrics, and Goldman Sachs, who expressed great interest in learning these actuarial techniques.”

I agree. Actuarial techniques have not yet made it to mainstream economists or statisticians. So what? A colleague of mine, with a Ph.D. in econometrics, was undertaking the equivalent of a trend analysis. It was a grand experiment for the department, which held much hope for slightly more accurate forecasts (the cash flows are extremely quick so forecasting can be done with very recent data, which mitigates the inaccuracies of untrended analyses). He was starting from scratch so I gave him some actuarial readings to help. He quickly picked it up and did a job that would make any actuary proud. All this, and he never passed a single actuarial exam!

Mango and Struppeck very wisely asked, “Is our rigorous training a net benefit to our employers, after recognizing the costs?”

This is an excellent perspective that I have not seen addressed elsewhere. Perhaps the time has come to shorten the study time and number of exams so that employers won’t have to pay for so much “vacation” time. To employers, that is what study and exam time is. For five to ten years, they are annually paying for employees to have hundreds of hours for themselves. Multiply that by a few dozen employees and the cost is hundreds of thousands of dollars. Add to that all of the travel expenses of the frequent actuarial “seminars” in extravagant places like Bermuda. If high salaries are most important for actuaries, then reduce the other expenses that go along with an actuarial department because artificially inflating your worth is not working. The statisticians with whom I currently work would be glad to try their hand at insurance scoring.

## Readers Respond to Student

Dear Editor:

In the February 2001 issue of *The Actuarial Review*, an opinion piece by Mr. Gil Student appears. In this essay, “Why We Are Leaving,” Mr. Student quotes from an opinion piece that we wrote. Two sentences that Mr. Student combines into a single quote do appear,

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**“I, too, thought that  
the exams were  
tough, but real life is  
even tougher.”**

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but in totally different contexts and in totally different sections of our paper.

Our piece entitled “The Market Relevance of the Actuarial Profession” (*The Actuarial Review*, November 2000) was in response to an earlier opinion piece by **Sholom Feldblum**. Mr. Feldblum wrote: “Our advanced modeling and simulation exams...lead the best students elsewhere.” We responded to this by writing: “What leads students away? Study requirements, pass ratios, or difficulty? Every profession puts up barriers to entry....”

In the second section of our piece, we look at the exams from the viewpoint of our employers, we write: “Members have a stake in the exams’ staying difficult—maintaining the value of the designation. But are our interests at odds with those of our employers? ...”

Mr. Student combines portions of these two passages into a single quote, from which he concludes: “The only reason that there are so many exams, and the only reason that they are so difficult, is to protect the jobs of already certified actuaries....”

It is unfortunate that Mr. Student feels that way; however, it is neither what we said nor what we meant.

Readers who wish to put these quotes into context, please visit [www.casact.org/pubs/actrev/nov00/market.htm](http://www.casact.org/pubs/actrev/nov00/market.htm) for our original article.

*Donald Mango, FCAS and Thomas Struppeck, FCAS*

Dear Editor:

Before commenting on Mr. Student’s article (*The Actuarial Review*, February 2001), I should explain my background. I became a Fellow in 1965 after seven years of taking exams (offered only once a year in those days). I am 70 years of age and have been retired for ten years, so I am not worried about saying anything that might insult the “powers-that-be.” In my day, I had to study on my own time, not the company’s time. I only had to study 300 to 500 hours per exam. (It was no easier then, even though my kids would say, “But dad, there wasn’t much insurance before autos and planes were invented!”) I was married at the time and had two, then three children before my ordeal was over.

I agree with Mr. Student on several points. The exams are hard. They were in my day, too, and we students complained as much as he does. Questions were questionable—footnotes and all. The study material was “poorly written.” There were too many exams. Grading was impossible, and so on, and so on. Students have always complained about exams. It is also true that, for certain actuarial tasks, a nonactuary can do as good a job as an actuary—in some cases, maybe even better. My eleven-year-old grandson runs a computer much better than I do, but I’m still a better actuary than he is.

The exams serve a useful purpose. My analogy would be to Marine training. They go through hell in basic training. They do a lot of things that they may think, at the time, may never aid their future careers, but they go through it together, and when they are through, they are bonded in a group that has pride and the recognition that they are among a chosen few. The things that they have learned may seem of little value until a day when that knowledge means the difference between life and death, either literally in terms of a Marine, or figuratively, in terms of an actuary. I, too, thought that the exams were tough, but real life is even tougher.

Mr. Student seems to be among that group that wishes to dumb-down education. “No one should fail, all should pass. Don’t have anything on the cur-

→ page 10

## Readers Respond

From page 9

riculum that isn't immediately useful." He decries actuaries for being obsessed with money, but says many, including himself, can make more money without the pain of passing exams. More power to him and, I say, thank goodness he didn't pass the exams. We don't need any more money-grubbers in our society.

Actuarial exams are not all mathematical, although actuaries should have a good basis in math. The CAS exams also cover law, policy forms, regulation, accounting, pricing, marketing, product development, investments, claims, and all other aspects of

the insurance world. Passing the exams and enjoying a fascinating business, gives the actuary the opportunity to contribute in many ways to an insurance company, as well as the tools to succeed in other fields. In my experience, actuaries who are more rounded insurance experts seem to go farther than the pure mathematicians, although both have satisfying careers.

In today's fast-moving business climate, continuous learning is essential to success. What better way to become disciplined to this lifetime of learning than by taking the CAS exams?

I agree that the Society should expand its studies beyond insurance, and they are doing that, but wouldn't that make the exam process even longer and

more difficult? Perhaps that is best. When I became a Fellow in 1965, only eight others received their Fellowships that year, to make a total of 218 Fellows of the Casualty Actuarial Society. In 2000, there were 149 new Fellows admitted, for a total of 2,061. Obviously, the exams have gotten easier since I became a Fellow.

I also believe that the whining students like Mr. Student are necessary, so that the prize of an FCAS becomes even more valuable to those of us who stuck it out, through endless study and bad exam questions, and were glad we did.

Darrell W. Ehler, FCAS ■

## CORP-Accepted Papers Posted on Web

The CAS Committee on Review of Papers (CORP) has released its quarterly update of recently accepted papers. Electronic versions of the accepted papers are located on the CAS Web Site under "Publications." The CAS Editorial Committee will be editing these papers for inclusion in the *Proceedings of the Casualty Actuarial Society*. As of March 23, 2001, CORP has accepted the following paper: "The Three Moment Insurance CAPM for the Skewed-Up Insurance Market" by **Thomas J. Kozik and Aaron M. Larson.** ■

## Why We Are Staying

From page 7

It doesn't look to me that "the powers that be" have done a particularly good job of what Student contends they try to do, that is, limit the supply of credentialed actuaries. I'm starting to feel a little claustrophobic at CAS meetings—a huge roomful of (mostly) total strangers! Besides being crowded with people who could easily have preferred shopping cards from "Nerds R Us," it takes forever now to get through those refreshment lines!

Seriously, it wasn't so many years ago that a new Fellow expected, upon receipt of initials, to be given an officer-level position with the accompanying degree of responsibility. Now, I see a fair number of Fellows working as unit managers (which Associates used to do), or performing as individual contributors, instead of occupying the corner offices. The "vast elitist conspiracy," designed to keep new students from moving through the system too quickly, just hasn't functioned very

well. A big "egg" (of students) has "passed through the snake" in recent years, so that we as a profession are now more top-heavy than ever. This indeed may be what is keeping sala-

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**"...the actuarial profession is a true Blue Chip stock that will weather the whims of the market, albeit not without change...."**

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ries and positions for Fellows from being all Student thinks they should be. Some conspiracy. It looks to me like any attempt at supply-side management by the "conspirators" (whomever they are) has failed miserably.

The free market being what it is, I see nothing amiss in a profession foundering now and then, losing some market share to other "sets of initials" for

a while, and looking to right itself over time. Perhaps there is a lesson to be learned from the recent stock market. In the flurry of excitement to hop on the dot-com NASDAQ bandwagon, many investors are now dealing with margin calls and the regret of having left the good old Blue Chip Sector for an oversold new idea. To me, the actuarial profession is a true Blue Chip stock that will weather the whims of the market, albeit not without change or the occasional correction in market value as the market moves from bull to bear. Members of the profession individually and collectively need to learn how not to be left behind by whatever new "technology" comes along and threatens to render their skills obsolete. But sound fundamentals are always valued, and, particularly in times of crisis, there is an eventual "flight to quality." I expect members of the CAS will be there when that flight happens in financial services, ready to step in and earn their keep with fundamental skills and knowledge that were so brutally hard to obtain. ■

# Barnett and Zehnworth Provide Road Map for Probabilistic Reserve Models

by Frederick F. Cripe, Chairperson, CAS Research Policy and Management Committee

At the March Ratemaking Seminar in Las Vegas, I was mildly surprised to see so many actuaries spending their evenings and early mornings at the gambling tables. Any actuary who has completed the probability and statistics course work on the syllabus knows that any wager made has negative expected value. Based on this limited evidence, I conclude that actuaries (like lesser mortals) often act in ways that are incongruent with what they know to be true.

This incongruence is clearly displayed by many actuaries involved in reserving or loss development estimation. Although the actuarial literature is replete with articles explaining the shortcomings of the traditional link ratio methods, most actuarial reserve analyses mainly rely on link ratio methods.

A relatively recent paper accepted by the Committee on Review of Papers (CORP) provides a theoretical and practical road map to actuaries who would like to improve their reserving methods. In "Best Estimates for Reserves," Glen Barnett and Ben Zehnworth provide an outstanding discussion of the relationship between traditional link ratio methods, broader regression models, and probabilistic reserve estimation models. The authors make a very strong case for the advantages of using a probabilistic model. The paper is currently available on the CAS Web Site, by looking under Publications, then under Papers Accepted by CORP.

After a brief introduction, Section Two of the paper shows traditional link ratio methods to be special cases of a broad group of regression models, which the authors describe as the "extended link ratio family" (ELRF) of regression models. Using this broader group of models, the authors examine

the implicit assumptions underlying these models. They find that in almost all real-world scenarios the data does not support those assumptions.

**"Not surprisingly, modeling the trends in incremental data results in substantial improvement."**

The analysis also compares the relative precision of the methods based on the traditional link ratios to methods based on modeling trends in the incremental data. Not surprisingly, modeling the trends in incremental data results in substantial improvement.

In Section Three, Barnett and Zehnworth go a step further. Using the ELRF models as a starting point, they create a probabilistic model structure. The new structure is based on the analysis of logarithms of the incremental data and focuses on trends in three directions: 1) across accident periods, 2) across development periods, and 3) across calendar periods. The next step in building the structure is the fitting of a distribution to each cell in the loss development matrix. Models based on this structure are called the Probabilistic Trend Family (PTF). The paper then describes the process for selecting the optimal PTF model to use for any given set of reserving data.

The final section of the paper discusses the potential benefits that arise from the use of a probabilistic model of reserves.

Barnett and Zehnworth have written an excellent paper that provides a flexible and powerful set of methods for estimating reserves. The body of the paper is quite easy to follow and understand (even for a nontechnical guy

like me). The appendices are considerably more complicated and require more effort to understand, but it's worth taking the time to read through them.

I highly recommend "Best Estimates for Reserves" and hope that more of us will begin to use the methods that Barnett and Zehnworth describe. If any of you out there are currently using similar models in your work, the Research Policy and Management Committee would be interested in hearing from you. Also, if you have an idea for research, please visit the "Research" section of the CAS Web Site at [www.casact.org](http://www.casact.org). ■

## 2001 Yearbook Omissions

Two members were omitted from the 2001 CAS *Yearbook*. The CAS apologizes for inconveniences the omissions may have caused these members and their colleagues. Please update your *Yearbook* to include the following members:

**Nasser Hadidi**, (ACAS 1997)  
Professor  
University of Wisconsin-Stout  
Menomonie, WI 54751  
Phone: (715) 235-8822  
Fax: (715) 232-3200  
E-mail: [hadidin@uwstout.edu](mailto:hadidin@uwstout.edu)

**Karen E. Myers**, (ACAS 1996)  
1023 Kings Mill Road  
Normal, IL 61761  
Phone: (309) 452-5006 ■



# Actuaries Influence New British Regulatory Authority

by Kendra M. Felisky-Watson

**A**t the end of March, a working party (an English task force) chaired by John Ryan presented a paper to the Institute of Actuaries on Financial Condition Assessment. This paper was commissioned by the Institute to respond to proposals made by the new regulatory authority for financial institutions in the United Kingdom as to their proposed new regulatory regime. This new regulatory authority, Financial Services Authority (FSA), is responsible for all financial institutions, including insurance companies. The FSA is considering regulating an insurer's solvency from a DFA perspective. The paper considers how the actuarial profession may contribute under this new regulatory regime.

Sir Howard Davies, FSA Chair, complimented the actuarial profession in a recent speech to the Insurance Institute. He said that he was "pleased to see that the actuarial profession is rising to the challenge" and he welcomes "the paper on financial condition assessment recently published by a working party of the Institute and Faculty of Actuaries."

The first new requirement within the FSA proposals is that insurers should have adequate financial resources to meet policyholders' claims. This is a positive obligation, rather than the current passive one not to trade while insolvent, and is clearly more rigorous than the existing "snapshot" test of solvency. The second new requirement is that insurers must have documented the process that they have used to ensure their financial solvency. Basically, companies will have to demonstrate that they have adequate resources to meet valid claims, not only if the outcome is as expected, but also if there are adverse developments. The company will be obligated to identify the risks it faces and ensure there is adequate capital or an appropriate response.

The working party wrote an excellent paper describing how actuaries might contribute to the whole process. The paper describes the various roles and tasks required to perform a financial condition assessment. It also identifies skills and approaches required of actuaries and/or others.

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**"...companies will have to demonstrate that they have adequate resources to meet valid claims..."**

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To produce a financial condition report, the paper recommends three distinct types of investigation. The first involves comprehensive identification of all relevant risks. The second covers assessment of individual risk profiles for each such risk. The third combines all the individual risk profiles to produce one overall risk profile for the organization.

The paper's authors believe an actuary (either internal or external to the organization) is ideally suited to assume a risk coordination role. However, the authors stress a number of professionals need to be involved if all the individual risk profiles are to be adequately considered.

Not only do the authors provide an overview of a financial condition assessment, but they present a fairly comprehensive list of the risks a nonlife insurance company faces. They then go on to consider whether actuarial techniques are appropriate for assessing each of these risks. The paper also discusses how the assessment of certain individual risks should be performed. Finally, the authors cover the process for amalgamating all the different risks

to form an assessment of the whole company. Included in one of the paper's appendices is a case study of how these techniques can be used to prepare a financial condition report.

The discussion that took place after the paper was presented was interesting as well as informative. The Institute was fortunate in that many invited (nonactuary) guests made positive contributions to the discussion (accountants, bankers, FSA representatives). A recurring theme among the comments was the need for a holistic approach with all the professions working together under an appropriate framework. In particular, accountants appear fearful that actuaries will invade their turf.

Another comment was made about how risk levels should be set: by company directors, the FSA/government, or the Institute of Actuaries. Each group has a risk level it believes is acceptable. It is important to ensure consistency among different companies.

The importance of the human element was also pointed out. A thorough assessment of the quantitative risk may be undertaken, but the qualitative aspects of poor management decisions may supersede it.

There was discussion on whether the extensive analysis will be a benefit or burden to insurance companies, but there was agreement that well-run firms should be doing this type of assessment anyway.

The new proposals will be formally presented for comment in spring 2001. The actual implementation of these proposals will not be until 2003. While these new FSA proposals do not require an actuarial statutory role, it is apparent that actuaries are well positioned to be involved in the whole process. This paper has started many people thinking about how to start preparing for these financial condition assessments. ■



# IBNR—Important But Now Retired

by Arthur J. Schwartz

*This is the first in a series of articles in which The Actuarial Review plans to interview our retired members.*

**T**he AR was lucky to catch up with **Charlie Hewitt**, who enjoys an active life with his wife on the sun-drenched coast of southern Florida. By way of background, our interviewee has written thirteen articles or reviews in the *Proceedings* since 1960, has chaired or served on numerous committees, and capped it off by serving as CAS president in 1972!

*How did you get into the actuarial field?*

I was a sophomore at Princeton. My math professor was also the dean, and he asked me, “What are you going to major in? What do you want to work at?” I did not know. The only advice I had was from my father, who advised me not to be a teacher. Well, the dean told me that a **Gilbert Fitzhugh** was going to be coming down from the Metropolitan Life Insurance Company to talk about a career as an actuary. I’d never heard of the career. I went, listened, and it seemed interesting. I took a summer job at Metropolitan; New York City seemed like a nice place. I decided to major in math, and I’ve never regretted my choice of a major

or my choice of a career. [Editor’s note: Fitzhugh was an FSA and FCAS who went on to become president of Metropolitan Life Insurance Company and president of the SOA.]

**“There’s no such thing as a ‘standard’ actuary. We all deviate a little from the mean!”**

*What have been some of the highlights of your career?*

The article I wrote called “Credibility for Severity” (*PCAS*, 1970). I was reading an article by Hans Bühlmann and it all came together for me: What credibility really was and how it could be best put into words. I won the Dorweiler Prize for that article. Another major accomplishment was my work on the costing of no fault insurance. In the late 60’s and throughout the 70’s, no fault was a hot topic. A lot of states were interested. I testified in front of eight states and the U.S. Senate. What was the best way to price it? I had the advantage of [having] a study of data from 18 states. I developed the data,

Charlie Hewitt



fitting distributions by size of loss. I concluded there might be a savings in metropolitan areas but an increase in more suburban or rural areas. The cost estimates varied by state. It’s interesting that my employer, Allstate, was against no fault. But I testified according to what I thought was right, not necessarily the company’s position.

*What are the most notable things you’ve seen in the profession?*

The size of the profession has grown. When I got my Fellowship in the 50’s, there were only about 400 Fellows and Associates. About half of them were retired! Now it’s wonderful

→ page 14

## A Few Anecdotes from Hewitt’s Illustrious Career

The state of Colorado was holding a hearing on no-fault auto insurance. At the time, no-fault was a new concept. An insurance company had sent a vice president there, who began reading from a letter prepared by an actuary in the home office. An aggravated legislator, realizing that I was there to testify, interrupted the vice president. “For the first time

ever, we have a real live actuary in the state of Colorado. I want to hear what he has to say and be able to ask him questions—not have some letter read to me by an actuary who is 1,000 miles away!”

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I was also present at a no-fault hearing in Des Moines, Iowa. One of the actuarial calculations suggested that a

\$500 medical bill threshold would reduce auto bodily injury premiums by 35 percent. Picking up on this, an advocate for the trial lawyers association suggested sarcastically, “Why not triple the threshold to \$1,500 and reduce the premiums to zero?”

→ page 14

# COOS Remains Busy

by J. Michael Boa

The CAS Committee On Online Services (COOS) identifies which CAS publications and services could be delivered better through the Internet. This busy committee manages the burgeoning CAS Web Site and over 80 e-mail mailing lists, including CAS committees, exam study groups, and CASNET. COOS recently expanded its reach by rolling out the Society's first CD ROM product, the *Proceedings* from 1960 to present.

Moving at Internet speed, COOS continues to deliver. Their most recent initiatives include:

- Posting *Proceedings* on the Web Site—All volumes of the *Proceedings*, from 1914 to the present, can be accessed online. The CAS Web Site contains additional information about the *Proceedings* on CD ROM and an order form. Go to [www.casact.org/pubs/pcascd.htm](http://www.casact.org/pubs/pcascd.htm) to order your copy.
- Continuing E-commerce Implementation—Registration for all CAS meetings and most seminars can now be performed online. Our next objective will allow students to register for exams, and for anyone to

order publications online.

- Establishing a Spreadsheet Site—Within the “Research” section of the CAS Web Site is a location for spreadsheets that can be downloaded for free. Anyone who would like to post a spreadsheet can do so, subject to review by COOS.

COOS welcomes input and feedback. If you wish to contribute ideas or comments, please send an e-mail to **Stewart Sawyer**, COOS chairperson, at [stewart\\_sawyer@acordia.com](mailto:stewart_sawyer@acordia.com). ■

## Retired Members

From page 13

to go to CAS meetings and see 1,000 people there! A lot more young people are going into the field. They're building on the foundation that we laid.

*Is there any topic for research on which you have not seen a paper?*

One area that's always intrigued me is the relation of Markov chains and Bayesian probability to a distribution. A Markov chain changes your probability step by step—each event changes your probability of events. If a distribution has a certain a priori probability, and you get some new data, how would that affect the probability curve?

*How do you see the future of the actuarial profession?*

I would certainly stress communication skills. I've done that in my Presidential Addresses. However, the profession will always have a niche for the pure mathematician. There's no such thing as a “standard” actuary. We all deviate a little from the mean! Another big area is globalization. Just look at what's happening tradewise. We are trading more and more with foreigners. Also, the U.S. is the only country with actuarial societies split between life and health and property and casualty. A merger seems inevitable.

*What keeps you busy these days?*

My wife and I are very active so-

cially. In addition we have four kids! I play tennis three or four times a week. In our community here, we have a social group of retired insurance executives, and I'm the recording secretary of the group.

*Do you think actuaries have better mortality than average?*

Yes, I'm betting on it!

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If you're a retired actuary who would consent to an interview for this column, please call **Arthur J. Schwartz** at (919) 733-3284, x259 or send him an e-mail at [aschwartz@ncdoi.net](mailto:aschwartz@ncdoi.net). ■

## Anecdotes

From page 13

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In my salad days, I had instant recall of a great deal of facts. My mother-in-law persuaded me to go on an ill-fated quiz show called *21*. This was the show where a contestant was supplied the answers in advance. When caught, he lied about it to a

grand jury. This led to a criminal investigation and a trial. My role in all this was rather small. On the show, in my very first turn, I lost to a Ms. Nardroff. Shortly afterward, my employer, a firm of consulting actuaries, sent me to Saudi Arabia. A company there had requested a study of workers compensation rates. While I was in Saudi Arabia, the scandal broke. *The New York Daily News* decided to do a

follow up with the other contestants to see if anyone else had been prepped with answers in advance. My wife took the phone call, and explained that I was not there because my firm had sent me to Saudi Arabia on a consulting job. The following day the *Daily News* reported: “We tried to reach Mr. Hewitt about this scandal but he had already left the country!” ■



# My Brother's Keeper?

*Editor's Note: This article is part of a series written by members of the CAS Committee on Professionalism Education (COPE) and the Actuarial Board of Counseling and Discipline (ABCD). The opinions expressed by readers and authors are for discussion purposes only and should not be used to prejudge the disposition of any actual case or modify published professional standards as they may apply in real-life situations.*

Two years ago XYZ Corporation (NYSE: XYZ) acquired Widget, Inc. (Widget), a privately held manufacturing company, for \$100 million. Ted Knight, then chairperson of XYZ, led the acquisition team on this project. Right before the closing of this deal, Ted discovered that Widget had a self-insured workers compensation exposure. He asked his brother Tim Knight, FCAS, MAAA, to perform a "back of the envelope" analysis to determine if Widget's liability provision for this workers compensation exposure was "in the right ballpark." Tim said that he needed more time and additional information on the program, but after Ted insisted that there was not enough time to get the additional information, Tim applied countrywide industry loss development factors to the data provided by Ted and projected the required reserve for this program. Widget's liability provision of \$20 million was close to Tim's estimate and the deal was closed. Tim sent the one page analysis (no text) to Ted—no report or opinion was issued and Tim was never paid for this work.

Since the acquisition, the workers compensation loss development has been considerably more than expected due primarily to a significant number of occupational disease claims that were significantly under-reserved by the claims adjusters at the time of acquisition. Payments since the acquisition

(for claims occurring prior to the acquisition) are approaching \$40 million with a significant number of serious claims still open. Ted Knight has been ousted from the company and his replacement is conducting an investigation into the Widget acquisition. Steve Fixit, FCAS, MAAA, is hired to review Tim's work to help better understand the situation and any appropriate legal action.

Steve contacts Tim to gather background on the situation. Tim and Steve have a very short phone conversation in which Tim shares the information presented above but refuses to discuss the issue in more detail on his attorney's advice. Steve subsequently sends a more detailed registered letter to Tim asking about how various "Considerations" from the Statement of Principles Regarding Property and Casualty Loss and Loss Adjustment Expense Reserves were addressed.

Does Steve have a professional obligation to report Tim to the ABCD?

## No

Although not specifically documented, it is not unreasonable to assume that Tim did address the considerations in the Statement of Principles. Tim appears to have warned his brother about the implications created by the limited timeframe (which defined the parameters of his assignment). Further, Tim should not be held accountable for claims adjusters who significantly under-reserved the occupational disease claims. While one could argue with Tim's business practices, we cannot be certain that his actions materially violated the Code of Professional Conduct or the Statement of Principles and, as a result, Steve does not have an obligation to report Tim to the ABCD.

## Yes

Precept 13 of the Code of Professional Conduct states: "An Actuary with knowledge of an apparent, unre-

solved, material violation of the Code by another Actuary should consider discussing the situation with the other Actuary and attempt to resolve the apparent violation. If such discussion is not attempted or is not successful, the Actuary shall disclose such violation to the appropriate counseling and discipline body of the profession, except where the disclosure would be contrary to Law or would divulge Confidential Information."

There is no documentation that Tim addressed the considerations under the Statement of Principles and he is unwilling to demonstrate that he did. Issuing an actuarial analysis without sufficient time to understand the situation, ask the relevant questions (particularly about case reserving practices), and address the necessary considerations is a violation of both the Statement of Principles and the Code of Professional Conduct. Steve must disclose the situation to the ABCD. The Code of Professional Conduct is applicable to the actuary even if the actuary performs the work gratis. Tim appears to have materially violated Precepts 1, 4, and 8 of the Code; Precept 1 by his failure to exercise appropriate care; Precept 4 by his failure to adhere to ASOP #9 (Documentation & Disclosure); ASOP #36 (P&C Loss & Loss Expense Reserves); and Precept 8 regarding his duty with respect to the control of his work product. ■

## CAS Welcomes New Affiliate Member

**Stuart M. Shepley**

ACE Tempest Re

London, England

Fellow, Institute of Actuaries

## Leadership Meeting

From page 1

perspectives presented by panelists, identified gaps between desired and actual perceptions, and proposed solutions to close these gaps. The breakout sessions addressed many issues. The content of the sessions was recorded and compiled into a summary report for the CAS Executive Council.

In the first panel discussion, **Mavis Walters** questioned a group of actuarial consumers about their views of casualty actuaries. Panelists included Bruce Bassman, executive vice president of Harleysville Insurance Companies; Gregory Murphy, President and COO of Selective Insurance Group; and George Reider, former insurance commissioner for the state of Connecticut.

Two themes of the first panel discussion were actuaries' desire for precision and occasional conflicts with the desires of CEOs. Walters suggested that there are times when CEOs want ballpark figures, but actuaries want to provide precise answers and are not always comfortable providing quick estimates. Murphy concurred and cited DFA as an example of how actuaries can show direction, not necessarily a point estimate. Some of the panelists found actuaries to be too task oriented. One panelist suggested that actuaries develop more teambuilding and communication skills, particularly with nonactuaries. Reider spoke about how he uses actuaries to train and educate staff.

In the second panel discussion, moderated by **Jerry Degerness**, the focus was the supply of casualty actuaries from the standpoint of students considering actuarial careers and an educator promoting the profession. Degerness was joined by Bonnie Averbach, professor at Temple University; **Sean Devlin**, assistant vice president for American Re and recent CAS Fellow (FCAS 2000); Joseph Gravelle, a student at Temple University; and Monica Herenstein, actuarial analyst for Legion Insurance Company and CAS candidate.

Herenstein and Gravelle touched on how actuarial internships helped them to understand the profession more fully. As interns, they were able to get a sub-

stantial amount of hands-on experience as well as a diverse introduction to actuarial work. Unlike many other professional internships, very little of their time was spent making photocopies or getting coffee.

In the first breakout sessions, attendees discussed how consumers of actu-

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**“Unlike many other professional internships, very little of their time was spent making photocopies or getting coffee.”**

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arial services perceived desired and actual traits of the actuarial profession. Some of the desired perceptions included “actuaries are valued advisors in business decisions” and “actuaries understand and address broader business issues.” Actual perceptions differed, however: actuaries are perceived as advisors, not as decision makers, and they are perceived as math-oriented number crunchers with no business orientation. To address these gaps in perception, attendees suggested several public relations-type solutions, such as publicizing some actuarial success stories and some of the roles that actuaries play.

The attendees identified several desired perceptions of actuarial careers, such as “professional credentials and prestige,” “progressive career track,” “dynamic opportunities,” and “diverse practices areas.” In contrast, actual perceptions are that the actuarial profession is not well-known, the credentialing process is discouragingly long, and other higher-paying jobs are available to students with good math and business skills.

As solutions to the gap between desired and actual perceptions, attendees proposed several ideas to market the profession to students. These included marketing “the attractiveness and uniqueness of attaining a professional designation through an exam process”—equivalent to “graduate school

without the student loan,” “work-study,” or a “self-directed learning process.” Other solutions included making students aware of the diverse opportunities available to casualty actuaries through outreach programs and conducting exit interviews with those who leave the exam system.■

## In My Opinion

From page 2

example, consider the case of an actuary who makes a public statement, quoted in the national press, that violates professional conduct and embarrasses the actuarial profession. Although such cases may be rare, they have happened at least once and will probably happen again. In these cases, where the offending conduct is made in a broad public forum, the action of the ABCD should likewise be made public. This is the only way to ensure our members and the public that the profession is serious about our Code of Professional Conduct.

Confidentiality should be an important element of the ABCD process, but it is not sacred. There are times when its value is overshadowed by the need to open the ABCD process to the public.■

### CAS Continuing Education Calendar

**Bookmark the online calendar at [www.casact.org/coneduc/cal.htm](http://www.casact.org/coneduc/cal.htm).**

**June 6**—Seminar on Dynamic Financial Analysis,\* The Boston Park Plaza Hotel, Boston, MA

**June 7–8**—Special Interest Seminar on Dynamic Financial Analysis, The Boston Park Plaza Hotel, Boston, MA

**July 8–12**—ASTIN Colloquium and Seminar on Reinsurance, JW Marriott, Washington, DC

**July 16–17**—Seminar on Practical Applications of Loss Distributions,\* TBD, Chicago, IL

**August TBD**—Seminar on Reinsurance,\* TBD, New York, NY

\* Limited Attendance



# Teacher, Logger, Mystic, Actuary

by Marty Adler

This issue's "mystery Fellow" originally chose a career in physics, and was a tenured associate professor when he realized that he felt dissatisfied in his work. One disillusioning incident involved a discouraging performance by his students on a final exam he designed. The exam tested understanding of the material through logical thinking rather than mere formula memorization. (I believe CAS students would meet such a challenge.) Feeling their pain, he decided to give them a second crack at a more traditional exam.

He spent his first summer after leaving the university working as a lumberjack, then worked for seven years as an electrician in the Bay Area. When he finally stumbled across the actuarial profession, he says, he was happy to have "inside work for the winter."

But his passion is Sufism, a mystic belief and practice with its origins in Islam, in which people seek to find divine love and knowledge through direct personal experience of God. Although Sufism is generally thought of as an esoteric branch of Islam, some versions are not limited to Muslims.

One such is the Sufi Islamia Ruhaniat Society, which is concentrated on the West Coast but has worldwide presence.

His present wife introduced Sufism to our subject, and eventually they were married at a Sufi camp nine years ago. (Contrary to false rumor, there was no nudity at the wedding.) Although he does not regard himself as a Muslim, he subscribes to the essence of the Five Pillars of Islam: profession of faith, ritual prayer, alms for the poor, fasting, and pilgrimage. In his spare time he teaches in his Sufi school. He characterizes his teaching as partly psychological training of a sort. There is no credo; they respect all forms of religion. The focus is on the search for the inner truth that all religions share. The schools are not brick and mortar; they exist where people gather. They are organized around the techniques used rather than specific beliefs. At one time he taught weekly. Now it is less frequent but longer in duration, with weekend or even weeklong sessions.

This Fellow is also a follower of the greatest mystical poet in the Persian language, Jalal ad-Din ar-Rumi

("Rumi"). He tells me that Rumi is the best selling poet in the U.S. today. In his honor, Rumi's son, Sultan Veled, founded the Mevlevi Dervish order over 700 years ago. They practice a precise, sacred whirling dance, a combination of ecstasy and misery. Our subject studied "turning" with the son of the former Sheikh of Konya, Turkey, who introduced the practice to North America. During the reformation of Turkey by Kemal Ataturk in 1922, the government curtailed the public operations of all the Sufi orders. However, the country has found the turning useful as a tourist attraction. (Rumor has it that the secret police watched to make sure that nobody was actually praying while they turned.) In 1994 he and his wife were in the first American group to turn at Mevlana's (Rumi's) tomb, and the first group to turn both men and women in 450 years. It was an exhilarating experience for **Rodney Kreps**.

If you wish a more detailed, passionate exposition on Sufism and whirling, speak to Rodney at a CAS meeting. He should not be hard to spot—he's six feet, seven inches tall. ■

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## 25 Years Ago in *The Actuarial Review*

*CAS President Ronald L. Bornhuetter introduced what has turned out to be a very popular event:*

### From the President

"This year your Board of Directors has authorized a new concept in the continuing education of the membership. For the first time in my memory we will hold a special one-day seminar giving intensive coverage to one subject. Please save Friday, September 17, on your calendar for a one-day, in-depth, discussion of loss reserving methods and procedures. We plan to hold it in Chicago (O'Hare Airport area) to facilitate one-day travel."

*Here's an interesting puzzle from one of our longest running columns:*

### It's A Puzzlement

"Laurie Longley-Cook's first puzzle book, *Work This One Out* (publishers Ernest Benn Limited, London), is again the source of the puzzle.

An explorer sets out to cross a desert 1,150 miles wide in a truck that travels 10 miles to a gallon of gas. With other equipment, the truck can carry only 75 gallons (including what is in its tank). There are no gasoline supplies in the desert, but gas can be deposited in safety by the truck along the route. Also, the explorer may return to the starting point to replenish his supply of gas as often as he wishes. What is the minimum amount of gasoline required to cross the desert, and how is it handled?" ■

# CLRS Set for The Big Easy

Casualty actuaries will converge in New Orleans this September for the Casualty Loss Reserve Seminar (CLRS) and a limited attendance seminar entitled, "Asset Liability Management and Principles of Finance."

The CLRS will be held September 10-11 and is sponsored by the CAS, American Academy of Actuaries, and the Conference of Consulting Actuaries. A forum for presenting and discussing significant loss reserving issues, the CLRS will include a range of topics to

interest professionals and students in a number of related disciplines. The seminar also meets the continuing educational needs of actuaries and other professionals whose responsibilities include loss reserving.

On September 11-13, just following the CLRS, CAS will conduct a limited attendance seminar "Asset Liability Management and Principles of Finance." This seminar will acquaint attendees with both basic and advanced topics in the areas of finance and fi-



nancial risk management and their applications to the pricing and analysis of property/casualty insurance.

For more information on the seminars' topics, the host city New Orleans, or for a registration form, visit the CAS Web Site at [www.casact.org](http://www.casact.org). ■

## Make a Difference—Become a University Liaison

CAS invites you to join the more than 150 CAS members who volunteer for the CAS University Liaison Program. Through contacts with Academics at universities and colleges, University Liaisons inform students and educators about the actuarial profession. The program's goal is to have a liaison for each school that has a professor currently or previously enrolled in the CAS Academic Correspondent Program. Several of these schools are in need of liaisons. For more information on the program and a list of schools with academic contacts but currently without liaisons, visit the CAS Web Site's "Member Services" section under "Notice to Members."

### COVR

From page 6

cern about workloads. The chairs have been asked to staff and prioritize so that their committee members do not feel burdened by their committee responsibilities.

COVR has also asked committee chairs to examine the role of Associates on their committees and to encourage Associates to contribute. Associates are indeed welcome and encouraged to volunteer. Obviously, we expect fewer Associates than Fellows to be involved in the committee work.

COVR recently established a task force to examine the present Participation Survey process and redesign it to make it more user-friendly, easier-to-complete, more informative, and completely electronic.

COVR believes that the recruiting and placement process can be improved further. COVR also believes that the volunteer experience must be a posi-

tive one. Work will continue to bring about improvements along both dimensions.

### COVR's Priorities for 2001

In response to the biggest concerns of the members, COVR has undertaken a number of actions to make the process better. These include:

- Assisting committee chairs with the staffing process, including addressing workload concerns.
- Recommending that a formal volunteer recognition program be es-

tablished. Members who offer their time and talents in the advancement of the CAS deserve recognition and thanks.

The 2001 Participation Survey is scheduled for release in June. We want everyone to return one, even if the answer is "not now."

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To contact the committee for any reason, please e-mail Roger Schultz at [RSC13@allstate.com](mailto:RSC13@allstate.com) or call him at (847) 402-6226. ■

### Correction

An item entitled "CAS Financial Report of Fiscal Year Ending 9/30/2000" (*The Actuarial Review*, February 2001) contains some errors. The computers and furniture component of the report's 1999 assets was shown as \$286,873. The correct figure is \$386,873. The correct change in the computers and furniture component from 1999 to 2000 is \$19,829. The total assets for 1999 are \$3,962,594; the difference in total assets from 1999 to 2000 is \$164,793. The corrected version of the Financial Report can be found at [www.casact.org/pubs/actrev/feb01/vpaminrpt.pdf](http://www.casact.org/pubs/actrev/feb01/vpaminrpt.pdf). ■

# CAS Members Encouraged to Attend International Meetings

by Abbe S. Bensimon

Casualty actuaries increasingly deal with global issues as technology shrinks distance and countries attract foreign industry. The CAS is creating new opportunities to meet actuaries from other countries. At these meetings, we can better understand the worldwide marketplace and deepen our society's influence on the international insurance industry. Two special CAS events are coming up soon: the first is the CAS/GIRO seminar in October 2001, and the second is the 27<sup>th</sup> International Congress of Actuaries in March 2002.

At the CAS/GIRO seminar, October 3-5 of this year, CAS members will have the chance to meet many European actuaries in Glasgow, Scotland. In a future issue of *The Actuarial Review* we will provide details of the program that **Alan Hines** and the Committee on Special Interest Seminars have been planning. This would be an excellent opportunity to familiarize yourself with casualty actuarial practice in Europe. Please mark this event on your calendar now.

Another opportunity will take place March 17-24, 2002: the 27<sup>th</sup> International Congress of Actuaries (ICA). The CAS, through our liaison **Michael Bayard Smith** and the Joint Program Committee for Reinsurance Seminars,

has actively helped in the planning of this event, which brings the worldwide actuarial community almost into our own backyard—Cancún, Mexico! The ICA has been working intensely over the past decade to create a program of superlative educational content covering a broad array of international actuarial topics.

At International Congresses, actuaries become more aware of the global nature of our profession, understanding better the common issues in various countries and the diversity of problems that actuarial science can solve. About 2,000 actuaries and accompanying persons are expected in beautiful Cancún at the time of the vernal equinox. This meeting offers unparalleled opportunities for professional growth, intellectual stimulation, and international social interaction. The ASTIN organization will hold its annual meeting at the end of the Congress week. At the beginning of the week, the CAS will be sponsoring a continuing education track on reinsurance from the perspective of both reinsurers and primary companies. An event that takes place only once in four years, the International Congress of Actuaries is not to be missed by casualty actuaries! Do look for the ICA's bulletin for the meeting in Cancún, and REGISTER. Please

## Plan to Attend the CAS/GIRO Seminar

Mark October 3-5 on your 2001 calendars for the CAS/GIRO Seminar on Globalization and Technology, held during the Faculty and Institute of Actuaries GIRO 2001 meeting in Glasgow, Scotland. Current airfares from many U.S. cities are less than \$825 to Glasgow. Planning ahead will make the cost of this CAS seminar on par with other CAS meetings and seminars held in the U.S. Solid CAS attendance in international seminars that cater to our Society is critical to growing the CAS presence worldwide. We need you! ■

help us make this first International Congress of the millennium a total success. ■

## Call for Applicants for 2001-2002 Woody Scholarships

The Actuarial Education and Research Fund (AERF) announces the 6<sup>th</sup> annual Woody Scholarship Program, which awards up to four \$2,000 scholarships to undergraduate students with senior standing.

Applicants must rank in the top quartile of their class and have successfully completed one actuarial examination. As part of the application, each student must write a brief essay and be recommended by one of their professors. Students will also be judged on leadership as demonstrated through extracurricular activities. Only one application from each school is permitted.

Deadline for applications is Friday, June 29, 2001. Winners will be notified by August 31, 2001.

A link to scholarship information is available through the CAS Web Site ([www.casact.org](http://www.casact.org)) under the "Academic Community" section, the CAS/SOA Actuarial Career Web Site ([www.BeAnActuary.org](http://www.BeAnActuary.org)) under "Still in School," and the AERF Web Site ([www.aerf.org](http://www.aerf.org)) under "Grants and Competitions." Information is also available from Paulette Haberstroh at the SOA office [phone: (847) 706-3584; fax: (847) 706-3599; E-mail: [phaberstroh@soa.org](mailto:phaberstroh@soa.org)]. ■

## The State of the Market

From page 1

I asked everyone to speak from the perspective of CAS members and students only. The exchange of views was exciting, as I'm sure you'll agree.

**Schwartz:** *Let's talk about salaries. What would be typical salary ranges for: a) students with 1 to 4 exams; b) pre-Associates with 5 to 6 exams; c) new Associates; d) new Fellows; and e) experienced Fellows (about ten or more years beyond Fellowship)? Also, how active is the job market for each of these categories?*

**Dossin:** We're seeing tremendous demand at all levels, especially for the entry-level students with 1 to 4 exams. There's some salary compression at the 1 to 4 exam level between the students with no experience and the students with 3 to 4 years' experience. The entry-level students are coming in at a higher salary level because of the demand, at salaries of roughly \$45,000 to \$50,000.

**Cho:** We're also seeing a lot of demand. I'd like to point out the D.W. Simpson Salary Survey, which we update twice a year. The Survey provides all ranges of actuaries' salaries by exams and years of experience. However, we caution the use of salary figures only by exams or number of years of experience, because many other factors affect salary, for example, the type of employer (insurer, reinsurer, consultant), the line of business, and, to some extent, geographic location. Here are some rough ranges: Exams 1 to 4 roughly \$43,000 to \$65,000; Exams 5 to 6 (pre-Associates) \$52,000 to \$80,000; new Associates \$62,000 to \$95,000; new Fellows \$82,000 to \$125,000; and experienced Fellows \$95,000 to \$200,000+. These ranges are from active candidates whom we've recently placed.

**Dossin:** I'd agree with those ranges. I'd point out how rough those ranges are; much depends on supply and demand. For example, to use a sports analogy, what's a third baseman or a shortstop worth? With actuaries, it depends on what line of business, plus how good they are. Generally the star performers are getting the high-end

salaries, with the medium performers in the middle, and so on. Another factor is that some folks, though they're good performers, maybe even great performers, can be undervalued. Again, that's like some ballplayers.

**Cho:** The sports analogy is a good one. There are some actuaries who are clearly undervalued. So far as how active the market is, we see that demand is strong at all levels. Traditionally, there are always more opportunities for Associates than Fellows, and for students than for Associates.

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### **“Employers want actuaries who show initiative, who can produce creative solutions....”**

—K.C. Cho

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**Dossin:** One area of interest is the Fellows with 30-plus years of experience. Because of mergers, the number of insurers has consolidated. Many of these Fellows have found their jobs eliminated. If they've got good technical skills, they can find a new position pretty easily. If their skills are in management, they have a more difficult time finding employment.

**Cho:** Yes, for these Fellows in particular, good computer skills are very important. It's harder for Fellows whose recent work has been in general insurance operations or management than someone who is doing hands-on actuarial work or working in a highly technical area.

**Schwartz:** *What technical backgrounds seem to be most in demand? For example, personal or commercial lines; pricing or reserving; dynamic financial analysis; or catastrophe modeling?*

**Dossin:** We see demand in all areas.

**Cho:** I agree. Some areas are not as hot as [they were] previously. A few years ago, securitization or experience in finite risk transfers was hot; now it seems as if DFA is getting a lot more attention.

**Dossin:** About a year ago, having a search assignment in “e-commerce”

was a positive; now it's a negative. In commercial lines, you need more actuaries as you write more business, partly because of the complexity of these lines. If you look at three of the largest insurers, State Farm, Allstate, and Farmers, they're largely personal lines. You can write those lines more efficiently with fewer actuaries. Also, we see about three pricing positions for every one reserving position.

**Schwartz:** *What personal or professional skills seem to lead to the higher salaries or the more interesting career choices? Can these skills be acquired and, if so, how would you recommend doing so? Would offering classes at actuarial meetings help?*

**Dossin:** My perception is that the CAS does a great job at teaching technical skills through the exams and the various seminars. However, they do not seem to have any programs to develop communication or management skills.

**Cho:** On the SOA side, they've offered a few sessions, as part of a larger meeting, on “how to” subjects...such as making presentations and personal appearance and presentation. Right now, it's up to each individual actuary to take it upon themselves to learn these skills. Communication and leadership skills are key elements. Candidates with these skills tend to be the stronger candidates in competition for a particular position.

Years ago, there used to be catchwords for certain types of actuaries, “generalists” versus “specialists.” In today's market, we see demand for actuaries with hands-on experience in many different areas; someone who's been around and accomplished a lot in various areas. They're in demand because they bring more to the table. Employers want actuaries who show initiative, who can produce creative solutions, and bring these solutions to their managers, rather than only someone who does what they're asked to do.

**Dossin:** So far as improving these skills, simply talking more would help. The more you do it, with people from all walks of life, the better you'll get at it.

**Cho:** We often hear from employers [about] their interest in candidates

→ page 21



## The State of the Market

From page 20

with a “business orientation.” For example, working with a mathematical model will always capture an actuary’s interest. However, management’s interest is: “How does that model help us? How does it help us run the business better?”

**Dossin:** From the business perspective, how do the numbers fit into the big picture? Actuaries who want to progress should study this.

**Cho:** Most employers want someone who is well rounded, unless it’s a highly specialized area. I’d emphasize the need for people who show initiative in understanding how their day-to-day work contributes.

**Dossin:** Yes, “after I come up with this rate, what happens next?”

**Cho:** What’s wanted is “big picture” thinking. Another thing that helps in getting promotions is having strong mentors to guide them.

**Schwartz:** *Should the mentors be from within the person’s own company?*

**Cho:** It’s much better if they are. The mentor needs to know the person, know their environment.

**Dossin:** The mentor knows the culture. The ideal mentor is somebody who has the job where you’d eventually like to be. They’ve made it. And they have the ability to move you up. The best person is someone who’s two or three levels above you. Also, it’s not necessary that the mentor be an actuary. Of course there’s the question of how you get a mentor. You can’t go into someone’s office and say, “Can you be my mentor?”

**All:** [Laughter]

**Schwartz:** *How much does it help to have an advanced degree or designation, such as an MBA, CFA, or CPCU? How much is this “worth” in terms of salary, or more interesting career choices?*

**Milkint:** It’s definitely an advantage, especially CPCU, possibly CFA. It shows a well-rounded background. It would be more important in the non-traditional actuarial roles.

**Cho:** I agree.

**Dossin:** It’s helpful. But I’ve rarely

had a company ask for anything extra. On those rare occasions, it’s been the MBA. If someone were an Associate, my advice would be to become a Fellow before going for anything else.

**Milkint:** I’d counsel someone the same way—“finish the exams first.”

**Dossin:** ACAS is like the first layer of cake; FCAS is your second layer, and anything extra is like the frosting. The cake is good without the frosting.

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**“ACAS is like the first layer of cake; FCAS is your second layer, and anything extra is like the frosting. The cake is good without the frosting.”**

**—Milt Dossin**

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**Cho:** One consideration is to quantify the value. Time and money are spent getting these designations; is the payoff there? If the actuary’s going into a nontraditional position, yes, it puts you in a better light. But there’s no guarantee of higher compensation.

**Schwartz:** *There’s been a lot of discussion about students abandoning the actuarial exams to take the three CFA exams. Presumably the salary for someone who’s passed these exams are about equal to a high-level Associate or even a Fellow. Yet the CFA exams are easier to pass and there are far fewer than the seven exams needed for the Associate designation. What’s your take on this?*

**Dossin:** We see students dropping out and going into high tech, IT (information technology), and less often for the CFA.

**Cho:** If a student chooses to stay in the actuarial field, they should go for the actuarial designation first. The CFA doesn’t guarantee additional success.

**Milkint:** I agree. Some students are looking for an easy answer. Companies have to support their actuarial studies, plus it takes personal time and dedication. Getting an actuarial designation

takes intensity and commitment. The CFA designation is not the answer. A person with that designation does not have the technical skills or the attention to detail needed for long-term career success. The actuarial exams are more than a rite of passage. They are a training ground for future personal and professional growth.

**Dossin:** We’ve seen many students dropping out because of the transition rules. The CFA seems like an easy way out; it’s not. Otherwise, you’d have 50,000 people taking it; all the college grads majoring in economics, finance, or business; they can’t all be making \$100,000 a year!

**Milkint:** The slowdown in the economy is a real PR opportunity for the CAS and the SOA. Historically, these slumps in the economy have not affected the demand for actuaries. Demand was strong in the early 80’s; as it is now.

**Dossin:** Supply was incredible in the late 80’s and the early 90’s, when a survey came out ranking actuaries as the number one occupation in America.

**Milkint:** We were flooded with calls.

**Dossin:** Yes, everybody and his brother was calling, asking: “What’s an actuary? How do I become one?”

**Milkint:** The CAS could market the profession more aggressively. Now they can play up the nontraditional roles as a marketing angle.

**Schwartz:** *I’ve suggested, in a posting on CASNET, that the CAS be more proactive, contact colleges and universities with strong programs in math or finance, and send out members to talk about the career. Any comments?*

**Milkint:** That’s a great idea. Be proactive. Actuaries talking about what they do and why. A program like that could be done at various career fairs also.

**Dossin:** It would be great if it could be done on a local basis. An actuary in New York handles New York schools; if the actuary’s in Georgia, the Georgia schools.

**Milkint:** It comes down to grassroots marketing. If a student meets an actuary face-to-face, a student can see how the career combines their love

→ page 23

## Puzzlement

From page 24

9. The next question with the same answer as this one is question

- (A) 10
- (B) 11
- (C) 12
- (D) 13
- (E) 14

10. The answer to question 16 is

- (A) D
- (B) A
- (C) E
- (D) B
- (E) C

11. The number of questions preceding this one with the answer B is

- (A) 0
- (B) 1
- (C) 2
- (D) 3
- (E) 4

12. The number of questions whose answer is a consonant is

- (A) an even number
- (B) an odd number
- (C) a perfect square
- (D) a prime
- (E) divisible by 5

13. The only odd-numbered problem with answer A is

- (A) 9
- (B) 11
- (C) 13
- (D) 15
- (E) 17

14. The number of questions with answer D is

- (A) 6
- (B) 7
- (C) 8
- (D) 9
- (E) 10

15. The answer to question 12 is

- (A) A
- (B) B
- (C) C
- (D) D
- (E) E

16. The answer to question 10 is

- (A) D
- (B) C
- (C) B
- (D) A
- (E) E

17. The answer to question 6 is

- (A) C
- (B) D
- (C) E
- (D) none of the above
- (E) all of the above

18. The number of questions with answer A equals the number of questions with answer

- (A) B
- (B) C
- (C) D
- (D) E
- (E) none of the above

19. The answer to this question is:

- (A) A
- (B) B
- (C) C
- (D) D
- (E) E

20. Standardized test is to intelligence as barometer is to

- (A) temperature (only)
- (B) wind-velocity (only)
- (C) latitude (only)
- (D) longitude (only)
- (E) temperature, wind-velocity, latitude, and longitude

### Lights Out

Chris Yaure's solution to the problem of turning the lights out (Diagram A shows which lights are on) is, "There are four ways to turn out the lights. For purposes of my solutions, I have numbered the lights. The lights in the top row, from left to right, are numbered 1

		X	X	
X			X	
X				X
	X	X		X
			X	

Diagram A

through 5; the second row 6-10; down to the bottom row, which is numbered 21-25.

- a. 3-7-12-14-19
- b. 2-4-6-7-8-10-11-15-16-18-19-20-22-23-24
- c. 1-5-6-7-8-10-12-14-16-18-19-20-21-23-25
- d. 1-2-3-4-5-7-11-15-19-21-22-24-25

"Only five of the lights can be turned on without also turning on other lights. The lights are the center light (13) and the four lights at the inside corners (7-9-17-19)."

**Tom Struppeck** observes that if any single bulb can be turned on, then any configuration can be lit. But there are as many configurations as there are ways to throw switches. Starting with no bulbs being lit, there are four non-trivial ways to throw switches that result in no bulbs being lit. So the mapping from the configuration of switches thrown to bulbs lit is not one-to-one. Thus there are some configurations that cannot be lit, and so there must be at least one bulb that cannot be lit by itself.

	X	X	X	
X		X		X
X	X		X	X
X		X		X
	X	X	X	

Diagram B

**John Herder** observes that each of the 25 switches controls 2 or 4 of the lights marked in Diagram B. This makes it impossible to turn on just one of the marked lights. **David Uhland** provided a similar diagram to show that a single light in a corner cannot be turned on. Mark positions 1, 2, 4, 5, 11, 12, 14, 15, 21, 22, 24, and 25 and apply a similar argument.

**Alan Erlebacher, Paul Ivanovskis, Frank Karlinski, Mark Kertzner, Robert Muller, Leonard Myers, Matt Schultz, Sanford Squires, and W. Thomas Williams** also submitted solutions.■



for math and business. That's how the spark starts.

**Dossin:** Some large companies are doing just that—sending their actuaries out to colleges.

**Milkint:** To take my comments a step farther, what about sponsoring a group of college students in your office for a day? They can see how an actuarial department runs. And they'll figure, "Hey, I make this commitment...and I get to do something I like...and yes, I like this!"

**Schwartz:** *Another of my suggestions on CASNET was to send a letter to the candidates who registered for Exams 1 to 4 either as a "student" or as "unaffiliated" with either the CAS or SOA. The letter would include the name and number of a local CAS member who they could call and talk to about the career. Comments?*

**Milkint:** A good suggestion. They can follow up with someone if they have not yet made a commitment.

**Cho:** These two suggestions are great. However, another challenge is, once they get into the field, to keep them in it. We hear a lot of complaints about Exams 3 and 4 being too hard.

**Dossin:** Students are dropping like flies. The CAS has to stop the bleeding.

**Milkint:** That makes sense. Bring the bleeding to an end; bring in new students; and make sure they have the communication skills they need to do well.

**Dossin:** I'd like to add that the demand we're seeing for actuaries right now is a recruiter's dream come true.

**Schwartz:** *On that note, I'd like to thank all of you for contributing to our first round-table discussion. Thank you all very much!*

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*Please look for Part Two of our round-table discussion in a future issue of The Actuarial Review.*

*If you have any questions or comments on this article, please feel free to send them to [esmith@casact.org](mailto:esmith@casact.org)* ■

## Brainstorms

# 1969

by Stephen W. Philbrick

When The History Channel runs a retrospective, the year 1969 sticks out in my mind. It was a year of contrasts: Men walking on the moon, boys burning their draft cards, the culmination of a scientific revolution, and the anguish of a social revolution.

In some ways, the CAS reminds me of 1969. CASNET features a serious discussion of our profession's future; for the first time in my memory, it is marked by clouds of doubt. In contrast, the profession is making new achievements on the technical side.

I'll leave the discussion of the social revolution to others. I'd like to comment briefly on some of the scientific gains.

Our profession has a rich history of practicality. When classical statisticians told us that the concept of credibility didn't make sense, we decided we needed it and pressed on. We developed formulas that worked.

Later, with the help of Bühlmann and others, we formalized our calculations, and to our delight, found that the ad hoc formulas developed by practitioners matched the theoretically derived formulas.

In a similar way, we have developed algorithms to determine capital adequacy and allocation. However, in these cases, when the theory is laid down, the results are less kind to the ad hoc approaches.

In the case of capital adequacy, we start with a probability of ruin approach. To the extent that capital is required to ensure a company's solvency, it is natural to determine capital such that the likelihood of insolvency is reduced to an acceptable level. (This approach has a counterpart in the banking industry, where it is referred to as Value at Risk, or VaR.) Progress occurred when Butsic introduced the concept of Expected Policyholder Deficit (EPD), essentially noting that we should analyze the cost of insolvency, rather than just the probability of insolvency.

However, when certain plausible axioms (called the axioms of coherence) are selected, both approaches fail to satisfy the axioms. One measure, which in essence combines the VaR and EPD approaches, does satisfy the axioms. This measure is called TCE (Tail Conditional Expectation) or TVaR (Tail Value at Risk), and is the subject of several recent papers.

When allocating capital (or, more properly, the cost of capital), we use risk measures such as the standard deviation or variance of results. Several approaches exist, but a common one analyzes each business segment's marginal contribution to the aggregate risk measure, then allocates the aggregate amount in proportion to the marginal contributions. Jean LeMaire brought game theory to bear on the problem, and showed that, under certain reasonable axioms, the marginal approach fails to satisfy the axioms. An alternative approach, called the Shapley value, does satisfy the axioms.

Of course, when algorithms fail to satisfy axioms, one needs to examine the axioms. Axioms that seem reasonable upon first glance may, in fact, lead to unreasonable restrictions on the resulting formulas. But, as a profession, we must change one or the other. We should not engage in cognitive dissonance: accepting

**"When classical statisticians told us that the concept of credibility didn't make sense, we decided we needed it and pressed on."**

→ page 24

# Self-Referential Aptitude Test

by John P. Robertson

The following puzzle was created by Jim Propp, an associate professor in the department of mathematics at the University of Wisconsin at Madison. It is available on his Web page at [www.math.wisc.edu/~propp/](http://www.math.wisc.edu/~propp/), and is used with permission. To solve the puzzle, it is useful to know that the answer to question 20 is E. In question 7, A and B are considered to be "1 apart," A and C to be "2 apart," etc. Without further ado, here is the puzzle as he presents it:

The solution to the following puzzle is unique; in some cases the knowledge that the solution is unique may actually give you a shortcut to finding the answer to a particular question, but it's possible to find the unique solution even without making use of the fact that the solution is unique. (Thanks to Andy Latto for bringing this subtlety to my attention.)

I should mention that if you don't agree with me about the answer to #20, you will get a different solution to the puzzle than the one I had in mind. But

I should also mention that if you don't agree with me about the answer to #20, you are just plain wrong. :-)

You may now begin work.

1. The first question whose answer is B is question

- (A) 1
- (B) 2
- (C) 3
- (D) 4
- (E) 5

2. The only two consecutive questions with identical answers are questions

- (A) 6 and 7
- (B) 7 and 8
- (C) 8 and 9
- (D) 9 and 10
- (E) 10 and 11

3. The number of questions with the answer E is

- (A) 0
- (B) 1
- (C) 2
- (D) 3
- (E) 4

4. The number of questions with the answer A is

- (A) 4
- (B) 5
- (C) 6
- (D) 7
- (E) 8

5. The answer to this question is the same as the answer to question

- (A) 1
- (B) 2
- (C) 3
- (D) 4
- (E) 5

6. The answer to question 17 is

- (A) C
- (B) D
- (C) E
- (D) none of the above
- (E) all of the above

7. Alphabetically, the answer to this question and the answer to the following question are

- (A) 4 apart
- (B) 3 apart
- (C) 2 apart
- (D) 1 apart
- (E) the same

8. The number of questions whose answers are vowels is

- (A) 4
- (B) 5
- (C) 6
- (D) 7
- (E) 8

→ page 22

## In Memoriam

**James J. Callahan**

(ACAS 1986)

Date of Death Unknown

**Nathaniel Gaines**

(ACAS 1954)

Date of Death Unknown

**E. LeRoy Heer**

(FCAS 1969)

March 18, 2001

**James P. Jensen**

(ACAS 1962)

Date of Death Unknown

**Harry R. Richards**

(FCAS 1963)

February 14, 2001

## Brainstorms

From page 23

axioms as plausible, then using methods inconsistent with those axioms.

Both of these approaches—TCE as a risk measure, and the Shapley value as an allocation procedure—are relatively new to casualty actuaries. Both depend on sets of axioms that should be accepted or rejected by the actuarial

profession. If accepted, we should work as a profession to spread the use of technically superior approaches.

In a few decades we will look back at this period in our history. I hope, and trust we will still be thriving. I also hope we will point to this period as a time when we added scientific underpinnings to some of our well-used tools, and selected new tools where warranted.■