



# The Actuarial Review

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## From the President

### Odds and Ends from Around the World



by Mary Frances  
Miller

Over the past year and a half, I've had the great honor to represent the CAS all over the world. I've met actuaries and candidates from established actuarial societies and from brand new associations, and I've learned some interesting things about insurance and actuaries. Here are a few items you may not know:

**Insurance is growing at an astounding pace throughout former communist Europe, and property/casualty insurance is leading the charge.** At a meeting of leaders of the profession in Central and Eastern Europe, presentations showed that auto liability insurance accounts for nearly half of all insurance premiums and is also the fastest growing line. Coverage is mandatory in most countries, although the minimum limits are truly minimal. Auto liability in countries like Russia, Poland, Croatia, and Bosnia is heavily weighted toward property damage. Government-supported health care is generally available, and evidently these folks have not yet discovered suing one another, so getting your car repaired is the first priority. Car repair prices even drive the territorial relativities. In Russia,

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## CAS Board Debates the Status of Associates

COLORADO SPRINGS, Co.—How many classes of credentialed membership are right for the CAS in the 21st century? If the CAS decided to have only one class of credentialed members, how would the transition occur? Should Associates be granted the right to vote? Should Associates be eligible to serve on the board of directors?

The CAS Board of Directors discussed these questions and others at length during its meeting held on May 16 in conjunction with the 2004 CAS Spring Meeting here. With about a dozen observers in attendance, the board heard reports from the chairs of the Task Force on Classes of Membership and Task Force on the ACAS Vote. The task forces' reports contained suggestions that, in order to be implemented, would require a vote—by the Fellows only—to make them constitutional amendments. The CAS Constitution may be amended by an affirmative vote of 10 percent of the Fellows or two-thirds of the Fellows voting, whichever is greater. The task forces' reports are available on the CAS Web Site in the "Member Services" section.

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### *Marching on Towards the CAS Centennial*

## Why Interim Milestones are Important

by Aaron M. Halpert, Chairperson, Long Range Planning and CAS Centennial Goal Implementation Committees

About one year ago, **Steve D'Arcy** wrote an article for *The Actuarial Review* that summarized the CAS planning process as embodied in the CAS Centennial Goal (CG). Steve presented the evolution of the CG and how it has, in fact, become the focal point of the CAS long-term planning process. The CG states:

"The CAS will be globally recognized as the preeminent resource in educating casualty actuaries and conducting research in casualty actuarial science. CAS members will be recognized as the leading experts in the evaluation of hazard risk and the integration of hazard risk with strategic, financial, and operational risk."

For those of you who have attended CAS meetings in the ensuing twelve months, you may have heard frequent reference to the CG in a variety of settings. Many of you have also participated in the breakout sessions aimed at refining the goals underlying the CG. This targeted effort is no coincidence, as the CG increasingly serves as the guiding light for many CAS activities.

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# There's Something Funny Going On

by Paul E. Lacko

**T**he *Actuarial Review* began publication thirty years ago next January, and the AR staff would like to celebrate this milestone by doing something outrageous, scandalous, unheard of, and entirely inappropriate. And you are invited—nay, *encouraged*—to join the party by writing an article or an opinion piece for a issue of *The Actuarial Review*, which will be published online only in January. We need outlandish and outrageous articles of all kinds: discussion and analysis of events that never occurred, news and reports from CAS committees that may or may not exist, interviews that never took place, reviews of books never written. The parody version needs a name, and so we invite you to submit your best ideas. The AR staff editors will select a name from all the submissions, and we will award a small prize to the first person who sent that name in. All decisions

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**"If your creative abilities occasionally take a humorous turn, we would love to provide you an audience."**

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by the AR editorial staff will be final. We need your real name with every article you submit, but we will publish a *nom de plume* if you so request. If you have questions, please direct them to me at paul.lacko@SNCC.com. If you have parody names or articles, please submit then to AR@casact.org.

## Thirty Years...

The masthead in that first AR issue thirty years ago lists a staff of three: Editor **Matthew Rodermund** and Associate Editors **George Morison** and **Luther Tarbell Jr.** These gentlemen had to do everything by hand, and it took immense effort to inscribe those clay tablets with a stone stylus. Nowadays we have computers, so it takes only thirteen volunteer CAS members and two paid staff at the CAS office to produce the AR. If that's not progress, then I don't know what is. (There is no truth to the rumors you may have heard about the CAS Board of Directors outsourcing AR production to India. Not for this issue, at any rate.)

After all these years, accounting issues still confront the insurance industry and the actuarial profession. A letter to the editor from **Thomas J. Hummel**, commenting on accounting issues of the day, appears in the first AR issue. Mr. Hummel ends with a comment that seems equally apropos today with respect to Fair Value Accounting, in light of the analysis recently published by Tillinghast: "Only time, during which megaenergy and megabucks will be expended, will determine if the eaten pudding proves out." The Tillinghast report can be downloaded free of charge from their Web site ([www.towersperrin.com/tillinghast/till\\_webcache/gtl.do](http://www.towersperrin.com/tillinghast/till_webcache/gtl.do)). For additional observations about Fair Value, or the lack thereof, Accounting, see the article on page 9 by **Philip Heckman**.

Humor is a problem we've had at the AR from the beginning. Let me re-phrase that. We have not had much success in establishing and maintaining a regular humor feature, especially items of actuarial humor. Maybe the problem is that normal actuarial work products—rate filings, reserve analyses for self-insured clients, profitability reports for senior management, feasibility studies, and the like—do not lend themselves to honing one's innate comedic talents. But the fact is that at least *some* actuaries do have a finely honed sense of humor.

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# 2004 CAS Annual Meeting set for The Queen Elizabeth in Montréal

The distinctive French-Canadian culture, renowned fashion, extensive arts, and charming bistros make Montréal a wonderful place to visit and an even better place for the 2004 Annual Meeting of the CAS. Take it all in, especially the continuing education opportunities offered by the program, November 14–17 at the Queen Elizabeth Hotel in Montréal.

*Travel and Leisure* recently recognized The Queen Elizabeth as one of the greatest hotels in the world. Situated in the center of Montréal, The Queen Elizabeth is connected to an underground city of numerous boutiques, restaurants, and cafés. So, during those spare moments, attendees will be able to take in the culture that Montréal has



Photo courtesy of Fairmont Hotels & Resorts

to offer.

Taking advantage of our Canadian destination, the meeting will feature a joint meeting day with the Canadian Institute of Actuaries on Wednesday November 17. The highlight of the day will be an international actuarial leaders' forum. Leaders from several actuarial organizations will present their views of the challenges facing the actuarial profession, both in terms of our

publics and our practice in general.

The featured speaker, John Krubski, is an entertaining and insightful commentator on the art and science of persuasion. Krubski is currently the chairman of the International Thought Leadership Council and the author of *Who Dances Naked First Gets to Lead*; and other guideposts for navigating this NeXt Millennium. Throughout his career in advertising, marketing, and consumer research, Krubski has successfully promoted hundreds of millions of dollars worth of consumer and business-to-business goods and services. In so doing, he has built an international reputation for recognizing the unfore-

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## Chicago to Host Fall Seminar on Predictive Modeling

by Ronald T. Kozlowski, Chairperson, Committee on Special Interest Seminars

Learn how insurance entities are using predictive modeling techniques for marketing, underwriting, pricing, and fraud detection at the Seminar on Predictive Modeling, October 4–5 at the Omni Chicago Hotel.

Today, entities of all types are using predictive modeling techniques. Predictive modeling techniques have helped companies identify future customers through analyzing magazine subscriptions, have helped Starbucks determine its next store location based on analyzing demographics, and even helped the government identify people with possible ties to terrorist organizations. The novel use of credit scoring is one of the most successful innovations in personal lines in recent decades. While the ap-

## Viva CLRS!

Vegas to Host Popular Seminar

by Susan Pino, Chairperson, Joint Committee for the Casualty Loss Reserve Seminar

Don't miss this opportunity to participate in the 2004 Casualty Loss Reserve Seminar (CLRS) and take in the sights and sounds of Las Vegas. The 2004 CLRS will be held at the Mirage Hotel

on September 13–14. A Limited Attendance Seminar (LAS) on Asset Liability Management and Principles of Finance will immediately follow on September 14–15. See page 17 of this issue for a more details on reserving papers from **Sarah Fore**.

The deadline for early registration is Friday, August 27, after which the registration fees will increase by \$50. The final day to cancel and still receive a refund (minus \$50) is Friday, September 3, and all requests must be in writing. For more information on sessions and registration, visit the CAS Web Site at [www.casact.org/coneduc/CLRS/2004](http://www.casact.org/coneduc/CLRS/2004). ■



propriateness of using credit scoring for underwriting and rating is still debated, few people can deny the predictive ability of such variables.

The sessions will be designed for understanding practical applications, as well as providing basic and more ad-

vanced instruction on predictive modeling techniques and considerations. The seminar will include practical application sessions on predictive modeling for personal auto, homeowners,

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## A Matter of Wording

### Dear Editor:

In "From the Readers" in the May *Actuarial Review*, Michael Dubin's letter (A Good Thing) included this statement: "The financial condition of an insurance enterprise has a high degree of uncertainty compared to other industries (it is more dependent on future contingent events)." The phrase, "dependent on future contingent events," troubles me when it is applied to loss liabilities in P/C financial reports. In P/C insurance, pricing measures future contingent *events*; reserving measures future contingent *developments*. An event (as defined in the insurance contract) has to have taken

place *before* there is any liability for payment by the insurer.

It's a matter of wording that concerns me.

Ruth E. Salzmann, FCAS

### Dear Editor:

Michael Dubin in his letter on rating agencies ("From the Readers," *The Actuarial Review*, May 2004) says, "Bad actuarial work can kill a company." True. It may be a bit more precise to say that bad actuarial work can contribute to the slow death of a company, as it takes a while for the eventual effects of bad work to play out. It might be even more precise to observe that bad work might also participate in the resuscitation of the patient. That is,

otherwise bad work may mask the condition until there is time for remedial measures to take effect. That is one of the contradictions inherent in accounting and actuarial work. Asset/liability measurement is a snapshot; if the picture happens to be taken at an unpropitious corporate moment, the patient is killed. More than one company has occasionally dipped below the line of technical insolvency, only to live to another day and perhaps even prosper.

A further observation, one not usually discussed in these contexts, is that good actuarial work can also kill a company. It is an improper and hasty assumption that every time a company fails, the actuary on watch must have failed to do his or her job. The alternative assumption may be more valid: every time a company fails, it's because an actuary was there to take it down.

Edward C. Shoop, FCAS ■

## Profession-Wide Effort Promotes Actuaries as Chief Risk Officers

The CAS and Society of Actuaries, in cooperation with other leading actuarial organizations, have launched a public relations campaign to promote the establishment of the Chief Risk Officer position in businesses throughout the United States and Canada. The campaign will educate the market about the actuarial skill set to position actuaries as the best choice for this critical role.

The program goals include:

- Generating business press attention to the call for corporate boards to require objective, integrated assessments of risks in public companies;
- Educating business leaders on the role of a CRO and how this evolving profession can add strategic competitive value to a business as well as protect share holders from significant financial crisis; and
- Explaining how actuaries are in a unique position to fill the role of CROs and how their training, perspectives, and experience bring a



distinctive value to this emerging field and specific advantages to the governance and management of companies.

In addition to the CAS and SOA, partners in the publicity program include the American Academy of Actuaries, the Canadian Institute of Actuaries, and the Conference of Consulting Actuaries. Ruder-Finn, an international public relations firm with strong experience in financial, corporate responsibility, and ethics issues, is providing professional support to this initiative. ■

## Let Us Hear From You

*The Actuarial Review* welcomes letters and story ideas from our readers. Please specify what department you intend for your item—letters to the editor, or proposed news items, "Brainstorms," "It's a Puzzlement," etc. Here's how to reach us:

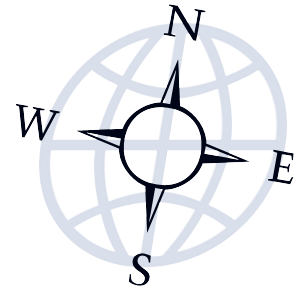
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# Navigating the Seas of Risk

by Stephen P. D'Arcy, CAS President-Elect

**T**housands of years ago, long before recorded history, a nomadic people first approached the shores of the Mediterranean Sea, perhaps the first body of water they had ever encountered that ran out to the horizon and beyond. This sight must have generated a wonderful sense of awe. It would not have taken long for these people to take to the sea, to fish, to transport themselves and their belongings, to explore. At first they likely stayed close to shore, so they could recognize landmarks and return home. Eventually, though, some intrepid, or careless, sailor ventured out of sight of land, and by necessity became a true navigator—one who relied on knowledge of currents and winds, the sun and stars, water color and depths to estimate the location of the vessel and set a course to travel across the open sea.

Open sea sailing required much greater skills than simply sailing along a coastline. To sail within sight of land allows the sailor to know where the boat is at all times. Once the land disappears over the horizon, the sailor must deal with uncertainty by estimating where the boat is and approximating how to arrive at the destination. Sailing out of sight of land required navigational skills to increase the chance of a successful voyage. Navigating the open sea required the ability to develop charts and maps, to measure the speed and course of the vessel without a fixed frame of reference, to predict the weather with greater accuracy to provide time for retreating to the safety of land in the face of approaching storms. Navigators gradually developed tools and techniques to measure the height of the pole star to determine their latitude, a compass to determine direction, scale measurement to draw more accurate maps, weighted ropes to measure the water's depth, and floating ropes to measure vessel speed. Navigators became adept

at predicting inclement weather and attentive to details about birds, wave patterns, and other signs that would help locate their position. Early navigators did not know exactly where they were when venturing out into the Mediterranean, but they gradually acquired the skills that fostered commerce across the sea leading to the development of great civilizations in Phoenicia, Egypt, Troy, Athens, Carthage, Rome, and many other locales. Navigational skills were essential to develop and maintain these civilizations; a sailing specialty developed to meet this need. In many cases, navigational skills were learned under

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**"Mediterranean navigators could learn to navigate the Atlantic, so casualty actuaries can learn to cope with financial risk."**

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an apprentice system, in other cases by trial and error. Although ships were still lost at sea—some by storm or other peril, some by ineffective navigation—navigators were successful enough at their task to advance civilization around the Mediterranean.

Much later, sailors and navigators expanded to the Atlantic Ocean. Once again, open ocean sailing required navigational skills, but the skills honed in the Mediterranean were not sufficient for Atlantic sailing. New charts and maps had to be developed, new currents and wind patterns learned, new wildlife signs noted, new weather patterns mastered, and adjustments to compass readings had to be made. To encourage Atlantic sailing, in the early 15th century Prince Henry the Navigator developed a center of navigational studies at Sagres, Portugal, where more precise

maps were drawn, instruments improved, and navigation skills taught. Atlantic navigators used the same basic tools and skills developed by their Mediterranean colleagues, but they had to learn new applications of these devices and skills. They did—the Atlantic Ocean was explored, trade facilitated, colonization endeavored, and civilizations rose and fell, all fostered by the navigator.

Within only the last 500 years, sailors first circumnavigated the globe. Once again, these voyages relied upon the skills of the navigators, but the navigators once again had to adapt to this new application. Many ships were lost and expeditions foundered as navigators honed their skills in circumnavigation. It took hundreds of years before accurate charts were developed for many areas. The increased importance of ascertaining accurate positions for these voyages in order to land on a relatively small island in the vast Pacific Ocean spurred a competition to develop an accurate technique to measure longitude, which eventually led to success in the 18th century. Navigational skills advanced in the face of these challenges, and eventually mastered this ocean as well.

Why a rambling about navigation in an actuarial publication? To make this analogy: Casualty actuaries are the Mediterranean navigators, adept at sailing this important, but restricted, area of the globe. The Mediterranean can be compared to hazard risk, the traditional domain of casualty actuaries. Actuaries, like these early navigators, deal with uncertainty and have become skilled at using tools and techniques necessary to approximate a company's position when fixed landmarks are not available. Within the last 30 years, the world began to navigate the seas of fi-

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## Centennial Milestones

From page 1

In this article, I'd like to share with you how the CAS is developing a framework for assuring that we reach our CG in 2014, our centennial year. Those of you involved in corporate planning know that ten years can be both a very long time and still pass very quickly. Without a formal roadmap, including short-term milestones, it is quite likely that the long-term goal would remain a distant ideal, one that has little chance of being attained. Certainly if we wait until 2014 to see whether we've reached our goal, it will be too late!

For this reason the CAS Long Range Planning Committee (LRPC), working with the CAS Board, has established interim milestones to help gauge progress towards the CG. These milestones are referred to as SAM goals. The acronym derives from the fact that these goals must be **S**ignificant, **A**ttainable, and **M**easurable.

The SAM goals focus on a number

of items such as the development of partnerships with international actuarial associations, educational assistance, curriculum enhancements, continuing education, volunteerism, CAS Web Site hits, research funding, and liaison programs. Although each SAM is unique, they all represent significant goals that are attainable with the right amount of enthusiasm and dedication from CAS members.

A complete list of the SAM goals appears on page 2 of the LRPC Final Report for 2003, located at [www.casact.org/members/reports/lrpc/final2003.pdf](http://www.casact.org/members/reports/lrpc/final2003.pdf) on the CAS Web Site.

Currently the LRPC, with considerable support from the CAS office, is developing a set of metrics to evaluate our society's progress on the SAM goals. For each goal, the CAS Office has developed a starting benchmark metric value as of October 1, 2003 so that future values can be compared and progress can be measured over the course of the next 10 years. For example, using the SAM goal focusing on

volunteerism, the starting benchmark value is 27 percent. In other words, currently approximately one in four CAS members volunteers for CAS activities (serving on committees, task forces, etc.). With the starting point etched in stone, progress towards the SAM goal of "at least 50 percent of CAS members will volunteer for CAS activities" can be monitored periodically on a continuing basis.

Similarly, for the SAM goal relating to the number of University Liaisons, the starting benchmark values are 162 for the U.S. and Canada, and 10 for other countries. Clearly we still have a lot of work to do before we reach the SAM goal of 250 and 50 University Liaisons, respectively.

By establishing the starting benchmark values, the CAS can monitor progress on each goal and redirect resources if needed. For example, if volunteerism rapidly increases, while the number of liaisons stagnates, one can quickly reallocate CAS resources

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## Seas of Risk

From page 5

financial risk, our Atlantic Ocean. To sail this sea, actuaries must master some new terminology and new risk management tools. However, the basic approach is the same, quantifying and coping with uncertainty. Financial derivatives were created within the last three decades to cope with interest rate, foreign exchange rate, and other financial risks; these instruments have grown to become major risk management tools. Although different from the traditional actuarial tools, these derivatives have a similar function and require a similar mathematical expertise. As Mediterranean navigators could learn to navigate the Atlantic, so casualty actuaries can learn to cope with financial risk.

Within the last decade, the seas of risk have expanded to encompass enterprise risk management. Integrating hazard, financial, strategic, and operational risk has become the new challenge for risk navigators, akin to circumnavigating the globe. Once again,

## A Lesson From China: The Big Picture Matters

The analogy to ocean navigation is Euro-centered, in part because the geography lends itself to the three stages of development comparable to the expansion of risk management, and in part because the growth in navigational skills was sustained by the European culture. However, we can learn much by taking a broader view of world history to consider some episodes from Chinese navigational history. China followed a much different path to ocean exploration than the Europeans. Some

this new area presents new challenges and requires new applications of our skills at quantifying and managing risk. As actuarial navigators, we are well suited to take up this challenge, but it will require us to learn new terminology, develop new techniques, and master new approaches. We now have the opportunity to sail the "world of risk," relying on the basic skills we developed in the "sea of hazard risk," but applied to a much broader context. Bon voyage! ■

key navigational tools, including the magnetic compass, originated in China long before they appeared in Europe. Chinese navigators sailed the open ocean to India and the East coast of Africa long before the European ships, encouraged by Prince Henry the Navigator, arrived in these areas. The Chinese exploration peaked with the seven voyages of Zheng He from 1405-1433 during the Ming Dynasty. His fleets consisted of as many as 300 ships, some as long as 400 feet with four decks and twelve sails. The purposes of these expeditions were both to explore and to so impress the domains visited that they would be dissuaded from attacking China. These voyages followed the custom of showering the indigent people in the lands they visited with presents to demonstrate Chinese superiority (as if sailing in with massive vessels were not enough) and generosity. This approach, while admirable, had its drawbacks. Exploration was expensive and provided little return on the investment required to sustain the voyages. The

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# International Issues Committee – Working Towards the Centennial Goal

by Karen E. Schmitt, Chairperson, International Issues Committee

**W**ith the CAS actively expanding its reach outside North America, the International Issues Committee (IIC) has been quite busy, and has evolved to meet the challenge. The IIC spawned three regional committees in 2003 to address the issues on the ground in Europe, Asia, and Latin America. These committees work together on many projects to assure a coordinated effort.

The first assignment for the IIC and the regional committees was to put together a communication plan. Aided by the External Communications Committee, we developed key messages based on markets, metrics for success, and action plans that help guide us in how we connect with actuaries in various countries around the world. The process of creating the messages and thinking through the impact we would like to have was an important step in shaping the work of the regional committees.

The CAS Centennial Goal has created more challenges for the IIC. Projects for 2004 included developing the Ambassador Program and adding an international section to the CAS Web Site. Actually, these two projects have been on the docket for several years. Only now has the momentum and interest of the CAS been strong enough to have these projects realized. It was

the CAS Leadership Meeting in March 2003 that created the momentum, by putting forward the Centennial Goal to “be globally recognized as the preeminent resource in educating casualty actuaries and conducting research in casualty actuarial science.”

Many ideas were generated about how the CAS could reach this goal. A constant theme was that our Web site could be a powerful enabler for the desired outreach. We all know how valuable the Web site is for the typical CAS actuary. Our challenge was to add content that would speak to an actuary outside North America by offering pertinent research and educational opportunities as well as pointing to local resources such as our CAS affiliates abroad. To some degree, the job is one of reorganizing existing material as much as creating new information.

The Global Resources section is now complete (see “Web Site News” on page 12). The section consolidates the international information on the CAS Web Site, making it much easier to find.

Another project on the “to-do” list for several years is the Ambassador Program. The CAS has long sought a more personal outreach to individual countries, similar to what the Society of Actuaries has in place. Ideally, our ambassadors are CAS actuaries on the ground in the given country, who are

regular contacts for the local actuaries and universities. Their job is to promote property/casualty actuarial science in the way that suits local needs best. For example, ambassadors might organize the local CAS exam sites, speak to university students or local societies, or identify issues to take back to the CAS for review. The ambassador role will augment the current regional committees and each ambassador will become a member of the regional committee that covers the particular country. Because this program was just approved for implementation, it was unable to be included on the Participation Survey. See the “Help Wanted” page on the CAS Web Site or join a regional committee, if this role sounds like it is for you.

More challenges will surely be coming to the IIC, regional committees, and future ambassadors as the CAS thinks of more ways to promote global outreach. Aside from awarding the Hachemeister Prize each year to an ASTIN paper, there is no “business as usual.” The majority of the work of the IIC involves keeping an eye on issues, recommending positions and policy and, more recently, creating structures and tools for even better outreach and communication. Given the CAS Centennial Goal, there are bound to be more interesting developments just around the corner. ■

## Lesson From China

From page 6

voyages ceased after 1433. By 1525, under government decree, all oceangoing vessels were destroyed. The enormous cost of the Zheng He voyages, combined with political maneuvering, ended Chinese exploration and changed the course of world history. The first circumnavigation could easily have origi-

nated from China but for this decision.

An additional lesson for actuaries is evident here. Chinese navigators did their job most effectively, producing the most advanced sailing skills of the time. The voyages accomplished their stated missions quite successfully. Nonetheless, the end result was the destruction of the Chinese navy and the end of their careers as navigators. Lavish expenses, the failure to adapt to the policies of a

new set of leaders (regulators), and a poor return on investment all contributed to the end of an era of exploration. While none of these factors would normally be considered the domain of the navigator, someone had to consider these issues. To avoid a similar plight, actuaries need be cognizant of all the factors involved in sailing a company, or even the entire industry, lest we too lose our livelihoods. ■

# CLRS To Feature New Reserving Papers

by Sarah J. Fore, Chairperson, CAS Committee on Reserves 2004 Call Paper Program

Complex issues that challenge the property/casualty insurance industry affect the actuarial profession and the reserving process within our profession. To help actuaries gain the expertise necessary to address these issues, the CAS Committee on Reserves sought papers through its 2004 Call Paper Program on several relevant topics. Papers were received on Statements of Actuarial Opinion and accounting issues, changing exposures, reserve variability, and new or improved reserving techniques.

The committee accepted eight papers that will be presented by the authors at the 2004 Casualty Loss Reserve Seminar in Las Vegas on September 13-14. During the opening session, the papers deemed by a prize committee to contribute most to the current CAS literature on reserving will be recognized. A brief summary of each of the papers follows. The authors are not included at this time while the prize committee evaluates the papers.

Two papers address reserving for workers compensation liabilities. One discusses the estimation of the tail fac-

tor through an analysis of medical payments and through a model that reflects medical cost escalation and the force of mortality in closing claims. The second describes a method for estimating the implications of layoffs, plant closures, and downsizing in the reserving process.

The Statement of Actuarial Opinion is the subject of two papers. The importance of reconciling the data used in the reserving analysis to Schedule P data is one paper's focus. This paper also gives guidance to the appointed actuary and provides examples. The other paper discusses the professional considerations and judgments applicable to atypical situations, such as exceptional values on IRIS tests and items that require disclosure for material adverse deviation, and provides sample wording.

Another paper demonstrates how expert opinion can be used in the stochastic framework for reserving. To do this, the author utilizes Bayesian methods and describes its implementation through a detailed example using freely available software.

The increasingly important subject of reserve variability is addressed in one paper. This paper presents a method that can be used to estimate the correlation of reserve estimates between the different areas analyzed in the reserve evaluation, which allows for the combination of estimates in a meaningful way.

Finally, two papers discuss accounting issues and their applications to the reserving process. The newly developed International Accounting Standards for Insurance is one paper's focus. This paper provides general background information about the standards and focuses on the new challenges, particularly in loss reserving, actuaries will face when implementing these standards. In addition to addressing financial reporting for nontraditional reinsurance, the other paper also introduces features of common types of finite risk reinsurance contracts.

The papers will be available through the CAS Web Site and published in the 2004 Fall *Forum* prior to the 2004 Casualty Loss Reserve Seminar. ■

## Centennial Milestones

From page 6

to help address the shortfall in the liaisons' goal. This effort involves not only the LRPC and the CAS Board—all CAS members have a role to play. The LRPC is studying how it will keep members informed on the Society's progress, via the CAS Web Site.

As with any goal-setting process, it is vital that the entire structure be dynamic and reflective of the ever-changing environment in which the CAS operates. While the CG will likely stay fixed as the foundation of CAS long-term goals, the SAM goals will, by necessity, continue to be works in

progress. Consider, for example, the recent challenges to the actuarial profession's credibility arising from reserve deficiencies. Clearly this presents a challenge in achieving the CG. Will we be viewed as "the preeminent resource in educating casualty actuaries?" Can this "crisis in confidence" inhibit our ability to "be recognized as the leading experts in the evaluation of hazard risks?" Perhaps new SAM goals need to be developed that directly address this issue.

The LRPC is currently conducting a scan to examine the domestic and global environments within the CAS and within other organizations and professions that affect the CAS, to determine

if the strategies used to achieve the SAM goals or the goals themselves need modification.

As Steve mentioned last year, the SAM goals "are all important aspects of the Centennial Goal. Each one is attainable, although many will require significant efforts to achieve...." The SAM framework is a powerful tool for the CAS to evaluate progress towards our CG. With a focused analysis of our environment and disciplined measurement of progress on the SAM goals that reflect that environment, we will not have to guess whether we've done all we can to reach the CG in 2014. We will already know the answer! ■



# Minority Report on Fair Value

by Philip E. Heckman

I thank *The Actuarial Review* for this opportunity to respond to some comments made by **Steve Lowe** after his excellent presentation on fair value accounting at the CAS Spring Meeting's closing session. These remarks had to do with the issue of whether recorded liabilities should be discounted to reflect the debtor's credit standing. Steve enjoys well-earned regard and influence in the Society, making these comments impossible to ignore.

First, a little background is in order. Fair value is a global accounting reform that has been a long time in the making. The International Accounting Standards Board (IASB) is the body chiefly responsible for formulating and promulgating the changes, though FASB has had a forward role in forming opinion. In traditional practice, accountancy has centered on a set of rules for recording and summarizing transactions, leading to a balance sheet as an end product. Under fair value, this paradigm is reversed. The aim is to place realistic market or economic values on an enterprise's assets and liabilities. Liabilities, which do not trade, can be placed on a market basis by using guarantee pricing. This is where the credit standing issue comes in, since IASB has defined the fair value of a liability so that the guarantor's credit standing is unspecified. Traditional accounting for debt records the transactions in such a way that the first recognition of a debt liability is discounted for credit standing. IASB/FASB would extend this to all liabilities, on update as well as at first recognition.

Debt issuance is probably the clearest way to outline the problem. Suppose there are two companies, A and B. A has superior credit, B inferior. Each issues debt on the same day, promising to pay \$10,000 in 10 years with no buyout option. A receives

\$6,000 in cash; B receives \$4,000; a default-free borrower receives \$8,000 for the same obligation. Traditional accounting for debt says that A posts an initial liability of \$6,000; B posts an initial liability of \$4,000; a default-free borrower posts \$8,000. I submit that they are all three under the same obligation and should all three post \$8,000 and amortize at the default-free rate. The defect I see in traditional accounting is that the borrowing penalty—\$0 for the default-free borrower, \$2,000 for A, \$4,000 for B—is amortized over the term rather than being treated as a (deductible) expense (prepaid interest,

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**“Under fair value...  
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if you will) impinging at inception. The closest parallel I can see for the traditional treatment is handicapping in sport, where a superior contestant is placed under an intentional disadvantage in order to make the outcome harder to predict. (A superior racehorse carries extra weight; a superior borrower posts a higher liability.) This makes for good sport and terrible finance. I maintain that simply participating in an economy where other companies keep their books this way puts insurers at an unfair disadvantage.

The CAS has been alert to the Fair Value reform issues since 2000 when **Ralph Blanchard** chaired a task force that produced a white paper on fair valuation of P&C liabilities (available

on the CAS Web Site). The white paper addressed several topics, including risk adjustment of reserves, but withheld comment on the credit standing issue. In 2002, the American Academy of Actuaries (AAA) convened a task force on fair valuation of insurance liabilities (available on the AAA Web Site) with a mandate including life and pension as well as property/casualty. This too was inconclusive on the credit standing issue, but with evidence of vigorous debate.

As the 2005 deadline for the IASB insurance project approached, the CAS Committee on Theory of Risk drafted an RFP for *quantitative* research on the fair valuation of P&C liabilities, chiefly loss and expense reserves. When the CAS Executive Council (EC) reviewed the RFP, the project was deemed so important that it was handed over to a task force chaired, again, by Ralph Blanchard and staffed by EC members. The project was awarded to *two* proposers: Tillinghast, a business of Towers Perrin; and PricewaterhouseCoopers LLP. The instructions to the contractors specified that discounting for credit standing was to be *omitted*.

Thus it is that the project reports presented at the May 2004 meeting show loss reserve valuations discounted on a default-free basis and loaded for uncertainty in timing and amount. This is the procedure advocated by Bob Butsic in his 1988 Michelbacher Prize paper. It is a valuation basis that many colleagues and I agree with and that gives few if any casualty actuaries any trouble. It also represents a plausible regulatory outcome. Let me emphasize, however, it is *not* IASB/FASB fair value. Unless they have very recently changed their tune, these bodies would prescribe, unfathomably, that, in GAAP fair value financials, *the reserve bal-*

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ances should be discounted further to reflect the insurer's ability to pay. This amounts to discounting at the insurer's own borrowing rate. Rightly or not, the CAS has skirted the issue of the effect this would have on insurer balance sheets, and, I would argue, has deprived the membership of a real eye-opener.

Enough background. Let me now respond to Steve Lowe's remarks.

Steve remarked, first, that the current credit standing issue is a peripheral matter that should not concern the CAS and its members. This is certainly true in the narrow context of CAS members reporting to regulators under statutory accounting. If this were the only arena where CAS members are or will be active, we would have no cause for concern. Our members chiefly make their living valuing certain specialized liabilities, notably casualty loss reserves. These reserves appear on various balance sheets and take their meaning and purpose from the context, whatever our original intentions. Outside the shelter of statutory reporting, that context is dictated by IASB/FASB. The problems attending the proposed valuation rules are not yet firmly on the CAS radar screen, lying around a corner we haven't turned yet. For our brethren on the life and pension side, they are a matter of very active concern.

Steve also remarked that insurance and other regulators would never allow reporting of statutory liabilities discounted for own credit risk. This is very likely true, but it solves no problems.

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## Predictive Modeling

From page 3

commercial lines, and medical malpractice; other potential rating variables for personal lines; and predictive modeling for the company with little or no data.

By predictive modeling we are referring to a wide range of techniques from simple multiple regressions to generalized linear models (GLMs), clustering, classification and regression

If statutory reserves are accepted in GAAP statements, it means that insurance companies will report liabilities at full default-free value while competing in the equity markets with companies in other industries who report liabilities discounted for their own credit standing, at first recognition *and* on update, booking phantom equity and spurious earnings (and paying tax on the float). If statutory reserves are not accepted under GAAP, actuaries will be forced to report and opine on GAAP reserves discounted for credit risk—a situation not considered in the studies

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**"The problems attending the proposed valuation rules are not yet firmly on the CAS radar screen... For our brethren on the life and pension side, they are a matter of very active concern."**

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sponsored by the CAS. Insurers will also own the debt of companies who keep their books this way and may slide into bankruptcy with little or no warning. Unless we want to spend half our working life drafting disclaimers, we must take notice of the situation outside the insurance industry. There is no substitute for a level playing field but considerable doubt as to whose job it is to ensure it.

Steve also observed correctly that

trees (CART), multivariate adaptive regression splines (MARS), and neural networks.

This seminar is perfect for insurance professionals and actuaries of all levels seeking to implement predictive modeling in marketing, underwriting, pricing and fraud detection. Sessions will be geared towards all levels, from actuarial students and Fellows learning predictive modeling basics and advanced techniques to senior management eager to understand predictive modeling capabilities. ■

GAAP is intended for reporting by going concerns and not for bankrupts. We must wonder, then, why current GAAP *requires* first reporting of debt liabilities discounted for the debt holder's own credit standing. The inconsistency is clear. Would that we could rely on IASB/FASB to get this right, but as remarked above, liability valuation is a new thing in accounting practice. In fact, there is no consistent theory of liabilities and no global consensus as to what reported liability balances should mean. This condition puts our own profession in peril since liabilities are what we do. It also means that IASB/FASB, want it or not, need all the input they can get, on general as well as insurance-specific issues, and sooner rather than later. In my paper for the 2003 Bowles Symposium, published with revisions in the *North American Actuarial Journal* (NAAJ) in January 2004, I have attempted to address this issue—somewhat stridently, perhaps, but no more so than the need and occasion required.

It has been widely suggested that the public information problem can be solved simply by requiring reporting of the current value of the insolvency put in the financials. This is true, but it is not simple. The insolvency put is the corporate owners' option to walk away from the wreck of a defunct corporation without further payment. It can be valued by taking the difference of the default-free valuation of liabilities and the risky valuation. The difficulty is in convincing the accounting community that liabilities valued on a default-free basis are desirable, meaningful, and worth the trouble. In many financial economic treatments of the liability problem, this put—clearly an asset of the owners and not the corporation—unaccountably shows up as an asset on the *corporate* balance sheet, contributing phantom equity and lending false support to the proposed IASB/FASB fair value treatment of liabilities. **Louise Francis, Don Mango**, and I are putting together a paper on this subject for presentation at the August 2004 ARIA meeting in Chicago. We're not accountants; we're not financial economists. It's not our job, but somebody has to do it. ■

# Presenting DRM Results to Decision Makers

## CAS Research Working Party Report Now Available

by Michael R. Larsen and Nathan J. Babcock, Co-Chairpersons, Working Party on Executive-Level Decision-Making Using Dynamic Risk Modeling (DRM)

**Y**ou have been asked to conduct an analysis of reinsurance options for your insurance company. After gathering some necessary information from the management team about the parameters of the study, you've spent months with a dynamic risk model conducting a thorough analysis and outlining a recommended course of action. But you're worried, because next comes the hard part—presenting the results to senior management. You want the management team to walk away from the presentation with the information they need to move forward, and you want them to understand the nature of the study well enough to be confident they are making a well-informed decision. In a worst case-scenario, if the presentation does not clearly convey your message, there is no incentive for management to support the use of DRM and your time has been wasted.

The task of presenting DRM results to decision makers just got easier with the release of the final report of the CAS Research Working Party on Executive-Level Decision-Making Using Dynamic Risk Modeling. The working party has produced the following items to help practicing actuaries with their presentations:

- a written report from the working party;
- a PowerPoint template that can be used as a source for presentation slides;
- a paper describing how the slides in the PowerPoint template help solve some of the unique presentation problems for DRM studies;
- three sample DRM PowerPoint presentations based on the template, discussing reinsurance, investment, and mix of business options; and
- a collection of guidelines for the assembly and presentation of DRM concepts and results.

The working party report is a sum-

mary document with the items listed above linked as attachments. Each item can be downloaded from the CAS Web Site at [www.casact.org/research/DRMW/](http://www.casact.org/research/DRMW/).

The working party began reviewing existing DRM presentations to identify techniques or slides that effectively communicate results to management. The group found that the slide sequence for an effective DRM presentation could be broken down into three main categories: Orientation, Results, and Conclusion.

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**"The task of  
presenting DRM  
results to decision  
makers just got  
easier."**

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The goal in the Orientation section is to prepare the audience for the presentation of financial results. Items presented in this section include options to be evaluated, financial measures used to evaluate these options, modeling assumptions, and an overview of the modeling process.

Three questions should be addressed in the Results section of the presentation:

- What is the likely range of financial results for each option?
- How do the financial results vary over time?
- What is the risk vs. return trade-off between the options?

Graphs offer the best means to answer these questions. A large number of data points can be summarized on a well-designed graph but fine attention to detail in formatting the graphs is essential. Formatting mistakes can distract the audience, causing them to lose focus on the information the graph is

intended to convey.

The need for a Conclusion is particularly acute in a DRM presentation. After you have presented your study's results, the management team is left with the task of making a decision using results from a process that is probably outside the scope of their experience. While the responsibility for the decision lies with the management team, offering your opinion on how to interpret the results may help them process the information you provided.

The Conclusion should:

- restate the study's goal;
- summarize the study's results in terms of the financial measures selected; and
- offer an opinion on the best course of action given the financial measures selected.

To help you develop an effective DRM presentation, the working party created a PowerPoint template with slides grouped by category. For example, if you want to illustrate the reasonable range of results possible from your study's results, you can look under the Uncertainty category and extract a slide designed for that purpose. The PowerPoint slides contain embedded Excel charts, tools commonly available to practicing actuaries. The template offers a variety of graphs that can be adapted to suit the needs of a particular DRM study. The graphs were developed by extracting and enhancing the best graphs or slides from a review of past DRM presentations.

One member of the working party, Aleksey Popelyukhin, wrote the paper, "Presenting DRM Results: Helping Executives Make Sense of DRM," which the working party has provided with their summary report and PowerPoint template. His paper's focus is designing graphs such as those in the working party's template. The paper describes how these graphs can

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# Global Resources Section Unveiled

Recent visitors to the CAS Web Site have noticed a new menu item on the home page called “Global Resources.” This new area of the Web Site was developed as a resource for those interested in actuarial activities outside of North America. In addition to providing information for actuaries abroad, the section highlights for CAS members the work the CAS is doing around the world.

Visitors to the Global Resources section can “Select a Region” from the section’s main page. The regions listed include Asia, Europe, and Latin America, mirroring the regional committee structure in place under the CAS vice president-international. This audience-based navigation allows Web site visitors to easily choose a path through the section. For example, Web site visitors in Asia would click on “Resources for Asia.” The next page will provide them with information about the CAS

Asia Regional Committee, Casualty Actuaries of the Far East (a CAS Regional Affiliate), and regional actuarial events. In addition, visitors can drill down further within the region page to country-specific pages. The country pages contain links to Web sites for demographic and statistical data, property/casualty insurance industry data, regulatory bodies, educational institutions, and the local actuarial organization.

Visitors to the Global Resources section can also “Select a Resource” from the section’s main page. Resources provided include:

- International Actuarial Events Calendar
- Details on Joining the CAS
- Link to the International Actuarial Association (IAA)
- IAA Announcements
- Collection of links to international actuarial organizations and resources.

Another resource in the Global Re-

sources section is a summary of CAS global initiatives. See this area for information about the Examination Fee Discount Program for qualified countries, CAS examination centers around the world, and Mutual Recognition with other actuarial organizations.

In summary, the new Global Resources section consolidates information about actuarial activities outside the United States and Canada. We welcome your ideas for additional material to include. Please send your feedback to the webmaster@casact.org.

## The Missing Links

Now finding out what’s going on at the CAS is easier than ever! User-friendly improvements have been made to the online calendar. From the CAS homepage, click on the gold “Calendar” button to see the new search capability, archive of past events, and printer-friendly format. ■

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## 25 Years Ago in *The Actuarial Review* Quirky Discovery?

by Walter C. Wright

*This 1979 letter to the editor suggests that actuaries have always had quirky curiosities.*

### Alphabet Vagaries

To *The Actuarial Review*:

In the list of CAS members by company circulated by the Society, I made

the following observations.

There are 124 companies listed. Fifty-six, or 45%, have initials A, C, M or N. In a standard dictionary I scanned, words with these initials comprise 24% of the pages.

But going even further, there are 14 companies beginning with M, and ev-

ery “M” company lists one and only one actuary! I haven’t tried to compute the chances of this arrangement, but I think it is impossible.

When one is retired or partly so, one has the chance to make important investigations like this. —James H. Durkin ■

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## DRM Results

From page 11

be built and the various purposes they serve in DRM presentations.

The working party’s sample presentations illustrate the use of the PowerPoint template and make our general observations on effective DRM presentations more concrete. The slides are available with speaker notes that describe why a given slide was in-

cluded and the intended benefit for the audience. The sample presentations complement both the general, conceptual findings on what makes an effective DRM presentation and the PowerPoint slides in the template.

With the PowerPoint slides providing some building blocks that can be used to assemble a DRM presentation, the collection of guidelines developed by the working party is meant to provide a checklist the presenter can refer

to while assembling the presentation.

The working party’s products provide presentation tools to help make a DRM study useful to management. The next time you are faced with the task, we encourage you to download these tools from the CAS Web Site.

Editor’s note: In addition to Larsen, Babcock, and Popelyukhin, members of the working party include **Raju Bohra**, **Patrick J. Crowe**, **Nathan Schwartz**, **Scott Sobel**, and **Robert Walling**. ■



# Space, Time, and Dead Reckoning

*Longitude*, by Dava Sobel (Penguin, 1998, \$11.95)

Reviewed by Allan A. Kerin

Until the end of the eighteenth century sailors had no accurate measure of their position. For thousands of years a ship's latitude, its north-south position, could be accurately determined by noting the date and the observed elevation of the sun. But longitude, or east-west position, could only be guessed by dead reckoning. A sea captain could keep careful track of his ship's movements in his logbook and calculate his east-west position by adding each day's progress to that of previous days to produce a total east-west distance traveled. But, imperfectly measured currents and winds could fool even the best captain, resulting in missed landfalls and groundings that were costly and often fatal. The great voyages of discovery and the first centuries of transoceanic trade took place under these conditions.

A great deal of scientific effort was expended in the sixteenth and seventeenth centuries to solve the problem of longitude. Galileo and others would provide partial solutions that would eventually contribute to an accurate method of determining longitude from astronomical observations. This method would ultimately be perfected in the late eighteenth century after decades were spent recording the complex path of the moon and the angles that it forms with the sun and various stars over its eighteen-year cycle. The goal of this method was to determine from a ship the time at a distant fixed point on the globe. The time at the distant reference point could be compared to the observed time, measured from solar observations, on board the ship to calculate how far east or west the ship was relative to the fixed point. This astronomical method (colloquially referred to as "lunars") was difficult, time consuming and prone to calculation errors,

particularly when applied from the unstable environment of a sailing ship on a rough sea. Of course if one could bring an extremely accurate clock set to the time at the distant point of reference on board ship the complex lunar calculations would not be necessary. A brilliant self-educated English clockmaker, John Harrison, spent the years 1727 to 1776, most of his long life, developing such a clock.



John Harrison spent decades developing a small mechanical clock (chronometer) filled with innovative inventions to overcome the instability caused by turbulent seas, changes in temperature and humidity, contaminating dust particles, and many other environmental factors. It is easy, and appropriate, to see him as a lone genius working to achieve his dream. However, his work was supported by generous stipends from a scientific bureaucracy, the Board of Longitude, established by the British Parliament, whose members included Isaac Newton and Edmund Haley. For years the somewhat narrow-minded and perhaps jealous members of the Board of Longitude obstructed the recognition of Harrison's invention

and the award of a £20,000 prize to him. Finally, George III, who took an intense interest in scientific matters, personally intervened to help Harrison triumph in his old age. The astronomical method that Harrison's opponents advocated would ultimately have value as an adjunct to his invention, enabling sailors to periodically check the accuracy of their chronometers while at sea. Harrison's chronometer was complex and expensive and hence enjoyed limited use. It was not until his successors were able to simplify its design in the early nineteenth century that mass production and almost universal use of marine chronometers became possible.

In our day of "instantaneous" communication there is no need to calculate the time at distant point. One need only call up and ask. And mechanical clocks are now obsolete. An inexpensive electronic watch can outperform the most exquisite handmade clock. And, most fundamentally, global positioning systems based on "instantaneous" communication allow us to calculate our position directly anywhere in the world. We have eliminated the technological limitations on communication that forced us to indirectly calculate the time at a point of reference. In the vast distance of outer space we are faced with the fundamental limitations on the speed of communication, but we are now less than a tenth of a second from simultaneous knowledge about any place on Earth.

Dava Sobel has written an interesting and thought-provoking book about the development of a now obsolete technology that was crucial to the economic, political, and military history of our world in the nineteenth and part of the twentieth century. The world that we live in would not have developed without it. This thoughtful, eloquent, and concise book is worth reading. ■

**Sheldon Rosenberg** presented the Report on the Task Force on Classes of Membership. The task force was charged with investigating the advantages and disadvantages of having one or more classes of credentialed membership. Also, it was charged with developing a recommendation for the proper qualifications, rights, and responsibilities associated with these classes of membership.

The task force concluded that there should be only one class of credentialed membership, finding that there is only a small educational difference between CAS Fellows and Associates and virtually no practice rights difference in the United States. (The task force worked under the assumption that the Affiliate class of member would remain in place.) A key consideration was that two designations (ACAS and FCAS) that each mean “a fully qualified actuary” is confusing. A second consideration is that the Associate designation connotes lesser standing, even though the ACAS is fully qualified to sign statements of actuarial opinion. The task force learned that the current structure began with the formation of the CAS in 1914, when there was a much clearer distinction between Fellows and Associates. At that time, Fellows were those who were in charge of actuarial, mathematical, or statistical departments of insurance companies, and Associates were those who worked in such departments and desired to study actuarial science. Currently, there is little or no distinction between Fellows and Asso-

ciates in the ability to perform professional actuarial services in the United States. However, Fellowship is a requirement for most practice rights in Canada and for membership in the Canadian Institute of Actuaries.

The board’s discussion of this issue took into account the various transition options as they apply to current Associates and to candidates on the path to ACAS. Transition options discussed ranged from immediately granting Fellowship to all Associates, (and discontinuing the ACAS designation), through many alternatives all the way to discontinuing the ACAS designation after a transition period (and putting the ACAS into “run-off”).

With one class of credentialed membership, concerns were raised about the potential negative impact on recruiting new candidates, since the time until achievement of a CAS designation would be longer (a student would have to go further than the current Associate designation since there would only be the Fellow designation, going forward). The task force recommended that the ideal number of exams for Fellowship would be eight exams, and that the necessary material could be reorganized to fit into that number of exams.

With so many issues on the table, the board decided to defer action on the report and to release it to the membership for comment.

While the board took no action on the classes of membership, it did take action on the recommendations of the Task Force on the ACAS Vote, following a presentation by **Amy Bouska**. This task force was charged with investigating the advantages and disadvan-

tages of whether the current Associates should have voting rights, and whether other differences between CAS Fellows and Associates should exist, including differences in dues and in the right to hold high-level positions in the CAS.

Most notably, the task force recognized the lack of true representation within the CAS for Associates, despite the fact that Associates pay full dues. CAS approval of Mutual Recognition has also warranted reconsideration of voting rights, since Fellows who are granted the FCAS designation via Mutual Recognition would have voting rights even though long-time CAS Associates would have no such voting rights.

The board voted on each of the specific recommendations of the task force. Among the changes to CAS governance approved by the board (subject to further approval by the membership—again, only the votes of Fellows—where necessary) are:

- That the unrestricted right to vote be given to members either upon attainment of Fellowship or five years after their recognition as Associates, whichever should occur first;
- That all voting members be allowed to stand for election to the CAS Board of Directors, with no change in the current size or structure of the board;
- That voting Associates be allowed to hold all officer positions with the exception of president, president-elect, and vice president-admissions; and
- That one seat be added to the Nominating Committee for an Associate with more than 10 years as a voting member.

Granting voting rights to Associates would require approval of a constitutional amendment by the Fellows. While it is not clear whether the move to one class of credentialed membership will require a constitutional amendment, the board intends to develop a process that will allow thorough discussion and exchange of ideas among the members. The board anticipates that, if a vote on the Task Force on Classes of Membership proposal is required, it will precede the vote on voting rights for Associates. ■

## CORP-Accepted Papers Posted on Web

The CAS Committee on Review of Papers (CORP) has released its quarterly update of recently accepted papers. The CAS Editorial Committee will be editing these papers for inclusion in the *Proceedings of the Casualty Actuarial Society*. As of July 1, 2004, CORP has accepted the following paper:

- “Value Creation Insurance—A Finance Perspective” by Russell Bingham. ■

# New Fellows and Associates Honored at the 2004 CAS Spring Meeting

**New Fellows, first row, from left:** Matthew J. Wasta, Faith M. Pipitone, Afrouz Assadian, Carolyn D. Yau, Kiera Elizabeth Doster, Hao Chai, **CAS President Mary Frances Miller**, James A. Landgrebe, Martin Menard, John R. McCollough, Paul Silberbush, David S. Futterleib. **Second row, from left:** William Brent Carr, Laura D. Rinker, Robin V. Fitzgerald, Keith A. Walsh, Jennifer L. Vadney, Kristine Kuzora, Jia Liu, Ann E. Green, Keith R. Gentile, Robert S. Weishaar, David J. Horn Jr., Linda Jean Bjork, Brian Kenneth Ciferri.



**New Fellows, first row, from left:** Henry Joseph Konstanty, Peggy J. Urness, Shantelle Adrienne Thomas, Gaétan R. Veilleux, **CAS President Mary Frances Miller**, Patricia Deo-Campo Vuong, Paul B. Deemer, Jeffrey B. McDonald, Matthew E. Morin, Christopher J. Styrsky. **Second row, from left:** Jesse T. Jacobs, Tom E. Norwood, Kevin J. Atinsky, Jayne L. Plunkett, Richard R. Crabb, Richard Alan Van Dyke, James Christopher Guszczka, Kyle S. Mrotek, Eric Zlochevsky, John T. Raeihle. **New Fellows not pictured:** Stephanie Anne Bruno, Phyllis B. Chan, Christian J. Coleianne, Joel D. Glockler, Natasha C. Gonzalez, Donald B. Grimm, David Lee Handschke, Ryan A. Michel, Lester M.Y. Ng, Joseph C. Wenc.



**New Associates, first row, from left:** Scott W. Carpinteri, Eric F. Liland, Mark Sturm, Esperanza Stephens, Melanie Sue Dihora, **CAS President Mary Frances Miller**, Hung Francis Cheung, Kris Bagchi, Richard U. Newell, Timothy K. Pollis, Keith P. Allen, Arthur S. Whitson. **Second row, from left:** Patrick Thorpe, John E. Kollar, Joseph M. Izzo, Lynn C. Malloney, Robert Anthony Peterson, Meagan S. Mirkovich, Amber L. Butek, Eric David Huls, Christopher M. White, Alexander R. George, Keith A. Rogers, Dominic A. Tocci. **New Associates not pictured:** Stephen E. Dupon, Chun Hua Hoo, Luke G.C. Johnston, John B. Kelly, Twiggy Lemercier, John A. Nauss, Robert J. Schutte, Jeffery J. Voss, Joshua C. Worsham. ■





# Sound Information

by Marty Adler

So much of our daily routine as actuaries involves reading. Imagine how difficult it must be for people unable to do that. One of our Fellows devotes time to helping them cope with their disability.

He volunteers for Electronic Information and Education Service of New Jersey (EIES), an organization dedicated to helping blind and low-vision people. For about an hour and a half each week using his home phone, he reads a weekly newspaper into a recording. The recording is then made available for people to access via telephone through a facility known as the telereader. In addition to his readings for EIES, he also set up the organization's Web site.

Our Fellow first became sensitive to the needs of low-vision students while in high school. Then while in college he recorded math textbooks on tape for Recording for the Blind. It requires considerable effort to read math symbols verbally in an unambiguous manner. For example,  $((x^2 + y^2)/(w^2 + z^2))^{.5}$  is read as follows: "The square root of the quantity which is a quotient, whose numerator is the sum of the square of  $x$  plus the square of  $y$ , end of numerator; and whose denominator is the sum the square of  $w$  plus the square of  $z$ , end of denominator, close square root."

EIES has its own small building in South Orange, New Jersey next to the library that he had passed many times over the years, but a flyer on a library bulletin board finally got him to volunteer. Most of the volunteers either record at the EIES office or read live over the radio station. That, of course, requires commitment to a specific time period, which his work does not permit. He may read at midnight or six in the morning, whatever fits his schedule. Very few volunteer opportunities offer this much flexibility.

The telereader provides the detail of a newspaper with extra flexibility for the listener. For instance, you can listen to an article and jump to the next

one without finishing, or you can go back and listen again. Our Fellow is happy he can provide some things from the newspaper that a listener isn't going to get from a normal TV or radio news program, for example, the obituaries.

Among the favorite columnists he reads is a film critic who seems to pride himself on writing extremely long sentences. He often wonders, "When will the sentence end?" Upon actually meeting this film critic, our Fellow told him he is probably one of the few people who literally reads his work word for word—and it's too long! Another fa-

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**"It requires  
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vorite is a music critic who reviews musical pieces with names in languages our Fellow doesn't understand. He is sure he does an amusing job mangling these other languages. Still another is a theatre critic who writes with the most amazing puns. Sometimes he cannot read the column without bursting out in laughter.

Although not claiming to be a professional Webmaster, he has designed personal Web sites for a long time. Self-taught, he merely bought a book and looked at other sites. One site readers may have accessed is actuarialjokes.com, which gets hits from all over the world. He also has created a Web site giving advice to beginning actuarial students (<http://users.aol.com/fcas/advice.html>), a personal Web site ([users.aol.com/fcas](http://users.aol.com/fcas)), and a number of other sites. These are all simple sites—he doesn't do danc-

ing bears or other clever graphics.

Thus he volunteered to be the EIES Webmaster, designed their Web site, and even recently added the ability to listen to the live EIES broadcast. This was quite different than anything he had ever done before. He was surprised there are still hardware/software compatibility issues in live audio streaming that have long been resolved in other areas of computing.

Low-vision people use the Internet with audio translation software that reads the text orally. In fact, he had been e-mailing a Webmaster, from an organization similar to EIES, in another state, and not until they had exchanged much e-mail did our Fellow learn the Webmaster is blind. The telephone and radio broadcasts are, of course, easily accessible to low-vision people.

Although listeners to EIES are encouraged to provide their comments, they are not ordinarily directed to any particular reader. **Jerry Tuttle** says he naively assumes he has fans who eagerly await his recording and who are peeved when he is late.

Many who do their reading at the EIES office stay to socialize. As someone who reads from home, however, Jerry meets very few fellow volunteers. An unexpected benefit of this volunteer work came when someone who worked at EIES invited him to call another EIES volunteer, who records from home, for a blind date (no pun intended). They have been dating for some time now. ■

**CAS Welcomes New  
Affiliate Member**

**Marcus Allan Tarrant**

Experienced Associate

PricewaterhouseCoopers LLP

New York, NY

Fellow, Institute of Actuaries



# Risk Management Section Formed

**T**he Risk Management Section of the Society of Actuaries was formed to foster education and research in the area of risk management and to establish cutting-edge risk management techniques. SOA sections are special interest groups that serve their members by offering newsletters and networking opportunities with professional colleagues. Sections are also involved with planning seminars and managing research projects. Participation in sections is not limited solely to members of the Society of Actuaries.

At the September 2003 CAS Board of Directors meeting, the Board en-

dorsed the idea of encouraging CAS involvement in the Risk Management Section. **John J. Kollar**, a liaison to the section council from the CAS Enterprise Risk Management Committee, initiated discussions with the council about evolving the section into a jointly sponsored entity. The proposed Joint CAS/SOA Risk Management Section would build on the success of the recent joint ERM Symposium, which attracted about 400 attendees this year.

CAS (and SOA member) **Shaun S. Wang**, who is a member of the Section Council, commented, "We are pushing to make sure both societies are moving forward together on this initiative."

CAS members are encouraged to join and participate in the CAS/SOA Section. CAS/SOA Risk Management Section dues are only \$20 annually and include:

- A newsletter,
- Invitations to the Section's meetings, which feature a combination of social/networking and learning sessions, and
- Opportunities to participate in or keep informed about various research projects and continuing education events.

See [www.soa.org/ccm/content/?categoryID=342001](http://www.soa.org/ccm/content/?categoryID=342001) for more information about joining the Risk Management Section. ■

## From The President

From page 1

adjustments had to be made near the oil fields. Oil workers make high salaries, and car repair shops charge higher prices. Market forces at work! As international accounting standards are finalized and countries adopt these standards, there will be opportunities for the CAS, in particular, to provide focused, practical training for the emerging actuarial profession working in this new industry.

**In India, auto liability is also the largest property/casualty insurance line, with premiums growing due to an expanding middle class.** Here, though, without the strong governmental health care safety net, bodily injury claims are far more common. Traffic congestion is constant and many vehicles show evidence of minor accidents, so perhaps it's not worth the effort to make small claims. To drive in India, I was told one needs "good eyesight, good reflexes, good luck." I was astonished to discover that in a random sample of bodily injury claims, death was the most common injury! Report lags are also very long for these claims, averaging over eight months. Could this be a function of insurance as a new phenomenon, so people have to learn how to submit claims? Because the insurance industry was nationalized for about 30 years, actuaries in India are

over 65 or under 30. The CAS has already conducted seminars in basic and intermediate reserving in India, and we anticipate an ongoing need for good, practical training.

**India is also home to a growing number of employees of multi-national insurers, including actuarial units.** Both XL and GE Capital have substantial actuarial departments in the growing Indian back office economy.

**All types of insurance, and insurance as a part of a working economy, are a huge new focus of universities in China.** Beijing is one of the five largest exam centers for the joint preliminary actuarial exams.

**Ireland, South Africa, and New Zealand are similar to Canada in that they have only "derived" Fellows.** To be a member of the Society of Actuaries in Ireland, for example, an actuary needs to be a member of either the Institute of Actuaries (England) or the Faculty of Actuaries (Scotland). It's taken several conversations with leaders of these societies to convince them they should consider adding CAS to the list of accepted designations. In fact, so great is these societies' reliance on their derived designations, it appears that we will have to finalize mutual recognition agreements with the exam-giving organizations before we can get recognition from the deriving societies.

**Mutual recognition agreements are in the draft stage with the Insti-**

**tute and Faculty, and approaching a draft with the Institute of Actuaries of Australia.** I still hope to have all three agreements on the September Board agenda.

A huge Australian property/casualty insurer (HIH) went insolvent due in part to California workers compensation. **The world gets smaller every day, but that doesn't mean we all understand one another's markets!** The ensuing governmental investigation indicated a need for a stronger actuarial role. This company was dominated by a single personality and the actuaries could not (or did not) have enough voice in the decision making process.

On the other hand, **an actuary may have too much voice.** In the United Kingdom, an appointed actuary system for life and annuity insurers was supposed to provide an independent, quasi-regulatory view to the board. But there was no requirement that the appointed actuary not be a member of the board. The Equitable (the oldest life insurer in England) went all the way—appointed actuary as CEO. Coupled with weak standards of practice, this was a recipe for disaster. They're not insolvent, but the scandal led to a complete overhaul of regulation.

Who should determine standards of practice? Who should sit on disciplinary tribunals for the profession? In the

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## From The President

From page 17

U.S., standards of practice and discipline are handled entirely within the actuarial profession and discipline is conducted in a closed environment. Only the results are made public, and then only if the Society disciplines the member. In Canada, standards are internal, but discipline tribunals include a judge. In the U.K., both the new actuarial standards board and the new discipline system include extensive input from professionals other than actuaries. The European Union requires all member countries to have discipline processes that are open and include non-members of the profession. Does the public in North America expect a more open process than the current system?

### Other Odds and Ends

I've also learned some cultural and geographic lessons.

**Most actuarial functions around the world have corporate sponsorship.** Usually the sponsorship is limited to an acknowledgment in the pro-

gram and perhaps a thank you from the podium. Sometimes it extends to things like name-badge lanyards with a company name on them or even a gift with a logo. At the ASTIN meeting in Norway this May, for instance, the umbrellas issued to participants (sorely needed!) had a local insurer's logo. Such sponsorship doesn't seem to detract from the independence of the opinions expressed at the meeting. It does help to keep the fees down.

A person who speaks three languages is trilingual. A person who speaks two languages is bilingual. **A person fluent in only one language is an American (or maybe a Brit).** I am humbled by the ease with which so many people go from one language to another. I am truly grateful to the many hosts who have so graciously conducted proceedings in English to accommodate their guests. Even the Swedish Society's centenary dinner was held in English for the benefit of the visitors.

**Croatia is not contiguous.** If you try to drive from Dubrovnik to Split, you pass through Bosnia. But the border crossing is unguarded and looks

more like a tollbooth. So I had lunch in Bosnia—by mistake. Check a map.

**If you drive in India, you are likely to see:**

- Late model cars, generally with professional drivers,
- Every model car ever manufactured,
- Trucks with cows painted on them for good luck,
- Tiny taxis that look like covered golf carts, with as many as 10 passengers,
- Donkeys buried under loads bigger than they are,
- Camels and elephants,
- Cows in the road, and
- The busiest people I have ever seen.

**Scandinavia is breathtakingly beautiful.** From Oslo to Stockholm looks like the upper Midwestern U.S., only the farms are smaller. I can see why the first immigrants from Norway and Sweden got to Minnesota and wrote home to send the cousins. Western Norway is a civil engineer's dream. The oil money has led to great roads and railways, and you see a lot of the mountains—from the inside.

I'm looking forward to the next round of adventures! ■

## In My Opinion

From page 2

One brave soul stepped forward recently, and we accepted his offer to help the cause, and we promptly showed our appreciation by... misspelling his name. My profuse apologies to Michael Ersevini; I promise it won't happen again. You will find Michael's newest bit of wit on page 21.

If *your* creative abilities occasionally take a humorous turn, we would love to provide you an audience. We want to publish jokes, one-liners, and other bits of good, clean fun directed to, for, and at readers who are property-casualty actuaries. We would also love to publish cartoons, especially single frame. Do you have artistic talent straining at the leash, desperate to be set loose? Are you skilled in penning zippy cartoon captions? If so, please step forward, figuratively speaking, and send your e-mail address to us at AR@casact.org. All verbal humorists, cartoonists, and caption writers will be gratefully acknowledged in each issue.

And we will try—really, really, hard—to spell your name correctly.

If you would rather read than write something entertaining, I suggest Bill Bryson's book, *A Short History of Nearly Everything*, published in paperback by Broadway Books. Bryson, a nonscientist, decided to learn something about the natural sciences by reading and consulting experts in fields such as astronomy, geology, paleontology, genetics, and particle physics. This book describes what he learned, how he learned it, and what it might mean to the rest of us. Bryson has an eight-year-old boy's fascination with disaster scenarios, and catastrophe modelers are sure to pick up some new areas for research. For instance, Yellowstone National Park would more properly be named "Yellowstone National Volcano," because that's what it is—a huge volcano that erupts, on average, every 600,000 years. The last eruption was about 650,000 years ago.

I should mention that the word "eruption" does not do justice here. Bryson explains it this way: "The ash

fall from the last Yellowstone eruption covered all or parts of nineteen western states (plus parts of Canada and Mexico)—nearly the whole of the United States west of the Mississippi. This, bear in mind, is the breadbasket of America, an area that produces roughly half the world's cereals...It took thousands of workers eight months to clear 1.8 billion tons of debris from the sixteen acres of the World Trade Center site in New York. Imagine what it would take to clear Kansas."

The experts admit that they can't predict when the next eruption will occur, but they are *pretty* sure that it won't happen in the immediate future. According to an article in the July 2004 issue of *Smithsonian Magazine*, a 2,100-foot-wide, 100-foot-high swelling on the bed of Yellowstone Lake looks promising, but the rocks and debris probably won't bother you if you're more than four or five miles away when (if?) it blows.

Volcanoes are one of many sources

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# ASTIN in Bergen

by Gary G. Venter, Chairperson, International Research Committee

**T**his June, the International Actuarial Association and the Norwegian Actuarial Society hosted the 2004 ASTIN Colloquium in Bergen, Norway. Keynote addresses focused on climatic changes and insurance, insurance fraud from an actuarial perspective, genetics and insurance, and future challenges to actuarial science.

## Climatic Changes and Insurance

Hans von Storch from the Institute for Coastal Research in Germany noted that perceived changes in storm climate do not appear factual. Insurance damages appear worse over time, but not if one adjusts for insured values. He cautioned against reliance on historical data, such as a long series of wind observations. Observation methods differ significantly over time, citing a change from visual observation to scientific measurement or a change from measuring wind by the ocean to measuring at an airport as examples.

David Anderson from Guy Carpenter in Sweden validated there is no clear-cut trend in natural peril losses in Scandinavia. Economic losses have doubled globally every ten years since the 1980s, but there have been significant increases in insured values.

Gerhard Berz of Munich Re in Germany stated that the worldwide-insured costs of great natural disasters have risen by a factor of almost 14 (after adjusting for inflation). Events and losses have been dominated by weather disasters. Reasons for the increases in frequency and severity include an increase in population, better standards of living, a higher concentration of people and value in large conurbations, an increase in insurance density, settlement in exposed areas, and a change in environmental conditions.

## Insurance Fraud: Actuarial Perspective

Tommy Short, past president of the International Association of Special In-

vestigation Units, U.S., described how costly insurance fraud is to both the industry and the insurance consumer. Numerous factors have combined to contribute to rising fraud costs including the Internet, lowered trade barriers, and the ease of moving across borders. Short described numerous examples of fraud. People acting alone (with multiple identities and cars), people acting in a group (with doctors, lawyers, and claim handlers involved), and organized crime can be players in fraud.

Montserrat Guillen, from the University of Barcelona in Spain, described

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**“Derrig noted that the differences between fraud and abuse should be considered instead of grouping everything under the ‘fraud’ term.”**

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the analysis of Spanish automobile insurance data to create a modeling system to score potential fraud. The models use a scoring system based on information about the insured, the vehicle, and the claim.

Irene Laegreid, of the SpareBank 1 in Norway, shared an insurance fraud statistical study based on Norwegian data. Factors such as age and sex were studied. Seasonal variation was found. Women were more likely to commit fraud in the early part of the year, right when Christmas bills are due. In auto, more problems occurred in February through April when new cars are being purchased. There were variations between urban and country areas and variations by line of business.

Richard Derrig, of OPAL Consult-

ing and a visiting scholar at the Wharton School, University of Pennsylvania, noted that the differences between fraud and abuse should be considered instead of grouping everything under the “fraud” term. It is important for actuaries to get involved in this subject. Data is essential and patterns need to be researched.

## Genetics and Insurance

D. Timothy Bishop, of Cancer Research U.K., University of Leeds in England, provided some scientific information about the identification and characterization of genes. Genes are often identified using family studies, and more recently through causation studies. Characterization of genes helps identify the pattern of mutation and calculates its population prevalence. Studies have shown, for example, that breast cancer risk increases significantly if the mother is affected and increases more when the relative has cancer early in life.

William Nowlan, of National Life Insurance in the U.S., discussed the use of genetic typing. He noted there were numerous findings of genes in the 1990s, but none recently. Even when a gene is discovered, it takes decades to determine treatment. DNA-based study might not be all that is needed. It's possible that proteins, chemicals, and RNA might each play a role. He noted that family history is rarely used except in preferred underwriting. Most gene impairments are already evident from mammograms or x-rays by the time someone decides to purchase life insurance.

Piet de Jong, of Macquarie University in Australia, discussed the costs of adverse selection. Use of family history and other correlated information can limit losses and decrease required loadings. He asked whether the opportunity costs of not using some of the available information could be quantified.

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# CAS Awarded Bid To Host 2007 ASTIN Colloquium

The CAS made a successful bid to host the 2007 ASTIN Colloquium in Orlando, Florida, in conjunction with the CAS Spring Meeting. The 2007 meeting will celebrate the 50th anniversary of ASTIN, which first met in New York City in 1957. The CAS has agreed to host this meeting at the same site as its spring meeting, the Contemporary Resort at Walt Disney World.

Plans call for our 2007 meeting to run from Sunday, June 17 through Wednesday, June 20. ASTIN will begin with an opening reception in the evening of Tuesday, June 19, followed on Wednesday, June 20 by a joint day of sessions for both the CAS and ASTIN. ASTIN will continue its meeting through Friday, June 22.

CAS Vice President-Professional Education **Chris Carlson** will chair the

organizing committee for this meeting and **Gary Venter** will serve as chair of the scientific committee. ASTIN will next meet in Zurich in 2005, and then skip a year since the International Congress of Actuaries is meeting in 2006.

Many people worked together to prepare this proposal, including CAS President **Mary Frances Miller**; CAS Executive Director Cynthia R. Ziegler; CAS Manager, Meeting Services Kathleen Dean; and CAS Meeting Planner Carrie Leathe. **Dave Hartman**, who is current president of ASTIN, helped by answering questions and providing information about ASTIN that allowed CAS to submit a well-drafted proposal. The quality of this team's work was very important for CAS in winning this bid, as the Society faced strong competition from the Institute of Actuaries, who proposed hosting the meeting in Oxford, England. ■

## ASTIN in Berlin

From page 19

### Challenges to Actuarial Science in the 21st Century

Jean Lemaire, of the Wharton School in the U.S., provided a prediction of the needs for future actuarial science education. He advised actuaries to concentrate on in-depth knowledge of core information. A concentration on breadth of knowledge may result in loss of actuarial uniqueness compared to other financial analysts.

### Working Sessions

Papers were presented in working sessions with focus on the following topics:

- Climate, weather, and insurance (catastrophes)
- Delayed claims
- Assets and liabilities
- Extremes
- Options and applications
- Pricing and ruin
- Risk management
- Insurance fraud

The papers from the working sessions are available on the colloquium Web site at [www.astin2004.no/English/index2.htm](http://www.astin2004.no/English/index2.htm). ■

## 2004 Yearbook Corrections

In the 2004 Yearbook **Michael D. Larson** and **Steven W. Larson** were omitted.

Their contact information is as follows:

**Michael D. Larson** (FCAS, 1994/11) Actuarial Vice President-Specialty Commercial, St. Paul Companies, Inc., 385 Washington Street, Mail Code 505S, St. Paul, MN 55102-1396  
651-310-3575; Fax: 651-310-2105  
[michael-d.larson@stpaul.com](mailto:michael-d.larson@stpaul.com)

**Steven W. Larson** (FCAS, 1998/05) Chief Reinsurance Actuary, Montpelier Re, 8 Par-la-ville Road, Hamilton, HM 08 Bermuda  
441-297-9253; Fax: 441-296-5551  
[steve.larson@montpelierre.bm](mailto:steve.larson@montpelierre.bm)

The back cover of the Yearbook lists an incorrect phone number for the CAS Office. The correct number is 703-276-3100. ■

CAS Professional Education Calendar			
Bookmark the online calendar at <a href="http://www.casact.org/calendar">www.casact.org/calendar</a>			
<b>Sept 13†</b> Seminar on Reinsurance* New York Marriott East Side, New York, NY	<b>Sept 13-14</b> CAS/AAA/CCA Casualty Loss Reserve Seminar The Mirage Las Vegas, NV	<b>Sept 14-15</b> Asset Liability Management and the Principles of Finance* The Mirage Las Vegas, NV	<b>Sept 20-21</b> CAS/CIA Appointed Actuary Seminar, Hilton Montréal Bonaventure Hotel Montréal, Québec, Canada
<b>Oct 4-5</b> CAS Special Interest Seminar on Predictive Modeling Omni Chicago Hotel Chicago, IL	<b>Nov 14-17</b> CAS Annual Meeting, Fairmont The Queen Elizabeth, Montréal Québec, Canada	<b>TBD†</b> Online Course: Financial Risk Management: Securitization CAS Web Site	<b>Mar 10-11, 2005</b> Ratemaking Seminar New Orleans, LA New Orleans Marriott
<b>May 15-18, 2005</b> CAS Spring Meeting Phoenix, AZ Pointe Hilton South Mountain Resort	<b>Jun 17-20, 2007</b> 2007 CAS Spring Meeting Contemporary Resort at Walt Disney World Orlando, FL	<b>Jun 19-22, 2007</b> ASTIN Colloquium and 50 <sup>th</sup> Anniversary Celebration Contemporary Resort at Walt Disney World Orlando, FL	
* Limited Attendance † For calendar of events updates, visit <a href="http://www.casact.org">www.casact.org</a> .			





## Owning Up...or Not

*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*

Until recently John Q. Actuary, FCAS, MAAA, worked for Insurance-R-Us Insurance Company (IRU), one of the largest insurance companies in the state of West Carolina. John was a senior vice president with direct responsibility for overseeing the company's ratemaking department for the past several years. While John does not personally perform the calculations involved in the rate filings, he reviews the work and the filings go out under his name.

After a long and illustrious career at IRU, John concludes that the time has come to give back while doing a job that he will find personally rewarding. John decides to take a public sector position, at a significantly lower salary, at the West Carolina Insurance Department. John leaves Insurance-R-Us with the best wishes of his former colleagues as well as the substantial position in the stock of his former company that he has acquired during his term of employment.

Once on the job with the Insurance Department, John receives an IRU rate filing requesting a 10 percent reduction in premiums. While reviewing the new filing, John discovers that the currently approved rates, filed under his name, contain a calculation error in the production of the company's rate manual. The error resulted in consumers being overcharged since the implementation

of the last filing by approximately 10 percent. John notes that the calculation error has been corrected in the new filing, but that the error was not disclosed in the filing.

### What should John do now?

#### Option One

Due to his substantial stock position in IRU, John should recuse himself from the review of the rate filing. Precept 7 of the Code of Professional Conduct addresses conflicts of interest. The precept states: "An Actuary shall not knowingly perform Actuarial Services involving an actual or potential conflict of interest unless: (a) the Actuary's ability to act fairly is unimpaired; (b) there has been disclosure of the conflict to all present and known prospective Principals whose interests would be affected by the conflict; and (c) all such Principals have expressly agreed to the performance of the Actuarial Services by the Actuary."

Further supporting the decision to recuse himself is the fact that he may have violated Precept 3 of the Code of Professional Conduct, which states: "An Actuary shall ensure that Actuarial Services performed by or under the direction of the Actuary satisfy applicable

standards of practice" by not thoroughly reviewing the calculations in the prior filing.

#### Option Two

The prior insurance rates were reviewed and accepted by the Insurance Department and IRU is correcting the issue in the new filing. Therefore, John is not professionally obligated to make any comment on the error in the prior filing. John should limit his review to the appropriateness of the current filing only, after disclosure to all parties of his stock holding in IRU.

#### Option Three

While John should have notified the insurance commissioner about a potential conflict of interest prior to starting his review, in order to uphold the integrity of the profession, John needs to bring the error in the prior filing to the insurance commissioner. Failing to disclose the error that he has discovered would be in violation of Precept 1 of the Code. Annotation 1-4 states that "[a]n Actuary shall not engage in any professional conduct involving dishonesty, fraud, deceit, or misrepresentation or commit any act that reflects adversely on the actuarial profession." ■

### Disney Board of Directors Rumored To Hire An Actuary As the New CEO

Should that happen, informed sources speculate, investors should be prepared to act immediately. Company executives will not confirm that a press release will announce the following items:

Exciting thrill rides "The Reserves Roller Coaster" and "The Tunnel of No Risk-No Return!"

Fun midway games, including "Estimate Your Net Worth" at fully stocked fishing ponds and "Guess The Reserve Position" of industry asbestos claims!

Swimming and volleyball on the beach at "Mickey's Club Med-Mal!"

Disney's latest innovation in personal finance, "Goofy Increased Limits Factors," assures that visitors never max out their Visa and MasterCard accounts!

New reality-based game for ABC television network: "Fear Development Factor!" ■

—Michael Ersevum

# Flying “Study Buddy”

By Wyndi S. White

My cats Jasper, Annie, and Ely were constant study “helpers” while I was working my way through the exams. That constant meowing to be petted, lying right on top of my study notes, scratching at the door when I finally kicked them out—how in the world did I ever manage to read a single page? My study was on the second floor, and I could usually get them to leave me alone by opening the window that was directly over the porch roof below. They’d sit in the window or hop through it to bask on the sun-warmed porch roof. At first they would pause briefly on the windowsill before continuing on down to the roof, but it didn’t take long until they would just leap right through the window and land on the roof (it was a very short distance).

I got sick of sitting in that room, so for a change of pace one day I moved to the bedroom next door. Of course my cat Annie followed me. It was hot, so I opened the window. I was struggling to make sense of that incomprehensible Daykin book on the (old) part 10 syllabus, so when Annie leapt all I saw was what looked like a large tabby flying

squirrel sailing out the window to the ground two stories below. For this was a leap-directly-through-window leap, not a pause-momentarily-on-window-sill leap, and there was no sunny porch roof below.

I am ashamed to say that my first reaction was to laugh my head off. Luckily Annie was just fine, and the hilarity of that moment revived me enough that I was actually able to make it through another chapter of Daykin.

## Epilogue

You know, I haven’t “tested” Annie to see if she learned anything from her flight—maybe I’ll open up a window this weekend for old times’ sake. ■



## Tales of Examinations – Tell Us Your Stories

Do you have a humorous story or anecdote about taking the CAS exams? This can cover such areas as studying for exams, taking seminars (including instructors and classmates), things that happened on the day of the exam, or exam study partners. If you do (we *know* you do!), please send your story to Arthur J. Schwartz at [aschwart@ncdoi.net](mailto:aschwart@ncdoi.net). Arthur will compile your stories (taking care to protect the innocent!) and publish them, for our mutual enjoyment, in a future issue of *The Actuarial Review*. ■

## 2004 CAS Annual Meeting

From page 3

seen impacts of marketplace trends and helping organizations create a long-term vision that guides innovation. Krubski’s talk promises to amuse, enlighten, challenge, and stimulate.

The general sessions will delve into fundamental areas of interest to casualty actuaries like the correlation between reserve adequacy and the underwriting cycle, an update on workers compensation trends and issues, and a discussion of worldwide reinsurance. In addition to the general sessions, a full slate of concurrent sessions will be offered. These sessions will cover medi-

cal malpractice, captives, ceded reinsurance, security issues, copulas, risk-adjusted performance measurement, California workers compensation, risk tolerances and reactions, worldwide liability environments, and an array of other current topics. Additionally, there will be encore performances of some of the best sessions from other CAS events like the Ratemaking and Enterprise Risk Management Seminars.

During the course of the Annual Meeting, we will also offer a limited attendance general business skills workshop. The recent controversy generated by Standard & Poor’s statements on the adequacy of loss reserves demonstrated that actuaries need to present clear and concise responses to the pub-

lic. Thus, the workshop for this meeting will focus on media relations.

In addition to two scheduled receptions, attendees and accompanying persons will have the opportunity to enjoy a special Tuesday evening event, featuring entertainment and a buffet dinner.

Look for more information and registration materials in the mail and online at [www.casact.org](http://www.casact.org). ■

## Correction

In the May 2004 issue of *The Actuarial Review*, contributor **Michael Ersevum**’s name was misspelled.

# Responding to the Challenge

by Stephen W. Philbrick

In her February "From the President" column, **Mary Frances Miller** discussed the press accounts of loss reserve increases. Those reports did not paint the actuarial profession in a favorable light. Her column closed with a challenge to the actuarial profession to improve our science and the communication of our results. I'd like to add a third goal to the list: alignment of incentives with goals. This cannot be achieved by the actuarial profession alone; it requires top management involvement, but actuaries can contribute.

All companies set goals and create incentives, often financial. If the incentives are misaligned with the goals, the incentives are likely to prevail. For example, if a call center claims its main goal is customer satisfaction, but pays bonuses solely on how many calls are handled in an hour, employees will likely try to maximize their income. This will make it difficult for the call center to achieve its goal.

For the property/casualty industry, a major goal is accurate loss reserves. (A related goal is clear communication of the inherent difficulties of the process.) I'm confident that people are working on improving both. However, we must recognize that there are considerable pressures working to prevent us from achieving the goal of accurate reserves. Meeting earnings projections often entails its own set of powerful incentives, which may be weighted toward short-term results. This often exerts a powerful downward pressure on reserves, but the direction is not always the same. Few companies would admit to managing earnings themselves, but few would deny that some other companies do. This can lead to upward pressure on reserves in some cases. The IRS also exerts pressure, usually downward. The very nature of the reserves—amounts set aside for events that are

not yet settled and may not even yet be reported—means the numbers are inherently "soft." In a changing environment, there is a large range of possible reserve amounts consistent with plausible assumptions and an even wider range consistent with possible assumptions. However an actuary does not opine on a range but on a single number. Thus, an actuary is almost never in the position of stating that a desired reserve level is flat wrong—at best, it is characterized as less likely than some other alternative.

In short, the selection of a reserve number involves considerable pressure that may not be counter-balanced by sufficient incentives to book the best possible number.

I know of two ideas for increasing the incentives to get the number right. **Thomas Stanford** and **Bob Conger** were batting around what might happen if companies could get a full deduction for reserves booked in the current and first prior accident year, but took a "haircut" on reserves booked beyond that time. For example, assume that companies can only take, as a tax deduction, 90 percent of additional reserves booked two years after the accident year, 80 percent for additional reserves booked three years late, etc. Both of them emphasize that this should be considered a brainstorm, not a specific proposal. They can find flaws in it. Indeed, everyone I've talked to considers it a bad idea. One person warned of the law of unintended consequences. However, the concept of brainstorms is first concentrating on the positive aspects, adding and refining and, only later, addressing negative issues. If enough time has been spent on the positive aspects, there may be sufficient incentive to address, solve, or work around the downsides.

Rather than focus on the specific attributes of this proposal, think of it

as an attempt to align incentives with goals. Stanford and Conger have moved a step in the right direction, if only by creating disincentives for understating reserves. Can this be coupled with some positive incentives?

**Rob Painter** took a different approach. What if some portion of premium were set aside in a fund, held until the reserves were sufficiently mature so we could "grade" the original reserves. The premium would be returned in such a way that those who were most accurate got the larger shares and those who missed the mark got nothing back. I was concerned whether enough money could be set aside to provide a sufficient incentive, so my contribution to the idea is to couple it with a dedicated fund, for say, terrorism. Set aside a large fund for terrorism coverage and should we be fortunate enough to go a number of years without an event large enough to exhaust the fund, begin paying back the early contributions to those companies with the most accurate reserves. There are obvious issues. The metric for meeting an accuracy goal is more complicated than being within X percent of the original reserve. It should vary by line of business and arguably by size of company (but not necessarily!). Again, if we start by focusing on the positive aspects, and only later address the negatives, we might be able to create an incentive system that will help the actuary and the company work together to book accurate reserves.

If you are tempted to write an e-mail to point out a major flaw in either idea, please don't. I can list several. If you can provide an enhancement to either idea, let me know. There will be plenty of time to address the problems after we get the basic ideas in better shape. ■

# 5 Card Magic

by John P. Robertson

Here's a trick that requires two magicians working together. An audience member picks any five cards from a standard 52-card deck and hands them to Magician A. This magician looks through the five cards, picks one, hands it back to the audience member, and arranges the remaining four into a neat pile face down on a table. Magician B then looks at these four cards and announces the suit and denomination of the fifth card. Magician B has not seen any of the cards before inspecting the pile and there is no secret communication between the two magicians. The identity of the fifth card is deduced purely from a review of the pile of four. The puzzlement is to explain how the trick works. This magic trick is originally credited to magician and mathematician Fitch Cheney.

## Comparing Ages

Boy did we ever get a variety of solutions to this one! Space does not permit printing the full solutions from everyone, but we'll do the best we can. The puzzle is that two people know their ages (in years) differ but don't know who is older. Neither is willing to divulge their age to the other or to a third party. How can they determine who is older?

**Jon Evans**, **Dave Skurnick**, **David Uhland**, and **Hank Youngerman** (independently) suggest having each person put a number of ball bearings equal to their age in identical opaque jars. Put the jars on a balance scale, and the side that goes up indicates the younger person. Dave also suggests having each light a number of candles equal to their

age on opposites sides of an opaque partition. A temperature sensor will report which side is hotter and, thus, which person is older. **Steve Philbrick** gives a variation; have one person prepare a container with their age in grams in hydrogen, and the other a container with their age in grams in anti-hydrogen. "Combine the contents of the two containers, duck, then observe what remains." If there is hydrogen the first person is older, otherwise the second person is older.

**Chris Yaure** has each person prepare three cards, one with a date equal to their birthdays, one with a date earlier than their birthdays, and one with a date later than their birthdays. Prepared in such a way that you cannot tell who prepared which cards, these cards are given to a third party who shuffles them without looking, sorts them into order, and reports a date between the third and fourth earliest dates. You can work out that this is enough for each of the first two to determine who is older.

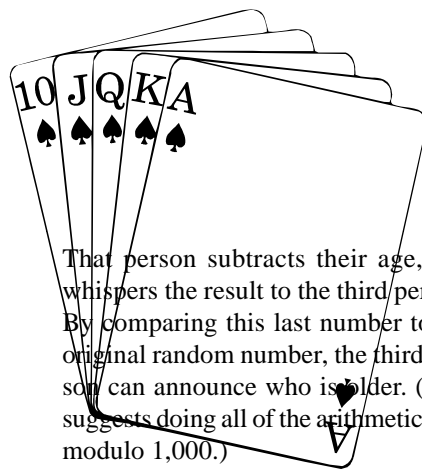
**Bob Conger**, **Alex Kozmin**, **Richard Nichols**, and **Tom Struppeck** (independently) have a third person pick a random number and whisper it to the first person. They add their age and whisper the sum to the second person.

## In My Opinion

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of risk to our well-being that catch Bryson's attention. Whatever the subject that Bryson examines, it seems he can't help but imagine the end of life as we know it. Earthquakes, radical climate changes, errant asteroids, pandemic diseases, and reversals of Earth's magnetic field all come up for discussion.

Bill Bryson writes with such a wonderful, tongue-in-cheek sense of humor that I wish his books contained twice as many words as they do. Despite what I've said above, I found *A Short History of Nearly Everything* to be ex-



That person subtracts their age, and whispers the result to the third person. By comparing this last number to the original random number, the third person can announce who is older. (Tom suggests doing all of the arithmetic here modulo 1,000.)

**David Uhland** also gives a method whereby a calculator or computer is used to calculate  $(A - B)/|A - B|$ , and display the resulting  $\pm 1$ , from which one can determine whether  $A$  or  $B$  is larger. Input is suitably masked. **Barry Zurbuchen** submitted a similar solution.

**Greg Cuzzi** has each person pick a random number and give that to a third person. Then they add their ages to the random numbers and give those totals to a fourth person. The third and fourth person each announce the difference between the two numbers they have been given. From the relative magnitudes of these two differences the participants can determine which of the first two people is older.

Other honorable mention solvers include **Pete Lindquist**, **Bret Shroyer**, **Jon Evans**. **David Westerberg** submitted a solution to the Mobius strip puzzle, featured in the February 2004 issue of *The Actuarial Review*. ■

tremely informative and entertaining. Maybe I don't fall asleep at night quite as easily as I used to, but, hey, it's a small price to pay.

In closing, I wish to express my thanks to **Steve Groeschel**, who is leaving *The Actuarial Review* staff. As headline editor, Steve's primary task in recent years has been to reduce each article to a short, pithy phrase that will attract your attention and summarize the content and tone of an article for you. Steve has a rare talent: to be able to discern a key point of an article and state it succinctly. We won't find a replacement, but we are hanging up the "Help Wanted—Worthy Successor" sign. ■

## In Memoriam

**Karl F. Eaton**

(ACAS 1954)

April 1, 2004