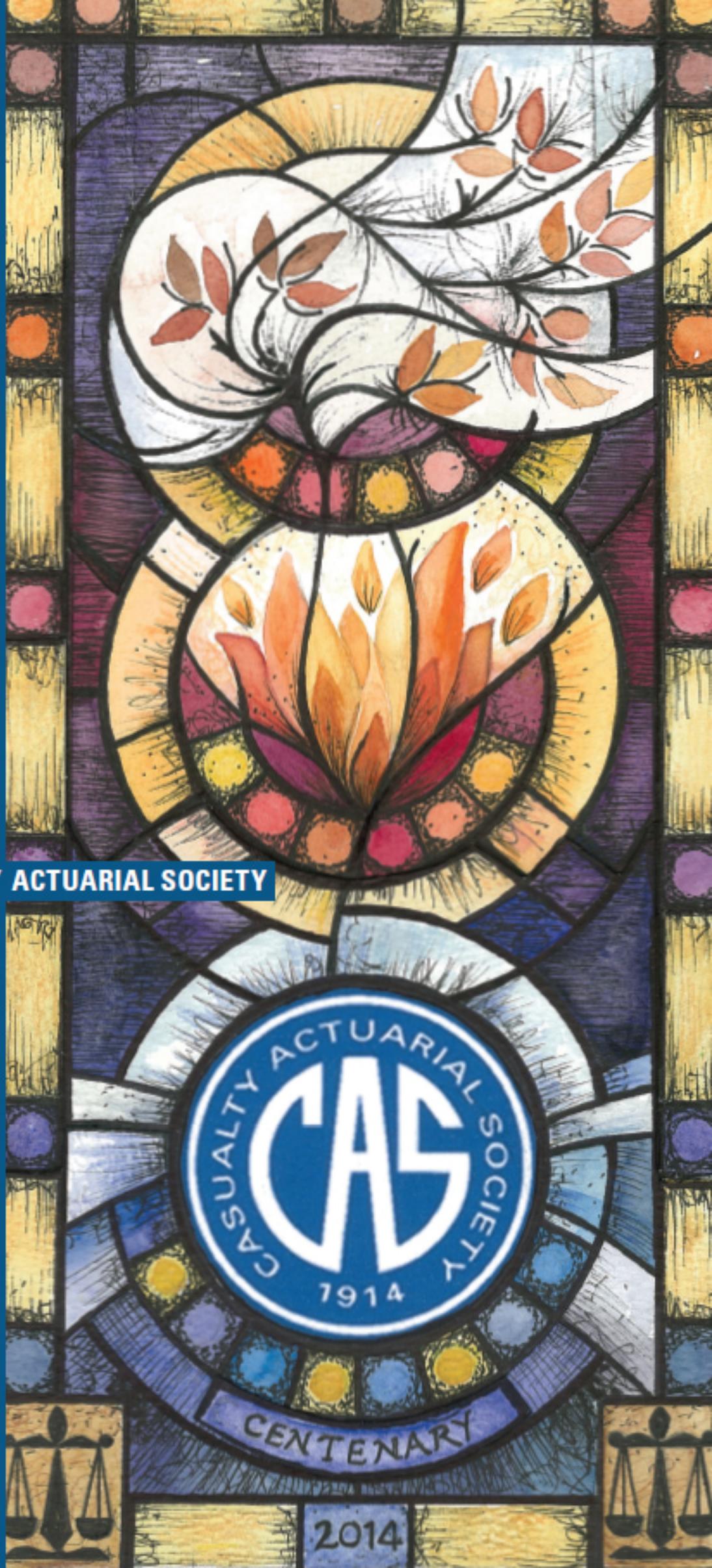


100 YEARS

of Expertise,
Insight, and
Solutions

A HISTORY OF THE CASUALTY ACTUARIAL SOCIETY

EDITED BY
CHARLES A. BRYAN, FCAS



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Casualty Actuarial Society
Arlington, Virginia

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PREFACE

HOW THIS BOOK CAME INTO BEING

By Charles A. Bryan

When our founders established the Casualty Actuarial Society in 1914, little did they know how large, influential, and vibrant this society would become over the next 100 years. When I became a Fellow in 1974 there were 610 members. As of June 2013, that number had grown to 5,980, an increase of 880%. A raw view of the numbers of members and the substantive increase in membership is shown in the following table:

YEAR	FELLOWS	ASSOCIATES	TOTAL
1920	148	49	197
1930	175	129	304
1940	175	130	305
1950	157	121	278
1960	199	163	362
1970	249	212	461
1980	465	427	892
1990	988	684	1,672
2000	2,061	1,377	3,455*
2010	3,633	1,736	5,417**
2013	4,230	1,817	6,067***

*Includes 17 Affiliate members.

**Includes 26 Affiliate members and 22 Fellows by Mutual Recognition.

***Includes 20 Affiliate members and 38 Fellows by Mutual Recognition.

THE COMMITTEE

As with all things CAS, volunteers have made this book possible. As we drew near to the celebration of the 100th anniversary of our society, a group of dedicated individuals decided that a permanent commemorative book should be published and provided to all members as a keepsake on our 100th anniversary. The formal organization began in 2006 with a committee consisting of Stan Khury (chairman), Chuck Bryan, Elizabeth “Liddie” Smith, Dave Skurnick, Walt Stewart, and Walt Wright. The composition of the committee changed somewhat over time and other members were drawn upon to help the work, but this committee selected the approach to be taken and the authors who would be asked to contribute chapters.

THE CHAPTERS

First, a word about the authors. The committee selected authors for each topic, and then it was up to the author to research the topic, select which points to emphasize, and write the chapter. The committee provided some help in editing and defining a consistent style but the authors did the work. Each author is a distinguished CAS member with a long list of accomplishments as well as a special knowledge for the area covered in the chapter. The CAS owes a debt of gratitude to these writers for both the chapters and for all their contributions to the CAS.

Once the authors had completed their work, we enlisted chapter editors to review the chapter and provide comments. Thanks to the editors for volunteering their time and talent to this effort. Finally, we engaged the services of general editors to review the book as a whole. They made sure that cross references from one chapter to another were made and that the book read well. Thanks also to these general editors.

THE PERSONAL RECOLLECTIONS

We wanted this book to be both a personal remembrance and an official collection of information discussing the first 100 years of the CAS. To supplement the chapters, we selected numerous individuals to provide their own personal recollections of what the CAS has meant to each of them. Sadly, since the time they provided their recollections, some have passed away, yet we have been left the enduring benefit of their recollections. As with the chapter authors, these individuals selected their own memories on which to write. We hope that this approach makes the book and the discussion of the CAS very personal to each member. We have placed some of these reminiscences throughout the book, juxtaposed in most cases to a related chapter.

THE PHOTOGRAPHS

Likewise, we have selected photographs that we hope reflect the people of the CAS. Some pictures were obtained from the CAS office and some from personal collections. We hope you enjoy viewing them as much as we did collecting them.

THE HISTORICAL RECORD

This is the fourth history written about the CAS. The first was Francis Perryman’s presidential address of 1939. “The twenty-

five years of our Society's life can be divided into five periods of five years each: 1914–1919, the duration of the World War and the making of the peace; 1919–1924, the postwar depression and the formation of the major rating organizations in the form that they still have today; 1924–1929, the inauguration of the permanent ratemaking program for compensation insurance and the of introduction of further refinement in casualty underwriting and ratemaking; 1929–1934, the drop in investment values and depression, disasters, and measures taken to stem the tide; and 1934–1939, effect of recovery and intensification of competition.”

The second history covered the first 50 years from 1914 to 1964. Dudley Pruitt wrote that history and it is available on the CAS website in the *Proceedings of the CAS* for 1964.

The third history covered the first 75 years through 1989. Stan Hughey wrote that history and he ably covered events up to that time. This history is also available on the CAS website in the *Proceedings of the CAS* for 1989.

A NEW HISTORY

The history which you are reading now is somewhat different in structure and intent. We do cover the important events in our first 100 years, organized by topic area and into individual chapters, and we have selected authors that are particularly well suited for each topic area. But we have tried to combine equal parts people and history to get a unified whole. That is to say, we have tried to balance the official history of the organization with

the individuals who make the organization what it is, so that the reader can get an understanding of how the CAS accomplishes its goals. Of course, each person's memories will be different; but we hope you will enjoy the ones we have selected.

THE PERSONAL REWARDS

A unique aspect of the CAS is that the organization is so personal to each member. The member starts his or her career taking exams and making friends with fellow exam takers. Once the hurdle of exams has been passed, the member selects a volunteer activity, often the Exam Committee, and makes a new set of friends from people also volunteering on the committee. If the member progresses on the CAS leadership track, he or she will become a committee chairman and become close friends with all the committee members as well as the leadership. From committee chairmanship, a member may elect to become a vice president. At that point, the Executive Council members become his or her close friends. Finally, if so inclined, the member can end up as president-elect and then president and then serve as immediate past president to chair the CAS Board and have three years of intensive involvement with the CAS. The CAS provides much gratification to its members.

We hope that you will read this book and enjoy the approach we have taken of interweaving the stories of our members with the story of our Association, and that you will then refer to this history whenever you need some inspiration for a difficult theoretical or practical problem you wish to solve. May it inspire you to the great success we wish for all our members!

ACKNOWLEDGEMENTS

This endeavor began in 2004 and was the brainchild of Stan Khury. The committee to produce this book at various times included Stan Khury, Dave Skurnick, Walt Stewart, Walt Wright and others. Our staff support throughout was Elizabeth Smith. From 2005 to 2014 we had many people involved.

We began by deciding what the chapters would cover and who potential authors would be. We drew on prior histories of our profession, including CAS works and SOA works. In the end we decided to make this a history of the people in the CAS as much as a history of the CAS. Therefore, we combined chapters covering a particular topic with personal recollections covering individual member experiences.

We had great cooperation from the authors and most authors completed their assignments on time and with great distinction. Once we had the chapters completed, a three year or longer process, then we compiled shorter recollections from many members. These members were not included in the contributor section but their work, as well as the work of many others, are

very much appreciated. The editors included Steve Goldberg, Glenn Balling, and many others.

Finally came the unglamorous but necessary, design, printing and budgeting. These last few months were primarily devoted to those efforts and they were spearheaded by Elizabeth Smith.

A great big thank you goes out to all that participated in this book. We know we could only touch on parts of the actuarial profession and we hope you will use this book to stir fond memories of your own time as an actuary.

The committee contributed countless hours to this book. As always, any credit should go to this committee. And your editor will take the blame for any places where this book has fallen short.

Charles A. Bryan
Editor
Spring 2014

CONTRIBUTORS

SPECIAL CONTRIBUTORS— CENTENNIAL HISTORY COMMITTEE MEMBERS

Glenn R. Balling has spent most of his career in commercial lines and has worked for the Insurance Services Office, The Home Insurance Company, Reliance Insurance Company and Axis Reinsurance Company. For the past several years he has served on the CAS *Yearbook* Editorial Committee.

Steven F. Goldberg spent two summers at the Insurance Rating Board (IRB) while still in college and two summers at the newly formed Insurance Services Office (ISO). He spent the bulk of his career at USAA where in addition to serving as chief actuary he helped develop the California Earthquake Authority and led the team that established the first major catastrophe bond. Following USAA, Steve worked in the reinsurance brokerage business for Benfield and Aon Benfield and as an independent consultant. Steve served on the CAS Board of Directors as well as on numerous CAS committees.

C. K. “Stan” Khury has served the CAS and the actuarial profession in numerous capacities for more than 40 years, including serving as editor of publications, service on the CAS Board of Directors, and serving as president in 1985. For the past 25 years he has worked as a consulting actuary with a focus on litigation support services, following working as a company actuary for the prior 22 years. He has authored numerous papers and articles for various CAS publications.

David Skurnick worked at INA, the WCIRB (where he began trending on-level loss ratios), Argonaut Insurance Company, and F&G Re. He published several actuarial papers. Two of the papers spent years on the CAS Syllabus: “A Survey of Loss Reserving Methods”, which was an early major actuarial paper on IBNR, and “The California Table L,” which won the Woodward-Fondiller Prize. He served on various CAS committees and the CAS Board of Directors. He created two actuarial musical comedies. *Cut My Rate* parodied the hearings on California’s Prop. 103 and *The Sting*.

Charles Walter Stewart, educated as a Cornell University electrical engineer, was a naval officer for 2 ½ years, followed by New York Shipbuilding Corporation, then 35 years with INA which merged into CIGNA. His first three years were as an ocean marine underwriter trainee, followed by the actuarial

department for the remainder of his career. He was involved at various levels in all aspects of the department, with a focus on pricing, but including research and a short stint as acting chief actuary. His main involvement with the CAS was on the Syllabus Committee for several decades. He was also active on committees of NCCI and ISO.

Walter C. Wright started his career at Aetna Life & Casualty, where he spent about 14 years, mainly in personal lines. He worked as a consultant at Price Waterhouse for five years, and then spent 17 years in the property-casualty consulting practice of what is now known as Oliver Wyman Actuarial Consulting. For many years he served on the *Actuarial Review* as a managing editor and as editor-in-chief.

CONTRIBUTORS

Terry J. Alfuth experienced a variety of professional opportunities over the years. He has worked in senior positions at Sentry Insurance, Republic, LaSalle Re in Bermuda, and Aon. Terry has been very active in the CAS serving on such committees as Exam, Ratemaking, Risk Management, and CAS Centennial. He served as chair of the American Academy of Actuaries’ Terrorism Task Force and coauthored the monograph, “EBC—Their Role in Managing Enterprise Risk.” The actuarial profession has offered Terry many experiences—from being the actuary performing the stochastic analyses for CBS and NBC game shows to Fortune 100 companies. He is now the owner/CEO of Actuarial Property & Casualty Consulting, LLC in Palm Beach, Florida.

Amy S. Bouska pioneered the use of stochastic modeling in the estimation of insurers’ pollution liabilities, earning the titles of “Pollution Princess” and “LUST Lady” (*Leaking Underground Storage Tanks*). She started at Aetna Life & Casualty and moved to Nationwide, but spent most of her career at Tillinghast (Towers Watson). She has been active in the CAS, serving on various committees, the board of directors, as vice president-international, and as the CAS representative to the International Association of Actuaries’ Professionalism Committee. She also wrote some papers that were put on the syllabus and hopes they were helpful to students in their careers.

Brian Z. Brown became a Fellow of the Casualty Actuarial Society in 1988. Brian has spent most of his career with

Milliman, Inc. as a consulting actuary. Brian joined Milliman in 1990 after working for three property-casualty insurers. Brian has been active in the CAS and served on many committees. He also served on the CAS Board of Directors from 2006–2009. He has enjoyed the actuarial profession and the many friends he has made over the last 30 years.

Charles A. Bryan has spent most of his career in personal lines and has worked for the Insurance Services Office, Allstate, USAA, Ernst & Young, Direct Response, and Nationwide. Chuck has also spent some time as an independent consultant. He has also been active in the CAS, serving as president, as well as on numerous committees and on the American Academy of Actuaries, serving as chairman of the Committee on Relations with Accountants, the General Insurance Committee, and as AAA president. He is grateful for all the friends he has made in the CAS over the years.

Christopher S. Carlson's actuarial experiences include ratemaking and reserving assignments in all property-casualty lines of business. After more than 25 years with Nationwide Insurance, he joined Pinnacle Actuarial Resources as a consultant. He is currently the chief actuary of the Ohio Bureau of Workers' Compensation. Chris has been very active in the CAS, serving as president in 2008, as well as on numerous CAS committees. He has served on the board of the American Academy of Actuaries and on the Actuarial Standards Board. He treasures all of the many professionals met as a member and leader of the CAS.

Robert F. Conger has focused on workers' compensation for much of his career. Bob has worked for American Mutual Insurance Companies in Boston, the Massachusetts Rating Bureaus, and Tillinghast, as it evolved into Towers Perrin and then Towers Watson's risk consulting practice. He has been active in the CAS ever since achieving his FCAS, including serving as CAS president, and he has been very active in the CAS's international activities. He counts his extensive work with the outstanding team at CAS Office among the highlights of his volunteer career. He feels blessed to have found a career that provided a continuing stream of fascinating and challenging employers, clients and projects, and an incredible network of business associates, professional colleagues, and friends around the world.

Kendra M. Felisky has moved from pure actuarial work in 2011 to being chief risk officer for Travelers Europe and is finding it very interesting and exciting. Previously, she has worked for Deloitte, CNA Re, and other consulting firms both in the U.K. and the U.S. She is very pleased with her recent CERA qualification through the Experienced Practitioners Pathway. Kendra has been active in the profession both in the CAS and in the Institute and Faculty of Actuaries in the U.K.

Michael Fusco has spent a good part of his 40+ year career at ISO in various leadership positions. He has also worked for insurance companies (CNA, Argo) and as a consultant (Ernst & Young, Navigant). Mike was very active in the CAS, serving as president and on numerous committees, including the CAS Discipline Committee. He is proud to be part of the actuarial profession and has had the pleasure of working with many, many actuaries.

Alice H. Gannon is the chief actuary for USAA P&C Company and, except for two years at EMB America, has spent her entire career at USAA. She has been active in the CAS serving as the president in 2000 as well as on numerous committees. She is proud to be a member of the actuarial profession and a member of the Casualty Actuarial Society. She is also grateful for the legacy of the founders, early members of the CAS and all who have worked so hard on behalf of the casualty actuarial profession during the CAS's first 100 years.

David G. Hartman has been an active CAS volunteer for over 45 years. Dave has served on many CAS committees and task forces, including some committees where he was the first chairperson. He worked for five years at Kemper Insurance, followed by a 34-year career at the Chubb Group of Insurance Companies, where he retired as chief actuary. He has been honored to serve as president of the CAS, the American Academy of Actuaries, and the International Actuarial Association, as well as chair of the Actuarial Standards Board, the Actuarial Studies in Non-Life Insurance section of the International Actuarial Association, and The Actuarial Foundation. He enjoys having actuarial friends all over the world.

Roger M. Hayne is a consulting actuary in the Pasadena, California, office of Milliman, Inc. where he has spent his entire actuarial career. He is a Fellow of the Casualty Actuarial Society and a Member of the American Academy of Actuaries, and holds a Ph.D. in mathematics from the University of California. Roger is an active volunteer in the CAS and was honored to serve as its president. He has published numerous papers in the *CAS Forum*, the *Proceedings of the Casualty Actuarial Society*, and *Variance*. One of his PCAS papers was awarded the 1995 Dorweiller Prize.

Steven W. Judd started his career with Allstate Insurance Companies. He later joined Federated Insurance Companies in Owatonna, Minnesota, where he served for over 35 years. He retired as director of property and casualty actuarial services and senior vice president. During Steve's career, Federated grew from a small, regional niche insurer to a prominent, national multi-line insurer. Steve's career included serving in leadership roles in Federated's health and life insurance actuarial operations. Steve served on several ISO actuarial committees, the AAIS actuarial committee, and on the board and actuarial committee of the Minnesota Comprehensive Health Association. Steve is a graduate of St. Olaf College. He and his wife Barbara reside in Owatonna, Minnesota.

Anne E. Kelly spent 38 years at the New York Insurance Department (now the Department of Financial Services). She enjoyed working on the wide array of crises that came her way during that time. She also represented New York on several NAIC working groups, and she enjoyed the camaraderie of regulators from around the country. Anne has been active in the CAS on many committees and on the board of directors. Anne is happy to note that, while perhaps not the most significant change in the CAS over the past 40 years, women make up a far bigger percentage of the membership in 2014 than they did in 1974.

John C. Narvell personifies the international actuary, having worked over two decades overseas in Belgium, Bermuda, Switzerland, and the U.K. After training at Metropolitan, Commercial Union, and CIGNA, he consulted at Coopers &

Lybrand and Ernst & Young, where he was a partner. Chief actuary roles at Winterthur/XL and GE Employers Re followed, both of which encompassed building actuarial teams in India. In 2006, John left management for sole trading as InsurMath with a specialty in valuations of run-off acquisitions. IBNR has been good to John, but not as good as his beloved wife, Mary, who endured all his exams.

David J. Oakden has worked in consulting, insurance management, supervision and academia throughout his 40-year career. He has recently retired from the Office of the Superintendent of Financial Institutions, Canada. He has been active in the Canadian Institute of Actuaries (CIA) and the CAS, serving as CIA president, CAS and CIA Board Members, as well as numerous actuarial committees. Dave is keeping active in his retirement as a member of several CAS and CIA committees.

Lee M. Smith became a Fellow of the CAS in 1972—a time when the CAS was small enough that most Fellows knew each other. At that time he was director of planning at Aetna Insurance Company. Lee went on to become chief actuary at the Michigan Insurance Bureau and director of actuarial consulting at Ernst & Young. He also taught at the University of Michigan. He now runs Paradigm Actuaries, which specializes in advanced financial modeling.

Kevin B. Thompson is president, ISO Insurance Programs and Analytic Services. In his approximately 40-year career at ISO, he has experienced first-hand the evolution in the relationship between company and advisory organization actuaries. He has been active in the CAS, serving as vice president-admissions as well as holding numerous committee positions. Kevin has also served on American Academy of

Actuaries (AAA) committees. He cherishes the opportunities to interact with a wide range of fellow actuaries afforded by his volunteer work with the CAS and AAA and the many friendships that have resulted

Michael L. Toothman began his actuarial career in 1971 and achieved his Fellowship in 1973. His career has encompassed 11 years with insurance companies and over 30 years as a consultant. His experience is deepest in commercial lines and reinsurance. Mike has been a volunteer to the actuarial profession continuously since 1974. He has served as presidents of both the CAS and the Conference of Consulting Actuaries, as vice president of the Academy, and as chair of the International Association of Consulting Actuaries. Mike also served six years on the Actuarial Board for Counseling and Discipline, including one term as vice chair. The friendships developed as an actuarial volunteer are among his greatest blessings!

Alice M. Underwood began her actuarial life as a career change, having previously been an assistant professor of mathematics at the University of North Texas. Since then she has worked in Zurich and New York City for the Zurich Financial Services Group, Converium, Guy Carpenter, and Willis Re North America, where she currently leads the analytics team. She is a past president of the Casualty Actuaries of Greater New York, a CAS Regional Affiliate. Alice has made numerous volunteer contributions to the CAS, including service on the board of directors and as the vice president-research and development. She has found the CAS and the actuarial profession to be both welcoming and intellectually stimulating—the opportunities for personal and professional growth surpass anything she might have guessed at the start.

ON THE COVER

The book's cover features a draft design by Nicola Kantorowicz, who was chosen by the Casualty Actuarial Society to make the centenary window. Her career in stained glass is varied and extensive. She has made many windows for the Church of England as well as numerous projects for private clients.

The design for the centenary window represents the perils of water, fire and wind which are key aspects of the work of the Casualty Actuarial Society. Ms. Kantorowicz has used three interlocking circles to form the main structure of the design.

In the lower circle is the Society logo, surrounded by deep blues and purples to represent water. The middle circle contains a pattern of flame shapes and the upper circle depicts branches of a tree which are bowed by the wind. The leaves of the tree are being blown across the design.

To make the window, a full-size drawing is first prepared. The drawing is used as a template from which the various pieces of colored glass are cut. Glass painting and acid etching techniques are used to make patterns on the glass surface. When this is complete the glass is assembled with lead which is then soldered and cemented to finish.

Ms. Kantorowicz's work celebrates the beauty of the materials she uses. Her designs have a strong rhythmical structure and an exquisite use of color. The glass has delicate patterns and texture worked into its surface. Ms. Kantorowicz aims to create windows that keep alive the ancient traditions of glass making but that are also contemporary.

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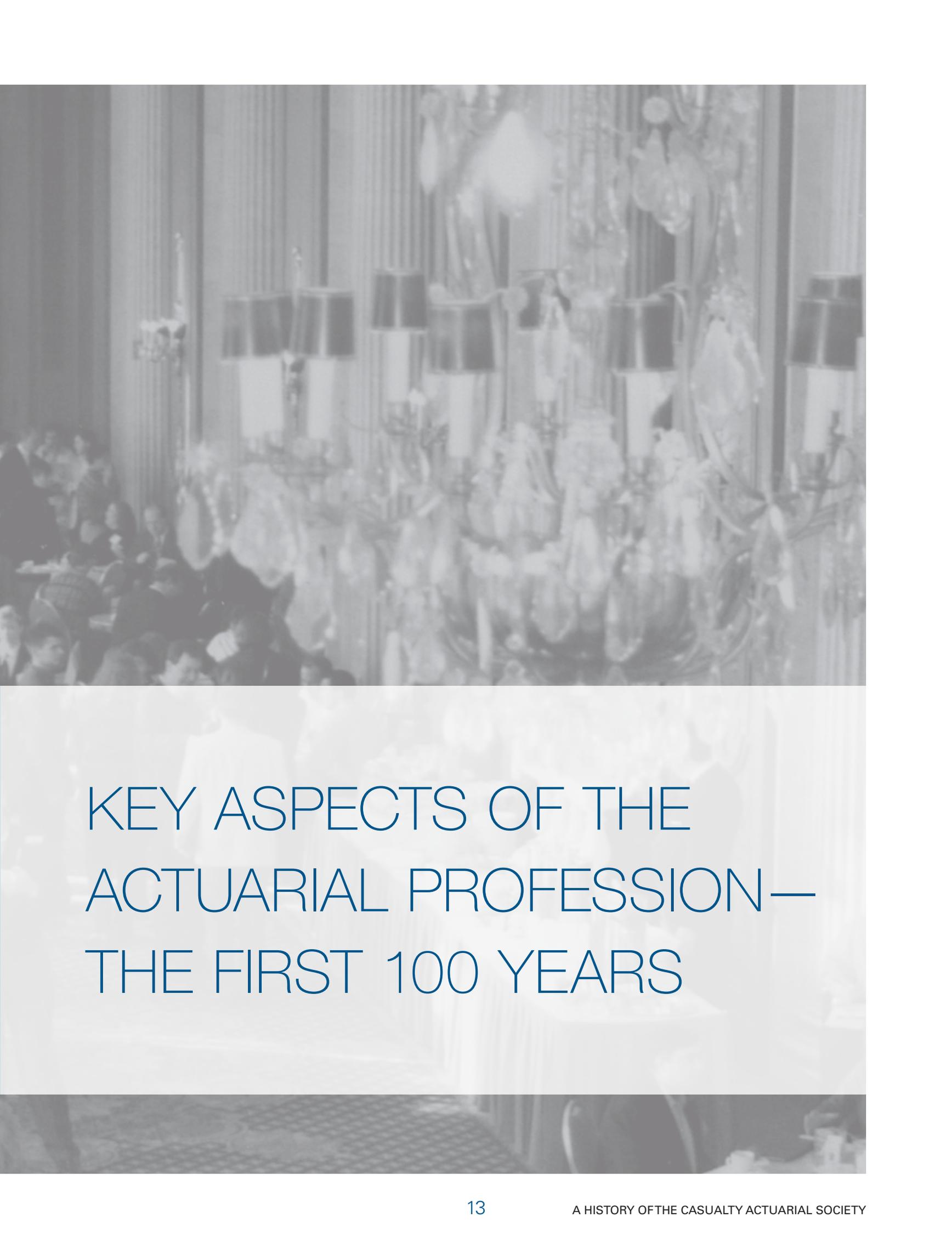
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PART ONE



KEY ASPECTS OF THE
ACTUARIAL PROFESSION—
THE FIRST 100 YEARS



Chapter 1

THE BIG PICTURE

By David G. Hartman

THE FOUNDING OF THE CAS

Who knows if the founders of the Casualty Actuarial Society (CAS) anticipated that the organization they formed would survive 10 years, let alone 100 years? It is clear that they had a strong determination to develop the science underpinning casualty insurance. The CAS has not only survived, but it has flourished. During its 100-year history it has grown into a vibrant, world-renowned organization, which is the only professional actuarial association in the world (that accredits actuaries) exclusively specializing in property-casualty topics.

In the early 1900s, problems in the United States requiring actuarial treatment were emerging in sickness, disability, and casualty insurance—particularly in the newly emergent field known as “workmen’s compensation”¹ which was introduced by laws enacted in 1911. The differences between the new problems and those of traditional life insurance led to the founding in 1914 of the Casualty Actuarial and Statistical Society of America, with 97 charter members of the grade of Fellow. Dr. Isaac M. Rubinow, who was responsible for the Society’s formation, became its first president.

Dudley M. Pruitt, who was elected president of the CAS in 1957, presented a paper in 1964 entitled “The First Fifty Years.” In it, he said:

On May 28, 1914, a group of men, meeting as the Statistical Committee of the Workmen’s Compensation Service Bureau, decided that what they needed, in view of the problems presented by the new workmen’s compensation laws was a professional society. One month later the Archduke Francis Ferdinand of Austria was assassinated. On July 27 our organizing committee addressed a call to such persons as might be interested in joining a casualty and statistical organization, and the next day Austria declared war on Serbia. The organization meeting of the Society was held at the City Club of New York on November 7, the day after Japan took Tsingtao from the Germans. That day our charter members not only founded the Casualty Actuarial and

Statistical Society of America, adopted a constitution and by-laws, and elected officers and a council,² but also listened to the presentation of three papers, ate their first Society dinner at 7:00 P.M., and digested it with ten after-dinner speeches. Times have changed!³

At that first meeting, there were three papers presented. The first was “Scientific Methods of Computing Compensation Rates,” written by the founding president Isaac M. Rubinow. It only contained three simple formulas. The second paper was “How Extensive a Payroll Exposure is Necessary to Give a Dependable Pure Premium,” written by Albert H. Mowbray, who was elected president in 1920. It contained seven formulas, three of which contained integral signs.

Since the problems of workmen’s compensation were the most urgent, many members played a leading part in developing the scientific basis for that line of insurance. From the beginning, however, the Society has grown constantly, not only in membership, but also in range of interest and scientific and related contributions to all lines of insurance other than life, including automobile, homeowners, commercial multiple peril, general liability, and professional liability. Today casualty actuaries are also leaders in the areas of enterprise risk management and predictive modeling.

THE FOUNDERS

Pruitt also wrote in “The First Fifty Years” that:

One of the benevolent dispositions of Providence seems to be that when, in the course of human events it becomes necessary to have giants, giants are provided. So it was in the founding of our country, and so it was also in the founding of our Society. Isaac M. Rubinow, James D. Craig, Joseph H. Woodward, Benedict D. Flynn, Albert H. Mowbray, Harwood E. Ryan, William Leslie, Gustav F. Michelbacher, George D. Moore, Winfield W. Greene, Leon S. Senior—these charter members were also elected presidents of the Society and each gave his own unique contribution to its achievements. There were in all ninety-seven charter members, though only forty attended the

¹ Many years later the term “workmen’s compensation” was changed to “workers’ compensation.” Still others drop the apostrophe for “workers compensation.”

² The Council became the Board of Directors in 1972.

³ 1964 *Proceedings of the Casualty Actuarial Society (PCAS)*, Volume LI, pages 148–149.

organization meeting. Many of them were outstanding men and made outstanding contributions, but any selection by me of some would undoubtedly run the risk of omitting others of equal importance. The charter member presidents were giants enough and to spare for the birth of one actuarial and statistical society.⁴

Of the other [than Rubinow] ten charter member presidents only seven were college graduates and seven were members of the life actuarial societies, but the correlation between these two was not perfect. Two of those who did not graduate from college, Craig and Flynn, were Fellows by examination of the Actuarial Society of America, Craig serving once as president of that society and Flynn as a member of the Council.⁵

One man must be mentioned here among the pioneers who was neither a charter member nor a president. Richard Fondiller was admitted to membership as a Fellow on February 19, 1915 at the second meeting of the Society and was thereafter the most useful member the Society has ever had [through 1964]. For thirty-five years, from 1918 to 1953, he served as Secretary-Treasurer handling the vast amount of detail of that office with considerable satisfaction to most people, though there was an occasional grumble that the thick lenses of Richard's glasses kept him from seeing what he did not want to see. He also was a member of the New York Bar and a Fellow of the Society of Actuaries. To a young Associate attending his first Society meeting, and to some of us for years after that, his reports on the meetings of the Council made us imagine that the Council had met on Mount Olympus with all the power and prestige of Zeus and the pantheon.⁶

Another early giant was Albert Z. Skelding, who served as secretary-treasurer for the 15 years 1953 through 1968, taking over from when Fondiller retired from the job. Skelding also had served three years as vice president from 1942–44. William Breiby was elected as librarian and held the post for 12 years (1925–36). He was followed by Thomas O. Carlson who held the librarian post for 11 years (1937–47). Carlson was also elected president in 1951 and 1952. Clarence W. Hobbs was elected as editor and held the post for 11 years (1933–43). Richard Lino was elected as librarian and served for 12 years (1958–69). These six gentlemen and Emma Maycrink, who was elected editor and also served 11 years (1944–54), are the only people who served as elected officers of the CAS (and as such, a member of Council) for over ten years each.

Leon S. Senior, who was elected president of the CAS in 1936, was asked to share at the annual meeting in 1939 his reminiscences of a charter member. He said:

If I had a skillful pen and could dramatize our past history, I would write a play with a prologue to present that immediate period preceding the organization of the Society when New Jersey, Massachusetts and New York were introducing compensation laws in their respective states. That was the period of experimentation,

when the actuarial talent was struggling with the task of constructing so-called adequate and reasonable rates, largely by the use of imagination and data of an uncertain or dubious character. Act One would comprise the period from Rubinow, the idealist and social reformer, to Mowbray, the philosophic actuary. We had found our way and were gradually creating a statistical system for compiling experience. Workmen's Compensation had been subjected to scientific principles and methods which had become models for other lines of Casualty Insurance. The Second Act of the drama would cover the time from Mowbray to Perkins, when our minds began to turn from the narrow theme of Casualty Insurance to the broader sphere of Social Insurance. In the Third Act of our play the scene would be set for the realistic presentation of plans designed to take cognizance of serious competitive handicaps and of conditions that call for gaining the good will of policyholders who have become restless under the ever increasing burden of taxation, including the form of taxation represented by insurance.⁷

When I examine the *Proceedings* I find, to my surprise, a remarkable versatility in the character of the papers submitted notwithstanding the limitations of our special field. In the years 1918 and 1920, Craig and Flynn have presented papers on the economic and social problems of the World War, subjects which are of timely interest in the present conflict. If one favors philosophical discussions on insurance in its relation to human conduct, where can one find a more valuable treatise than that entitled, 'Insurance and Human Behavior' by Jos. Woodward? And as far as mathematical subjects are concerned, there is a wealth of scientific material presented to the inquiring mind.

Albert H. Mowbray takes first honors as the most prolific contributor to the published works of the Society. Aside from four Presidential Addresses, Mowbray delivered seventeen papers of a scientific character dealing largely with actuarial procedure and ratemaking. In addition he submitted twenty-six oral and written discussions. The second place belongs to Gustav Michelbacher. Four Presidential Addresses, twelve papers and seven discussions stand to his credit. Rubinow takes third place.⁸

THE EARLY DAYS

The Constitution adopted February 19, 1915 began by saying:

Article I.—*Name*. This organization shall be called THE CASUALTY ACTUARIAL AND STATISTICAL SOCIETY OF AMERICA.

Article II.—*Object*. The object of the Society shall be the promotion of actuarial and statistical science as applied to the problems of casualty and social insurance by means of personal intercourse, the presentation and discussion of appropriate papers, the collection of a library and such other means as may be found desirable.

⁴ *Ibid*, page 150

⁵ *Ibid*, page 151

⁶ 1964 PCAS, page 152

⁷ 1939–40 PCAS, Volume XXVI, page 153

⁸ 1939–40 PCAS, Volume XXVI, page 164.

The Society shall take no partisan attitude, by resolution or otherwise, upon any question relating to casualty or social insurance.

Article III.—*Membership*. The membership of the Society shall be composed of two classes, Fellows and Associates. Fellows only shall be eligible to office or have the right to vote.

The Fellows of the Society shall be the present members and those who may be duly admitted to Fellowship as hereinafter provided.⁹

The name was shortened to the Casualty Actuarial Society on May 24, 1921.

In 1950, "Article II. Object" of the CAS Constitution was broadened from "problems of casualty and social insurance" to "problems of insurance (other than life insurance)."

Annual CAS membership dues were \$10 per year until they were raised to \$20 per year in 1948.

The first volume of the *Proceedings of the Casualty Actuarial and Statistical Society* contained an 18-page bibliography of articles and books of interest to members.

EXAMINATIONS

Through 1920, there were four Associateship examinations and two Fellowship examinations offered once a year in May. Starting in 1921, there were two Associateship examinations and two Fellowship examinations. No candidate could register for more than two examinations per year. Associates had the option of presenting an original thesis in lieu of taking the second Fellowship examination (in 1934 and subsequent years, the thesis option was offered in lieu of parts III and IV of the Fellowship examinations). In addition to passing the Associateship examinations, there was a requirement for one year of relevant experience before being admitted as an Associate member. The first Fellows by examination were admitted in November 1917.

From 1914 until 1934, as an alternative to the examination route, new Fellows or Associates could be elected, without examination, on nomination by Council by three-quarters of those attending the meetings of the Society. After 1934, this alternative route was rarely used.

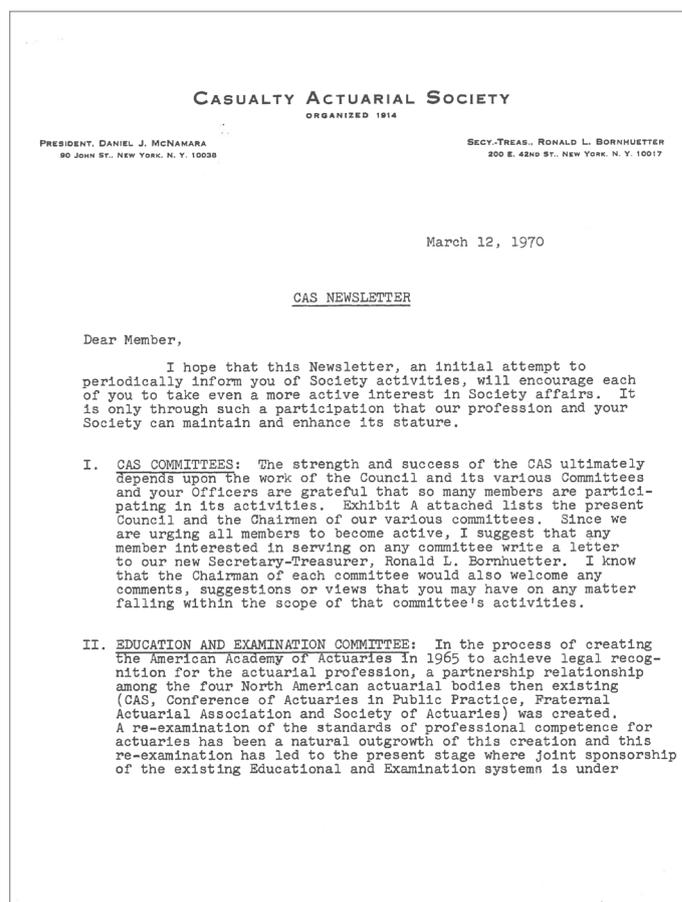
The number of examinations for Associateship was raised from two to four and the number of examinations for Fellowship was also raised from two to four in 1934. The relevant experience requirement for Associateship remained at one year.

In 1941, the number of examinations for Associateship was raised to five and the number of examinations for Fellowship was lowered to three. In 1948, they reverted back to four examinations each.

MEMBERSHIP GROWTH

The membership grew quickly in the beginning. The 97 charter members were all men, but it only took a few months before two women were admitted. Mrs. Dorothy Rolph, commissioner

⁹ 1914–15 PCAS, Volume 1, Number 2, page vii.



The first CAS newsletter was mimeographed and published on March 12, 1970.

of insurance for Colorado, was elected a Fellow on February 19, 1915. Emma Maycrink, of the New York Insurance Department, was elected a Fellow on May 19, 1915.

The membership doubled in just five years from 97 charter members to 200 members (as of November 21, 1919). Growth then slowed with the next doubling not occurring until there were 393 members in November, 1963 (one year short of the 50th anniversary of the CAS). The number of deaths and withdrawals in a year often came close to, and sometimes exceeded, the numbers of new members by examination.

By the late 1970s, the last living charter member of the CAS, John S. Thompson, died on October 27, 1979, at age 95. In 1980, *The Actuarial Review* noted his passing in a tribute:

Mr. Thompson was also a Fellow of the Actuarial Society of America (which eventually became the Society of Actuaries) since 1908, and served as its President from 1932 to 1934. Because of his services to that Society as Editor, Secretary, Vice President, President and Member of the Council, he was continuously a member of its Council from 1917 to 1950. From 1946 to 1953 he served as President of the Mutual Benefit Life Insurance Company of Newark.¹⁰

¹⁰ *The Actuarial Review*, May 1980, page 5.



The ACTUARIAL REVIEW

VOLUME 15, NO. 3

PUBLISHED BY THE CASUALTY ACTUARIAL SOCIETY

AUGUST 1988

from the PRESIDENT

This column covers a potpourri of items that, I hope, will lift you from the summer doldrums.

How do you feel about having the best job in the USA (and probably Canada as well)? *The Jobs Rated Almanac* successfully elevated the actuarial profession in May by ranking actuary as the No. 1 job overall based on the almanac's six criteria: salary, stress, work environment, outlook, security, and physical demands. We still have room for improvement—actuary was not at the top of any one of the six criteria. Nevertheless, this ranking should help our recruiting efforts. The demand for good casualty actuaries continues to rise faster than the demand for qualified workers in many other fields.

The CAS is very much alive and well. I am happy to say, it was my pleasure during March to meet with six regional affiliates of the CAS and to speak with about 275 CAS members and students who attended those meetings. Those attending displayed much vitality and interest in our profession. I hope to visit the other regional affiliates in September.

I believe that regional affiliates can do two things better than the CAS as a whole can do. One is build and maintain strong relations with local colleges. This task includes recruiting to the profession and

(continued on last page)



"No, on average I am not comfortable, dammit!"

CAS Office Phone Numbers

Since the staff in the CAS office in New York now numbers four instead of two, the phone numbers listed in the *Yearbook* (212-560-1018) is no longer adequate to handle office affairs efficiently. Following are the phone numbers at which members of the staff can be reached.

Edce Morabito	212-560-1018 or 1019
Gloria Sessa	212-560-1019 or 1018
Terry Cullinan (financial matters)	212-560-1020
Kathy Spicer (program details)	212-560-1901

Arthur Laffer, 'Supply Side' Economist, Says Deficit Is Not Problem

The United States is undergoing an economic revolution, the core concept of which is "people like what they find attractive and are repelled by what they find unattractive," according to "supply side" economist Arthur B. Laffer. Laffer's remarks came at the spring meeting of the Casualty Actuarial Society in Tampa.

"If you look at U.S. policies prior to this revolution, you could see that we've been doing two things in America," said Laffer. "We've been taxing work output and employment, and we've been subsidizing non-work leisure and unemployment."

(continued on page 7)

CAS Board Approves Revision of Policy on Meeting Sites for 1990's

Resort Sites to Be Selected For November Meetings Instead of May

Changes in the CAS meeting sites policy were approved by the Board at its March meeting. The changes were proposed by the Sites Committee, of which Margaret Tiller is chairman.

In essence, the changes approved are as follows:

(1) All CAS meetings will be two-and-a-half days in length. The first meeting affected will be in November 1991. Presently, in most cases, the May meeting lasts two-and-a-half days. The November meeting one-and-a-half. Longer meetings in November will make possible more attractive programs.

(2) Resort meetings will be in November instead of in May, and city meetings will be in May. The change will be implemented in 1992. Attendance at November meetings has been considerably lower than in May. Many actuaries can attend only one meeting every one or two years; and when they come, they tend to choose a resort site.

Meeting Sites Distribution

(3) The distribution of meeting sites over a five-year period will be altered to decrease slightly the percentage of meetings in the Northeast and Midwest (including Louisiana and Texas), and increase slightly the percentage in the Southeast and the West (the mountains to the Pacific). In a five-year period the effect will be a shift of only one or two meetings to an area different from those scheduled in recent years. This decision reflects results of the recent CAS survey. Past meeting site schedules have generally followed the distribution of addresses of CAS members. Apparently, members prefer to attend meetings at sites other than near home.

There will be no change in the frequency of meetings in Canada, at least one every five years.

THE ACTUARIAL REVIEW

VOLUME 19, NO. 2

PUBLISHED BY THE CASUALTY ACTUARIAL SOCIETY

MAY 1992

From the President

I continue to be impressed by the caliber of people who are members of the CAS, as well as those who are currently working their way through the exam process.



Toothman

This conviction was reinforced during March, when I had the opportunity to speak at five of our regional affiliates, attend the Ratemaking Seminar, speak at one of the offerings of the Course on Professionalism, and speak to a group of students at the University of Waterloo.

I enjoy these opportunities to meet our members and students in relatively small groups, for these sessions offer the best forum for me to get your feedback in person.

I also continue to be very impressed by the dedication and commitment of our members to the goals of the CAS. Our new *Yearbook* shows that we currently have 1,050 Fellows. Committee rosters

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Insolvency Study Released by Academy, Seven Actuaries Referred to ABCD

By David G. Hartman

WASHINGTON, D.C.—The American Academy of Actuaries Committee on Property-Liability Financial Reporting recently released a study of those 102 property-casualty insurance companies identified by the National Association of Insurance Commissioners (NAIC) as having been declared insolvent during 1988, 1989, and 1990 with regard to statements of actuarial opinion.

The committee also referred seven actuaries to the Acharial Board of Counseling and Discipline for further action.

The findings in the committee's report include the following:

- 70 responses to an Academy questionnaire were returned from the

state insurance departments where these insolvent companies were domiciled.

- 42 of these 70 companies (60 percent) were required to provide a statement of actuarial opinion on their casualty loss reserves at least once prior to the insolvency.
- 35 of these 42 responses included a copy of the latest opinion rendered on loss reserves.
- 28 of these 35 opinions (80 percent) were signed by non-actuaries, such as company presidents, CFOs, treasurers, CPAs, claim managers, and claims consultants.
- Seven of these 35 opinions (20 percent) were signed by qualified ac-

(continued on page 7)

CAS President Michael L. Toothman Speaks Out on Critical Issues Facing Society and Actuarial Profession

ARLINGTON, Va.—During a recent trip to Virginia, CAS President Mike Toothman was able to sit down and talk with *Actuarial Review* News Editor Toni Mulder about his term as president and the impact of several critical issues upon the Society and the actuarial profession.

MULDER—As president of the CAS, what is your primary goal for the year?

TOOTHMAN—If there is one thing that I have learned working with the CAS it is that you get very few things accomplished in just one year. Much of what we are doing this year is a continuation of things that were begun over the last few years. A lot of new initiatives we

begin this year will be completed by successive presidents.

But, there are two things that I would say are my primary goals for this year. The first is the focus we've placed on professionalism that has manifested itself in many ways, and the second is to create some sort of vision for the CAS.

MULDER—If you were to be remembered for one accomplishment during your term as president, what would you hope it would be?

TOOTHMAN—I'd say it would be leaving the sense of vision that we can build upon and that will live on beyond my term. In truth, what I'll probably be remembered more for is partitioning.

(continued on page 10)

The many iterations of the *Actuarial Review* are shown on this and following pages. On the left, the August 1988 issue. At right, the May 1992 issue.

MEETINGS

During the first 25 years, the CAS held 53 meetings, including 1915 and 1916 when there were three meetings, plus the 25th anniversary meeting in November 1939. Of those, 42 were held in New York City hotels or clubs—usually for one day from 10:30 a.m. to about 4:30 p.m. or 5:00 p.m. These meetings were held at the Hotel Pennsylvania 15 times, the Hotel Biltmore 13 times, Hotel Astor four times and other hotels or clubs ten times. The first meeting outside New York City was hosted by the Travelers Insurance Companies in Hartford in 1916. Other host cities during this period were Boston three times, Hartford two more times, Briarcliff Manor, New York, twice, and once each in Baltimore, Philadelphia and Rye, New York. These meetings were generally attended by between 50 and 75 Fellows and Associates; often officials of casualty companies and organizations also attended. The attendance by Fellows and Associates at the 20th and 25th anniversary meetings was 100 and 95, respectively.

As an indication of the early concentration of actuaries in the Northeast (New York, Connecticut, Massachusetts, Pennsylvania, Maryland and New Jersey), the first Spring or Annual CAS meeting outside the Northeast was held in May 1953, at the Edgewater Beach Hotel in Chicago.

During World War II, there was only one meeting in 1943, no meetings in 1944, one meeting in 1945 and another in 1946. In 1947, the usual two meetings per year were resumed.

In addition to Pruitt's paper on "The First Fifty Years," Francis Perryman's presidential address in 1939 was titled "The First Twenty-Five Years." Later, in connection with the Diamond Jubilee Celebration of the CAS in 1989, M. Stanley Hughey, who was CAS president in 1974-75, presented a paper titled, "The First Seventy-Five Years." Each is commended to your reading and they are found in the *Proceedings* of the respective years on the CAS website (<http://www.casact.org/>).

The 50th anniversary meeting of the CAS in November 1964, was attended by four of the 10 living charter members and all but two of the 14 living past presidents of the CAS. The total attendance broke all previous records with 128 Fellows and 49 Associates present.

The first CAS meeting held west of the Mississippi River was in November 1972, at the St. Francis Hotel in San Francisco. The CAS held its first meeting outside the United States in May 1974 at the El Conquistador Hotel in Fajardo, Puerto Rico.

In 1983, the CAS Annual Meeting was to be held in Las Vegas for the first time, but insurance company executives, employers of many of the CAS attendees, thought the site inappropriate. Bowing to pressure, meeting planners relocated the meeting. (See Fred Kilbourne's reflection on volunteerism on page 126.) In more recent years there have been many exam grading sessions in Las Vegas due to the relatively low hotel and airfare costs.



The Actuarial Review

Volume 23, No. 4
November 1996

Published by the
Casualty Actuarial Society

From the President



Outgoing President Albert J. Beer (left) discusses the future of the Society with Robert A. Anker, who will succeed Beer as CAS President.

Creativity and Purple Trees

by Albert J. Beer

Recently I came across an essay on creative thinking titled "Drawing Purple Trees." The author illustrated her point by describing a moment where a child is playfully coloring various pastoral scenes on a late fall day. A parent wanders by and, in the interest of providing helpful information, observes that trees are, in fact, green and not purple. After a moment of awkward confusion and silence, the child meekly points out the window to a majestic maple, clearly radiating a deep purple hue in the cool November sunset.

While this anecdote may have widespread applicability in numerous aspects of our lives, I was struck by how relevant it may be to the future of the actuarial profession. As I have observed many times before, the potential for the

→ page 18

Anker Becomes President; Walters Chosen President-Elect

ARLINGTON, Va.—Robert A. Anker will officially succeed Albert J. Beer as CAS President at the close of the 1996 CAS Annual Meeting held in Boca Raton, Florida, this month. Also at that time, Mavis A. Walters will assume the responsibilities of CAS President-Elect.

CAS Fellows voted in October to elect Walters as CAS President-Elect. Walters, who is executive vice president of the Insurance Services Office, Inc., has been a CAS Fellow since 1977. She served as a member of the Board of Directors from 1986 to 1988 and on various CAS committees during the last decade.

Winners of the election for four new members of the CAS Board of Directors are: Shalom Feldblum, Alice H. Gannon, David N. Haffing, and Richard J. Roth Jr. They will serve three-year terms and succeed Steven F. Goldberg, Claudette Cantin, Anne E. Kelly, and Robert S. Miccolis. As the most recent past President, Beer will serve as chairperson for the CAS Board of Directors during 1997.

Valid ballots cast totaled 790, which is 51.3 percent of the 1,540 Fellows eligible to vote. This percentage is lower than the 52.2 percent who voted last year, and lower than the average 59.44 percent for the previous five years.

Members of the CAS Nominating Committee involved in the elections were: Chairperson David P. Flynn, Irene K. Bass, Charles A. Bryan, Allan M. Kaufman, and Michael L. Toothman.

Editor's Note: For more CAS election results, see "CAS Board Appoints Two New Members of Executive Council," on page 20.



Robert A. Anker



Mavis A. Walters

New CAS Web Site Opens.
See related story on page 3.

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The Actuarial Review

THE NEWSLETTER OF THE CASUALTY ACTUARIAL SOCIETY • VOLUME 33, NUMBER 1 • FEBRUARY 2006

Top Ten Casualty Actuarial Stories of 2005

Based on our annual survey of CAS thought leaders, we have compiled a list of the top ten news stories affecting casualty actuaries in 2005. This listing, as shown in the accompanying chart (on page 16), touches on two broad themes. First, the increasing impact of catastrophes, both natural and man-made, on our lives, and the implications that these catastrophes have on the insurance industry. The second broad theme revealed by several stories is the increased focus on the actuarial work product. 16

New Year, New Challenges Paul Braithwaite—It's a new year and I am the new CAS president, so I thought this a fitting opportunity to present new ideas that will take shape in the year to come. Two themes present themselves as major areas of focus for the near future: international and enterprise risk management (ERM). 6

Actuarial Roller Coasters—GIRO 2005 Kendra Felisky—Blackpool was the place to be seen this year for all actuaries working in general insurance. The annual gathering of look place in October where we were provided with typical British seaside weather for the duration of the conference. This was the largest General Insurance Research Organising (GIRO) Committee Conference ever with over 400 delegates attending and a waiting list of people keen to attend should anyone drop out. 19

GIRO 2005: Matters of Particular Interest to CAS Members Louise A. Francis—The General Insurance Research Organising (GIRO) Committee Conference presented a full range of topics of interest to CAS members, including better reserve and price methods, solvency considerations, and new and interesting tools such as wikis, which can improve the performance of actuaries. CAS members have participated in the conference over the years. This year, Don Mango presented on capital as a shared asset. 8

The CAS Office Has Moved!

Our new address is 4350 North Fairfax Drive, Suite 250, Arlington, VA 22203. Please update your address books.

For more information visit www.casact.org/aboutcas/officemove.htm



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Immediate Past President Stephen P. D'Arcy welcomes new President Paul Braithwaite.

Actuarial Review, November 1996.

THE EVOLUTION OF THE LITERATURE

The CAS has always been a learned society focused on education and research. Like any such professional society, it has produced numerous publications throughout its history.

PROCEEDINGS AND YEARBOOK

Initially the Society had just one publication, *Proceedings of the Casualty Actuarial Society (PCAS)*. The first volume covered the years 1914 and 1915 and the *Proceedings* have been published each year through the current date. The *Proceedings* included refereed papers and discussions of them (until in 2007 when the papers portion was split off as a separate publication called *Variance*), presidential addresses, minutes of the general meetings, reports from the Secretary-Treasurer, financial reports, lists of successful examination candidates, obituaries, book reviews and the like.

In addition, starting in 1922 there has been a separate *Yearbook*. For many years the *Yearbook* contained listings of the officers, council members, and committee members; a list of Fellows and Associates showing their title and work address; a listing of deceased members showing their title and work address at the time of their death; a listing of officers of the Society since organization; a list of students showing where they were currently employed and which exams they had passed; the Constitution and By-laws; exam requirements; and the examination questions asked during the previous year.

Actuarial Review, February 2006.

SYLLABUS OF BASIC EDUCATION

Perhaps one of the most widely read CAS publications is the *Syllabus of Basic Education*. For several years in the beginning, this "go-to" guide for candidates sitting for CAS examinations was published as part of the *Proceedings*, which also housed the *Yearbook*. As the number of exam takers and potential CAS members increased so did the *Syllabus* content, including tips for effective study and examination schedules. Eventually the *Syllabus* became a separate print publication and in 2008 became available exclusively online, making updates much more timely.

PERIODICALS: THE ACTUARIAL REVIEW AND FUTURE FELLOWS

Until March of 1970, the *Proceedings* and the *Yearbook* were the only regular publications of the CAS. Then-President Daniel J. McNamara wrote and sent out the first (typewritten) presidential newsletter at that time. It was five pages long and was supplemented by a two-page listing of the names of the 18 members of Council and the names of the 20 chairs and vice chairs of the 12 committees at the time. These names were shown with encouragement from President McNamara for CAS members to contact these leaders to volunteer to serve the CAS. There was also a two-page supplement outlining background data on the possible joint sponsorship of education and examination and alternative routes to membership. The first issue covered topics about how to increase the level of involvement of members, possible changes in the education and examination area, reports on ASTIN, developments at the American Academy of Actuaries, urgings to authors to



The new *Actuarial Review* magazine was launched in July 2013.

write *Proceedings* papers, future meeting sites, other committee reports, pending projects and some administrative matters. He sent out two more newsletters during his term.

In 1971, President Richard L. Johe sent out one newsletter. In 1972, President LeRoy J. Simon sent out two newsletters. In 1973, President Charles C. Hewitt sent out two newsletters.

In 1974, following the successful presidential newsletter experiment, the first issue of the *CAS Newsletter* was distributed. It was 20 pages long. The second issue of the *CAS Newsletter* came out in June 1974 under the name of *The Actuarial Review*—a name which is still used. This issue was printed, not typewritten. There were three issues of AR in 1974 and it has been published quarterly each year since until 2013 when the publication was revamped. The editor starting with the first issue was Matthew Rodermund. He ably filled this post for 16 years, from 1974 through November 1989. He kept AR fresh, interesting, readable and very good-looking. It was his wife, Edythe, who suggested the name *The Actuarial Review*.

The Matthew Rodermund Service Award was established in 1990 to commemorate Matt Rodermund's years of volunteer service to the Casualty Actuarial Society. The Rodermund Award recognizes CAS members who have made significant volunteer contributions to the actuarial profession over the course of a career. It is the most prestigious of the service awards presented by the CAS.

C. K. (Stan) Khury served nine years as editor-in-chief of AR from 1990 through November 1998. Khury was president of the CAS in 1984–85. He led AR to be a strong and independent

voice of the CAS. Walter C. Wright served as AR editor-in-chief from 1999 through 2002. He was followed by Paul E. Lacko for the seven years through 2009.

Working with CAS staff, Grover M. Edie, the current editor-in-chief, oversaw the redesign of the newsletter into a four-color, bimonthly magazine. The new format reorganized departments and featured paid advertising to offset costs. The first issue of the new *Actuarial Review* magazine was the July/August 2013 issue and it was very well received. A new logo for the CAS was rolled out in this issue, replacing the logo that first appeared on the masthead of the *Actuarial Review* in March of 1975 (Volume 2, No. 2).

In 1995, *The CAS Student Newsletter* was first published. As the name implies, its primary audience was CAS students. In 1997, the name of this newsletter was changed to *Future Fellows*, the name it currently carries. As an example of the types of items covered in this newsletter, the March 1997 issue covered a textbook alert, a summary of new Fellows and Associates, and articles on a recent salary survey, the Syllabus Committee, how examination dates are set, the CAS website, the results of the Fall 1996 CAS Examinations, the "myth" of 60, the CAS Code of Professional Conduct and a puzzle, together with a calendar of upcoming CAS meetings and seminars. It has been quite helpful to future Fellows of the CAS.

DISCUSSION PAPER PROGRAMS

In the 1970s there was a lack of papers being submitted to the *Proceedings*. In fact, the 1971 *Proceedings* had only a single paper accepted for publication. In order to stimulate the writing of papers, in 1979 the Continuing Education Committee, chaired by me, Dave Hartman, in my role as CAS vice president–development (I served as CAS president in 1987–88), issued a call for papers on the topic of "Total Return Due a Property-Casualty Insurance Company." The result was 13 non-refereed papers (with reviews of each) published in May 1979 as a soft cover book. Often the papers were discussed as part of the program at CAS meetings. The *Discussion Paper Program* (commonly known as the Call Papers book) was published most years from 1979 through 2008 on a wide range of casualty actuarial topics.

FORUM AND E-FORUM

Building on the *Discussion Paper Program*, it was felt that the CAS would benefit from a non-refereed journal with a broader scope than the Discussion Paper books. The first edition of the *Forum* was published as a soft cover volume in fall 1987 under the guidance and leadership of Charles A. Bryan. (At the time, Bryan was CAS vice president–development; he was CAS president in 1990–91.) The *Forum* was to be used to provide a convenient means of communication for CAS members. At the outset, it was intended that the *Forum* would contain papers and discussions from seminars, work products of CAS committees, correspondence on actuarial topics, preliminary copies of papers that would eventually appear in the *Proceedings*, and reprints of important articles of papers that were out of print. It was published one, two, or three times a year, depending on what was available to be communicated.

Starting with the Summer 2007 edition, an electronic version, the *E-Forum*, replaced the traditional printed *Forum* as the

means of dissemination. It continues as a non-peer-reviewed clearinghouse for the casualty actuarial community and an open forum for discussion of ideas without the approval or review of the CAS.

CLRS TRANSCRIPTS

The first Casualty Loss Reserve Seminar (CLRS) was held on September 9, 1981 (a square root day – $9 \times 9 = 81$). There were transcripts produced for several of the years (1981 and 1985 through 1996) that the CLRS's were conducted. There is also a transcript for the first CAS Symposium that was organized by the CAS Committee on Loss Reserves in 1976. These can be found on the CAS website under "Other Publications."

VARIANCE

Variance: Advancing the Science of Risk has been published semi-annually by the Casualty Actuarial Society starting in 2007. Its peer-reviewed articles focus on original practical and theoretical research in non-life actuarial science and related areas in the science of risk. As a soft-cover semi-annual journal, it was designed to get important papers in front of property-casualty actuaries faster than the *Proceedings*. Actuaries and academics worldwide are encouraged to publish in this journal and CAS membership is not a requirement of authors submitting papers.

The *Proceedings* continued in 2006 and subsequent years without refereed papers but with CAS specifics such as executive council and board of director lists, addresses to new members, presidential addresses, minutes of meetings, financial reports,

Cover of *Variance* 6:2



pictures of new members, and obituaries. The contents of the *Yearbook*, minus the membership directory, were moved to the *Proceedings*. While a yearly hard copy Membership Directory is available to those who request it, the vast majority have opted to use the more up-to-date online directory.

BOOKS

To date the CAS has published three books.

Actuarial Considerations Regarding Risk and Return In Property-Casualty Insurance Pricing, edited by Oakley E. Van Slyke, was published in 1999. Several authors contributed chapters to this book including Stephen P. D'Arcy (CAS President 2004-05), Rodney Kreps, Charles McClenahan, Frank Pierson, and Charles Toney.

Fair Value of P & C Liabilities: Practical Implications, published by the CAS in 2004, was the result of commissioned analyses by two firms, the Tillinghast business of Towers Perrin and PricewaterhouseCoopers LLP. The publication shows the impact of fair value concepts as they apply to property/casualty insurance companies.

Foundations of Casualty Actuarial Science, when introduced in 1989, was a landmark book, providing for the first time a complete text of the fundamentals of casualty actuarial science as practiced in North America. Edited by Irene K. Bass (CAS President 1993-94) and written by a select group of industry experts, *Foundations of Casualty Actuarial Science* covers ratemaking, reserving, investment income, reinsurance pricing, and other important topics in a clear and well-illustrated manner. Its thorough explanations and discussions of the fundamentals of casualty actuarial concepts and practices have made it a vital resource for casualty actuaries and candidates, college and university students, as well as insurance and general business professionals. Periodic updates of this book have been published in order to keep its contents current. Robert F. Lowe headed up the CAS Textbook Rewriting Committee to produce a fourth edition in 2001. The latest edition presented actuarial science topics in a more introductory-level text with updated examples, and included a new chapter on risk theory.

MONOGRAPHS

Although in the past the CAS has published reports that could be termed monographs, a formal CAS Monograph series was only begun in 2008. Starting in 2006, monographs resulting from the annual joint Enterprise Risk Management Symposium, many of which were written by CAS members, have been posted online. The current Monograph Editorial Board solicits material for publication and evaluates submissions. The committee now has in development several publications on stochastic reserving.

All told, the literature of the CAS has grown exponentially over its 100 year history.

THE DEVELOPMENT OF PRINCIPLES

In the 1980s, the CAS Board determined the need to develop and publish fundamental statements of principles in key areas of actuarial work products. The intention was to identify publicly the profession's view of the practical foundations of its own work product.

TABLE 1.1 CAS MEMBERSHIP COUNTS: 1914–2013

Year	Fellow (a)	Associate (b)	Fellow by Mutual Recognition (c)	Affiliate (d)	TOTAL
1914	97	-	-	-	97
1915	134	13	-	-	147
1920	148	49	-	-	197
1925	157	99	-	-	256
1930	175	129	-	-	304
1935	184	127	-	-	311
1940	175	130	-	-	305
1945	154	123	-	-	277
1950	157	121	-	-	278
1955	170	142	-	-	312
1960	199	163	-	-	362
1965	218	190	-	-	408
1970	249	212	-	-	461
1975	299	377	-	-	676
1980	465	427	-	-	892
1985	699	483	-	-	1,182
1990	988	684	-	-	1,672
1995	1,420	1,070	-	-	2,490
2000	2,061	1,377	-	17	3,455
2005	2,751	1,369	1	29	4,150
2010	3,633	1,736	22	26	5,417
2011 (e)	3,848	1,576	25	21	5,470
2012	3,981	1,614	34	21	5,650
2013	4,192	1,817	38	20	6,067

a. A Fellow of the Casualty Actuarial Society

b. An Associate of the Casualty Actuarial Society

c. Mutual Recognition, first approved in 2003, is a bilateral agreement between the CAS and another actuarial society whereby a CAS Fellow could be granted Fellowship in the other actuarial society (subject to terms of the agreement). In turn, an actuary achieving Fellowship in the other actuarial society could be granted Fellowship in the CAS (subject to terms of the agreement). As of 2013, the CAS has mutual recognition agreements with two organizations, the Institute and Faculty of Actuaries (U.K.), and the Actuaries Institute (Australia).

d. Affiliate Member—First established in 1999, Affiliate Member is a class of membership to serve qualified actuaries who practice in the general insurance field and wish to be active in the CAS, but do not meet the qualifications to become an ACAS or FCAS. Affiliate Membership recognizes that the Affiliate Member has been granted professional status as an actuary by another actuarial organization and practices in the property/casualty field.

e. The number of ACAS members decreased from 2010 to 2011 due to a change in the examination structure. Under the pre-2011 exam structure, the capstone ACAS exam was Exam 7, which was offered in the Spring (last offering was Spring 2010). Under the 2011 exam structure, the capstone ACAS exam is Exam 6, which is a Fall exam and was offered for the first time in Fall 2011. Basically there was an 18-month window when the ACAS capstone exam was not offered.

Under the leadership of Chuck Bryan (CAS President 1990–91), in his capacity as vice president-development, the CAS has published three “Statements of Principles.” One was a “Statement of Principles Regarding Property and Casualty Insurance Ratemaking” (developed under the leadership of Michael J. Miller and David N. Hafling), which was adopted by the CAS Board of Directors in May 1988. Another was a “Statement of Principles Regarding Property and Casualty Loss and Loss Adjustment Expense Reserves” (developed under the leadership of James A. Faber), which was adopted by the CAS Board of Directors also in May 1988. The third was a “Statement of Principles Regarding Property and Casualty Valuations” (developed under the leadership of Robert Miller), which was adopted by the CAS Board of Directors in September 1989. All had undergone an extensive exposure and comment process prior to their adoption.

Principles are statements grounded in observation and experience, not prescriptions that specify how actuarial work is to be done. Ideally, principles do not change over time, but if fundamental changes occur in our understanding of the world, or if a better expression of the ideas is developed, the statements of principles can be revised. To date these statements of principles have proved durable as no changes have been made in them since their original adoption.

In addition to principles, actuarial practice requires standards. Standards are normative rules, based on the state of the art and science of actuarial practice, regulatory constraints, and other external conditions. They guide the actuary in the selection of appropriate models and assumptions. Standards are subject to change, and new standards may be introduced as actuarial practice expands into new areas. In the United States, actuarial standards of practice are promulgated by the Actuarial Standards Board, which was established in July 1988.

In August 1998, the CAS Committee on Principles and the SOA Committee on Actuarial Principles jointly issued a discussion draft titled, “General Principles of Actuarial Science.” The “General Principles” draft was to represent the then current articulation of the scientific framework underlying the actuary’s work independent of the specific practice area.

Reasons for articulating these general principles included the following:

- Describing and strengthening the intellectual foundation of the actuarial profession
- Aiding in strategic planning for the profession by identifying the areas in which actuaries can practice
- Providing a foundation for the extension of actuarial models to new applications
- Providing a basis for formulating sound and consistent standards of practice
- Guiding the articulation of practice-specific principles
- Furthering actuarial education
- Focusing research efforts

While the purpose of the document was primarily educational, it ran into several obstacles, issues and concerns by the CAS and SOA Boards about the status of a final work of this nature. In other words, the boards were not

comfortable issuing a general actuarial principles document. After many years of drafting, editing, getting comments, and re-writing, the members of the committee who wrote the principles document received permission from the SOA and the CAS to publish the work as a work of the authors. The preamble to the final published paper was cleared and accepted by the SOA and CAS. The paper was presented at the International Congress of Actuaries 2010 in Cape Town and the published document is the final work of the committee, but under their own names rather than as accepted by the CAS and the SOA.

THE EVOLUTION OF THE SIZE OF THE MEMBERSHIP

As indicated earlier, the membership of the CAS doubled from 97 charter members in 1914 to 200 members in 1919. Then the rate of growth leveled out and it took 44 more years to double again to 393 members in 1963 (the year before the 50th anniversary).

By the tenth anniversary of the CAS in 1924, only 72 of the 97 charter members were still active.

The first time the membership of the CAS exceeded 1,000 members was following the induction of new members at the May 1983 meeting (68 and one-half years after the founding). Ten years later, in 1993, the membership of the CAS exceeded 2,000 members. It took only five more years (in 1998) to add another 1,000 members. In 2005, the membership of the CAS exceeded 4,000 members, and in 2010 the membership exceeded 5,000 members. In the year 2013, the year before the 100th anniversary year of the CAS, the membership passed the 6,000 mark.

The visibility of the actuarial profession as a promising career received an unanticipated boost in 1988 when *The Jobs Rated Almanac* by Les Krantz, rated the job of actuary as the #1 job in the United States out of the 250 jobs rated. Factors considered included work environment, income, outlook, stress, physical demands and security. Subsequent editions over the next 15+ years never ranked the job of actuary lower than #4. It turned out to be quite an effective recruiting tool!

In the way of a demographic breakdown of the membership of the CAS as of June 2013 (when the total membership was nearly 6,000), 71% were male and 29% were female. By employment, 43% were employed by primary property-liability insurance companies, 15% by consultants, 9% by reinsurance companies, 6% by organizations serving the insurance business, 2% by brokers and agents, 1.6% by government, 1.5% by life, accident and health companies, and only 0.4% in academia. Retirees made up 6% of the membership. The other 16% either indicated "other employer" or did not indicate their employer type.

Looking at the Fellows (about 4,200 of them) as of June 2013 by years since Fellowship, 30% were in the category of less than or equal to five years, 21% were Fellows for 6 to 10 years, 17% for 11 to 15 years, 11% for 16 to 20 years, 7% for 21 to 25 years, 6% for 26 to 30 years, and 8% for over 30 years.

THE EVOLUTION OF THE ORGANIZATION AND GOVERNANCE

For many years, the officers of the CAS consisted of a president, two vice presidents, and a secretary-treasurer elected by the membership. In addition there was an editor and a librarian elected by Council and ratified by the membership. In 1914, there were four at-large members of Council in addition to the officers. By 1939, there were up to 20 members of Council, including the six officers, any past presidents and vice-presidents whose terms ended within the past four years, and nine at-large members with three members elected by the membership every year for three-year terms each.

Initially there were only three committees: the Committee on Examinations; the Committee on Terms, Definitions and Symbols; and the Committee on Workmen's Compensation Statistics. A total of 19 members of the Society were members of these committees.

By its 25th anniversary year in 1939, the CAS had seven standing committees and three special committees.

TABLE 1.2 CAS COMMITTEES IN 1939

Committee	Number of Members
Committee on Admissions	5
Auditing Committee	3
Editorial Committee	4
Education Committee	9
Examination Committee	7
Committee on Papers	4
Committee on Program	6

Special Committee	Number of Members
Committee on Mortality for Disabled Lives	7
Committee on Study of Automobile Costs	6
Committee on Advancement of Associates	3

The membership of the CAS on November 16, 1939, was 307, including 48 of the 97 charter members. The number of members of Council and committees (eliminating duplications) as of that date was 43, or about 14% of the membership who were volunteering to do the work of the CAS.

In 1949, the general chairman of the Examination Committee was added as an officer elected by the CAS Council and ratified by the members.

It was well into the 1970s that the president, the two vice presidents, and the secretary-treasurer served as the Program Planning Committee for the CAS Spring and Annual meetings. They would receive input of program ideas from the Topics Committee and carry on from there, recruiting the speakers and setting the agenda. Along these lines, I always enjoyed hearing Ron Bornhuetter (CAS President 1975–76) tell the following anecdote, which he included in his address to new members in November 2005:

For the Annual Meeting in November 1976, which was to be held in San Diego, California, it was decided to have a paid luncheon speaker for the first time. I asked Carl Honebein to see what he could develop in the way of possibilities. After some time, there were several speakers to choose from with a variety of fees. Our choices included Senator Ted Kennedy (who charged \$10,000 plus expenses for himself and two bodyguards), Governor Jerry Brown, and a retired part-time journalist and radio commentator (who wanted \$5,000 although he lived twenty minutes from San Diego). We finally decided on the then senior United States Senator from California, Alan Cranston, who only charged a fee of \$2,000 and no expense money. Our choice was a good one as Senator Cranston had just returned from Plains, Georgia, where he met with the newly elected President Jimmy Carter. His comments were very interesting as he gave his insight on our next president. Cranston was quite a good choice for our first venture into paid speakers. (As a footnote, the retired part-time journalist and radio commentator who lived close by, whom I turned down, was future president Ronald Reagan.)¹¹

(For Carl Honebein's take on the story, see his reflection on volunteerism on page 126.)

Meanwhile, on the Sundays during the Board meetings, some of the wives of these officers gathered in the Presidential Suite to stuff the envelopes for registrants with name tags and meeting agendas.

There was a separate Sites Committee (chaired for many years by Dick Lino) that recommended locations for the two meetings per year to the board. This chair was considered to be a plum job. Once a site was determined, a person who worked nearby was selected to be the local arrangements chairman to follow through on the myriad of details.

The first mail ballot used by the CAS for electing officers and directors was in 1981. A total of 333 ballots were cast, out of 473 eligible Fellows (over 70%).

The opportunity of a mail ballot in 1981 contributed to a rare contested election for an officer in the history of the CAS. Carleton Honebein, the Nominating Committee's nominee, was elected Vice President over Charles McClenahan, who had been nominated by petition. In 2013 there was another contested election for an officer of the CAS. Eugene Connell was the Nominating Committee's nominee for president-elect and Robert Miccolis was nominated by petition. For the first time ever in the history of the CAS, a nominee by petition for an officer won the election—in this case by a margin of 64% for Miccolis to 36% for Connell.

In 1983, the Board of Directors adopted the report of the Ad Hoc Committee on Management and Organization which was then supported by a vote of the membership on a constitutional amendment. Up to that point, the membership elected one of two vice presidents for a two-year term, plus a secretary, treasurer, editor and general chairman of the Education and Examination Committee for a one-year renewable term. At the end of the second year as a vice president, that person became president.

The effect of the change was to have a president-elect elected by the membership (who would automatically rise to president one year later) and four vice presidents elected by the CAS Board of Directors. The vice presidents were for administration (including the functions of secretary, treasurer and editor); development (research); membership (including education and examination); and programs. The secretary, treasurer, editor and general chairman of the Education and Examination Committee positions were eliminated. The vice presidents would not be members of the board but would be members of a new CAS Executive Council that was formed at the same time. The CAS Executive Council was made up of the president, president-elect and the vice presidents. The immediate past president was to serve as the chairman of the board of directors. The size of the board of directors was set at 12 members. Voting for members of the board of directors was staggered (four elected each year for a three-year term) and was competitive, with at least two nominees per opening. In 1984, the board delegated to the executive council all of its duties except setting policy, electing the vice presidents and disciplining members.

In 1989, the number of vice presidents was expanded from four to five with several reallocations of duties. The five areas covered by the vice presidents became administration, admissions, continuing education, programs and communications, and research and development. In 1999, a vice president-international was added. In 2002, the responsibilities of the vice president-programs and communications and the vice president-continuing education were reallocated into vice president-marketing and communications and vice president-professional education. In 2005, a vice president-enterprise risk management was added, leading to the current seven vice presidents. Added as a member of the executive council in 2010, the CAS Executive Director assumed the duties of secretary and treasurer. Near the end of 2013, the duties of the vice president-international were split due to the high work load. The vice president-international retained the duty of assuring that the CAS serves its members and students outside North America. This position continues as part of the Executive Council. The new International Ambassador role, which Bob Conger (CAS President, 2001–02) was the first to take, focuses on the CAS relationships internationally, including the International Actuarial Association (IAA), other actuarial bodies, and other entities. The International Ambassador does not sit on the Executive Council.

Now voting for president-elect and members of the board of directors is primarily done electronically. Those without access to the Internet may still vote by mail.

As of August 2013, the CAS had 75 committees and task forces. Of those, 65 are standing committees and 10 are task forces, including 6 research working parties. A research working party is similar to a task force in that they are organized around a specific purpose, although the duration has been somewhat longer than that of a typical task force. Volunteers are the lifeblood of any non-profit organization and volunteerism is so much a part of the culture of the CAS. Approximately one-third of the members of the CAS volunteer for the organization. This is a remarkable level of participation in the affairs of a professional membership association and is an important reason the CAS has remained a strong and vibrant organization over the years.

¹¹ PCAS 2005, page 741.

FORMATION OF THE AMERICAN ACADEMY OF ACTUARIES

In 1964 the four actuarial organizations in North America (CAS, the Conference of Actuaries in Public Practice, the Fraternal Actuarial Association, and the Society of Actuaries (SOA)) approved the creation of a new inclusive organization to represent “qualified American actuaries of all specialties.”¹²

By October 25, 1965, the American Academy of Actuaries (AAA) was established as an unincorporated association. It became a corporation under the Illinois General Not For Profit Corporation Act in 1966. Academy administrative offices were shared with the SOA in Chicago until January 1976, when the Academy headquarters moved to Washington, DC where it is located today.

The first Academy president, Henry F. Rood,¹³ and other founders hoped the Academy could achieve a federal congressional charter for what constitutes an actuary in the

United States, similar to what was achieved in Canada. That effort was abandoned after a few years of trying, however.

CAS President Jerry Scheibl (1980–81) characterized the learned societies (CAS and SOA) as the brains and the Academy (AAA) as the mouth of the actuarial profession in the United States. Scheibl’s sentiment regarding the organization’s role is elegantly echoed in the excerpt of the Academy’s history and background below:

Today, the Academy serves as the voice of American actuaries on public policy and professionalism issues, representing the U.S. actuarial profession at the state, federal, and international levels. It provides independent, objective actuarial expertise on public policy issues to legislators, regulators, policymakers, and others, and it develops and maintains professional standards.¹⁴

From its inception, the Academy has remained dedicated to its Vision statement below. The AAA has been able to make many public statements on behalf of the U.S. actuarial profession that have been very influential and served the public well.

¹² American Academy of Actuaries *Yearbook*.

¹³ Rood had formally proposed the creation of such an organization in 1958 while serving as SOA president.

¹⁴ American Academy of Actuaries *Yearbook*.

TABLE 1.3 CAS REGIONAL AFFILIATES

Regional Affiliate	Year Established	Region
AAIARD—Association des Actuaire IARD	2005	Québec
BACE—Buckeye Actuarial Continuing Education	2010	Ohio
CABA—Casualty Actuaries of the Bay Area	1982	Northern California
CABER—Casualty Actuaries of Bermuda	1991	Island of Bermuda
CADS—Casualty Actuaries of the Desert States	1999	Arizona, Nevada, and New Mexico
CAE—Casualty Actuaries of Europe	1999	Europe, the United Kingdom, and the Republic of Ireland
CAFE—Casualty Actuaries of the Far East	1993	Taiwan and Hong Kong
CAGNY—Casualty Actuaries of Greater New York*	1972	New York, New Jersey, Eastern Pennsylvania, and Western Connecticut
CAMAR—Casualty Actuaries of the Mid-Atlantic Region**	1966	Delaware, District of Columbia, Maryland, New York, New Jersey, Pennsylvania, and Virginia
CANE—Casualty Actuaries of New England	1976	Eastern Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Vermont
CANW—Casualty Actuaries of the Northwest	1982	Alaska, Oregon, Idaho, Montana, and Washington, British Columbia, Alberta, and Saskatchewan
CASE—Casualty Actuaries of the Southeast	1987	Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia
CSAF—Central States Actuarial Forum	2001	Colorado, Iowa, Kansas, Missouri, Nebraska, North Dakota, and South Dakota
MAF—Midwestern Actuarial Forum	1963	Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin
OCCA—Ontario Conference of Casualty Actuaries	1991	Ontario
SCCAC—Southern California Casualty Actuarial Club	1972	Southern California
SWAF—Southwest Actuarial Forum	1986	Arkansas, Louisiana, New Mexico, Oklahoma, and Texas

*First established as Casualty Actuaries of New York.

**First established as Casualty Actuaries of Philadelphia.

ACADEMY VISION

The vision of the American Academy of Actuaries is that financial security systems in the United States be sound and sustainable, and that actuaries be recognized as preeminent experts in risk and financial security. The American Academy of Actuaries' mission is to serve the public and the United States actuarial profession.¹⁵

CONSOLIDATION ATTEMPT BY SOCIETY OF ACTUARIES IN 2011

In his inaugural speech as president of the SOA in October of 2011, Brad Smith proposed that the SOA, CAS, and the Academy consolidate, stating, "There is absolutely no need for three separate professional organizations . . . to exist."

The CAS Board met in November 2011 and discussed the proposal. After extensive discussion, the board issued the following statement:

The CAS is the only non-nation specific actuarial organization exclusively focused on property-casualty risks, and our members find this of value. Our members have made it clear, and the CAS Board agrees, that they do not see benefits in consolidation with other actuarial organizations. The CAS has been, and continues to be, strongly in favor of cooperative efforts with other organizations, including efforts to address the concerns raised in the SOA President's speech.

In March 2012, the SOA announced that it planned to begin offering an exam track in general insurance in 2013 in direct competition with the CAS basic education system and credentialing process.

In the summer of 2012, the Academy formed the Task Force on the Actuarial Profession, representing all U.S.-based actuarial organizations. The task force considered the consolidation issue raised by the SOA and concluded that "a merger was not feasible given each organization's divergent history."

In October 2012, the SOA announced its board's decision not to continue the Joint Preliminary Actuarial Examination Agreement with the CAS as of December 31, 2013.

¹⁵ Ibid.

The CAS chose to respond to these SOA challenges by considering this new competition an opportunity to reenergize its activities in all of its operational areas and to reinvent itself in line with its strategic vision and goals. That would be consistent with what the CAS has been doing for decades—only better. The CAS Board expressed its intent to continue collaborative activities with the SOA and other actuarial organizations, to the extent that they met its strategic objectives. While the SOA's entry into the casualty field caused the CAS to reconsider how it would achieve its goals, it did not significantly alter its longer term goals and objectives.

FORMAL DE FACTO GOVERNMENTAL RECOGNITION OF THE CAS THROUGH ACTIONS OF THE NAIC

Since the 1960s many in the property-casualty insurance field had considered including a loss reserve opinion as part of the statutory financial reporting requirements. The concern then was the inadequate supply of qualified loss reserve specialists; CAS members numbered about 400 at the time. Serious discussions of such an opinion requirement resumed in the early 1970s as an inevitable consequence of the fact that the National Association of Insurance Commissioners (NAIC) had successfully adopted a similar requirement for the life annual statement blank. Later in the 1970s there were an unusually large number of insolvencies of property-casualty insurance companies in the United States. Mismanagement was the primary cause of these insolvencies, but insufficient loss reserves often contributed as well. While never reaching the point of insolvency, the fall and subsequent rescue of GEICO in the mid-1970s was an example of the kind of near-collapse that shook the confidence of policyholders and regulators alike. It precipitated more serious consideration of a loss reserve opinion requirement.

As a result, in December 1978 the NAIC Financial Condition Examination Subcommittee adopted a proposed revision to the instructions to the NAIC fire and casualty annual statement blank, requiring that an independent, qualified, loss reserve specialist certify that the loss reserves were sufficient. The CAS and the Academy saw this requirement as having significant challenges to the status of actuaries as individual professionals and to the specialized role of the actuarial profession itself. Our future as a profession was then and is now dependent upon public recognition of the special expertise of actuaries, and

TABLE 1.4 CAS SPECIAL INTEREST SECTIONS

Section	Year Established	Function
Casualty Actuaries in Regulation (AIR)	1982	Open to regulators and those who work closely with regulators.
Casualty Actuaries in Reinsurance (CARE)	1990	Open to those in reinsurance; develops educational content for the annual Reinsurance Seminar.
Credit Risk Section	2008	Open to actuaries from mortgage insurance, financial guaranty, credit insurance and investment management, to explore how to evaluate different types of credit risk.
Joint Risk Management Section (JRMS)	2006	Jointly sponsored by the CAS, SOA, and the Canadian Institute of Actuaries to further risk management research and promote the actuarial profession in this area.
Seasoned Actuaries Section	2006	Open to all CAS members who have been members of the CAS 25 years or more, or are retired, or who expect to retire within the next five years.

quantifying estimated liabilities that are dependent on future contingent events is part of that expertise.

The NAIC felt that qualified loss reserve specialists should include members of the American Institute of Certified Public Accountants (AICPA) in addition to members of the CAS and AAA.

Then CAS President Ruth Salzmann (who was the first woman president of any actuarial association in the world that accredits actuaries) took issue with the inclusion of AICPA members, writing at the time:

The basic issue in the accountant/actuarial territorial claims lies in the answer to the question, "Is the certification of reserves an *audit* of such reserves or the rendering of a *professional opinion* on the sufficiency of such reserves." If the certification of reserves is an audit of reserves, then independence is needed; and the education/examination requirements in auditing techniques should be of primary importance. If, however, the certification is the rendering of a professional opinion of reserves, then, of course, there is no need for independence; and education/examination requirements in the science of quantifying future contingent events should be the over-riding qualification standards. The former makes the case for the accountant; the latter, for the actuary.¹⁶

Many accountants felt that since they signed off on the entire balance sheet, including the liability provision for losses, they could also do the certification of the loss reserves.

The NAIC Financial Condition Examination Subcommittee did not have the final word, however. Their proposal was to go to its parent, the NAIC Blanks Committee, at its meeting in April 1979. The CAS and AAA mobilized its forces to stand up for the actuarial profession. AAA President Dale Gustafson issued a "Clarion Call to Action" to the boards of the U.S.-based actuarial associations. As is still the case, the AAA was in a position to speak for the profession, while the CAS was limited in its ability to make public pronouncements. All the associations rallied around this challenge. Ron Bornhuetter (CAS President 1975–76) was chair of the AAA Task Force on Financial Reporting Issues and became the point person for responding to this challenge.

The Blanks Committee was unable to act in April 1979, since issues about minimum standards of knowledge and experience of a qualified loss reserve specialist were not yet answered. Several groups were charged to look into these issues within the NAIC, the CAS, and the AAA.

In December 1979, after many meetings and presentations, the Financial Condition Examination Subcommittee revised its proposal to allow the commissioner of insurance of any state, at their discretion, to require a statement of opinion as to its loss reserves from any company domiciled in that state, or from all domiciled companies. The statement of opinion may be rendered by any member in good standing of the American Academy of Actuaries, or by any other person with competence in loss reserve evaluation. No comment was offered on how competence would be judged.

In drafting the revised instruction, the NAIC was very careful to distinguish this new opinion from an audit opinion. The new opinion was intended to be a formal, individually signed opinion by a qualified loss reserve specialist who took responsibility for determining reserves and who met certain professional standards. This is quite different from an audit opinion, which is signed by a firm and says that the financial statements taken as a whole are prepared in accordance with general accepted accounting principles (GAAP).

The Blanks Committee concurred with the revised proposal (known then as Instruction 9) and the NAIC adopted it during a plenary session in June 1980. This result was only accomplished through the mutual respect and goodwill shown by members of the accounting, actuarial, and regulatory professions.

One of the conditions of this revised proposal, in addition to the CAS and AAA providing educational and credentialing services as well as the guides to professional conduct and standards of practice, was that the CAS and AAA would jointly offer an annual casualty loss reserve seminar (CLRS). The first such seminar was organized by a joint CAS/AAA task force that I chaired and was held in St. Louis on September 9–10, 1981. It was not intended to be a meeting by actuaries for actuaries, but rather to help enrich the skills of all loss reserve specialists regardless of their background. More than 500 people attended, of which nearly 40% were not members either of the AAA or the CAS.

Incidentally, the 20th anniversary of the first CLRS coincided with the World Trade Center and Pentagon attacks on September 11, 2001. Given that all flights were canceled for several days afterwards, attendees used their problem-solving abilities to find a way from New Orleans, where the meeting was held, to get back to their homes. Sadly, Philip D. Miller, FCAS, an employee of the AON Corporation in the south tower of the World Trade Center, perished that day when the tower collapsed. Other CAS members who worked in the World Trade Center buildings were able to escape. Several members lost friends and colleagues and some lost family members in the tragedy.

Over time, the instruction was modified and refined. The term "qualified loss reserve specialist" was replaced with "appointed actuary" and the requirement for a statement of actuarial opinion was imposed on virtually all companies. Instead of a statement that the reserves are "sufficient" it now states that "a reasonable provision" is made.

While the term "actuary" is not defined in law in the U.S. as it is in Canada ("An actuary is defined as a Fellow of the Canadian Institute of Actuaries"), the NAIC has come quite close to defining what an actuary is for purposes of rendering statements of actuarial opinions on loss reserves. This NAIC definition of an appointed actuary is as close to a reserved role (a role reserved for casualty actuaries) as any regulatory requirement in the United States. It took a lot of hard work by various leaders of our profession in 1979–80 to accomplish this governmental recognition. In particular, many thanks go to Ron Bornhuetter for his role in this process. The respect for the members of the Casualty Actuarial Society has only increased since then.

¹⁶ The *Actuarial Review*, February 1979.

REGIONAL AFFILIATES

As the membership in the CAS grew, it was natural that regional affiliates came in to being. Regional affiliates allow CAS members (and often students) to gather without large investments in travel expense or time to continue their education and build strong bonds with their fellow actuaries.

The first Regional Affiliate to be formed was the Midwestern Actuarial Forum (MAF). The first meeting was held January 9, 1963, at the Continental Center (now known as CNA) in Chicago. The MAF constitution was approved effective January 6, 1965, at a meeting at the Continental Center. At the same meeting, MAF members elected a veritable “who’s who” of CAS leaders: Paul Otteson (Federated Mutual), president; Charles Hewitt (Allstate), vice president; James Berquist (Employers Insurance of Wausau), secretary-treasurer; and Harold Curry (State Farm), Educational Committee chair. Initially, the annual dues for members were \$1 (now dues are free). MAF was incorporated as a not-for-profit corporation on March 4, 1994.

In every decade following the formation of MAF, at least two more Regional Affiliates would organize, oftentimes headed up by leaders within the CAS. Currently, there are 17 Regional Affiliates, including three outside the U.S. and Canada.

SPECIAL INTEREST SECTIONS

As the CAS membership grew and became more diverse, more and more members were tied together by a specific discipline, rather than region. A group of members working in regulation proposed the first special interest section, Actuaries in Regulation (AIR). At the time AIR applied for standing as a section in March 1981, a great deal of discussion was generated and even an ad hoc committee was appointed by the CAS Board to recommend how a special interest group within the CAS with no geographic boundaries would operate. Finally, on May 23, 1982, the CAS Board approved the designation of AIR as a special interest section. The year 1982 was an especially active time in which CAS members formed important subgroupings; at the time there were five Regional Affiliates with two more organized later that year.

Whether in person or online, these special interest sections allow a diverse membership to interact with and learn from others on highly specific topics.

U.S. FOCUS EVOLVES INTO AN INTERNATIONAL ONE

The membership of the CAS started as primarily based in the United States. Growth of membership in Canada has been substantial over the years. More recently, large numbers of students are taking their examinations at CAS exam centers outside the U.S. and Canada.

Looking at the membership of the CAS as of June 2013, when it numbered nearly 6,000 in total, 85% were based in the U.S., 8.5% in Canada, 1.9% in Bermuda, and the remaining 4.6% in 33 other countries around the world. At that time, the CAS had 53 members in China, another 53 in the U.K., 33 in Hong Kong, 31 in Switzerland, 19 in Singapore, 12 in Germany, 11 in Australia, and 10 in Taiwan.

The International Association of Actuaries (IAA) was founded in 1895 as an organization of individual actuaries as members.

Following a formal study and experiment started in 1995 at the 100th anniversary of its founding, the IAA transformed itself in 1998 into an association of associations. There currently are over 60 Full Member associations and nearly 30 Associate Member associations worldwide representing over 95% of all the accredited actuaries in the world. There are also five institutional members: International Accounting Standards Board, International Association of Insurance Supervisors, International Organization of Pension Supervisors, International Social Security Association, and the Organization for Economic Cooperation and Development. The IAA has seven sections: AFIR/ERM, ASTIN, AWB, IAAHS, IAALS, IACA, and PBSS.¹⁷ ASTIN, the non-life section, was founded in 1957 as the first section of the IAA.

IAA VISION

The IAA’s vision is that, “The actuarial profession is recognized worldwide as a major player in the decision-making process within the financial services industry, in the area of social protection and in the management of risk, contributing to the well-being of society as a whole.”

IAA MISSION

The mission of the IAA, as the worldwide organization of actuarial associations, is:

- to represent the actuarial profession and promote its role, reputation and recognition in the international domain; and
- to promote professionalism, develop education standards and encourage research, with the active involvement of its Member Associations and Sections, in order to address changing needs.

The timing of the transformation of the IAA was impeccable. The IAA is the voice of the worldwide actuarial profession. It happens that the International Association of Insurance Supervisors (IAIS) and the International Accounting Standards Board (IASB) were both starting to develop international standards in 1995. The actuarial profession had a structure in place to make valuable contributions to these discussions. Those discussions continue to this day as more standards continue to be proposed.

The IAA has semi-annual meetings of its committees and council. Delegates from the CAS are active participants on every committee related to casualty practice and serve on the IAA Council. In the last few years, about 200 delegates from around the world have attended each of these meetings. Of the IAA Presidents since 1998, two have been past presidents of the CAS: Jim MacGinnitie in 2003 and me, Dave Hartman, in 2008. Rob Brown, a past president of the CIA and the SOA and an ACAS was IAA president in 2014.

The IAA also oversees the organization of an International Congress of Actuaries (ICA) approximately every four years. The U.S actuarial profession hosted ICA 2014, with the CAS

¹⁷ AFIR/ERM stands for Actuarial Approach for Financial Risks and Enterprise Risk Management, ASTIN stands for Actuarial Studies In Non-life insurance, AWB stands for Actuaries Without Borders, IAAHS stands for the IAA Health Section, IAALS stands for the IAA Life Section, IACA stands for International Association of Consulting Actuaries, and PBSS stands for Pension, Benefits and Social Security.

taking the lead in organizing this event. Bob Conger (CAS President, 2001–02) chaired the overall organizing committee. ICA 2014 was held in Washington, DC, March 30–April 4, 2014 with about 1,127 attendees from 103 countries from all over the world. Topics covered all areas of actuarial practice. This was only the third time since the IAA was formed in 1895 that an ICA was held in the U.S., with the other two being held in 1903 and 1957.

In response to globalization of casualty practice, the CAS adopted a program of mutual recognition as a constitutional amendment in 2003. After the constitution was amended, mutual recognition agreements were negotiated with the Institute and Faculty of Actuaries (U.K.) and the Actuaries Institute (Australia) as associations that admit members via rigorous testing of a comprehensive property and casualty specialization. Applicants must complete the property and casualty specialization requirements and all other requirements for full membership in their home organization; complete the CAS professionalism education requirements; complete property and casualty experience requirements to be specified by the Board; and disclose to the CAS any public disciplinary sanctions that have been imposed against the applicant. As of November 2013, 38 have applied for and been admitted as Fellows of the CAS by mutual recognition.

As the economy is becoming more and more global, the CAS involvement in the IAA facilitates the CAS playing an important role in international developments affecting casualty actuarial practice.

ENTERPRISE RISK MANAGEMENT AND CERA

With the downfall of Enron in 2001, as well as the failures of numerous other large corporations in 2002, attention became focused on corporate governance, transparent accounting practices, and risk management. On July 20, 2002, the U.S. Congress passed the Sarbanes-Oxley Act (SOX) to address corporate governance and accounting issues. SOX opened the door for actuaries to address risk management issues—something they have been well trained to do. The collapse of Lehman Brothers in 2008 and the financial crisis that followed only increased the focus on the need to identify and manage risk.

The CAS was ahead of the curve by publishing the seminal report, “Final Report of the Advisory Committee on Enterprise Risk Management,”¹⁸ dated November 5, 2001. It identified four types of risk: hazard, financial, operational, and strategic. Earlier in 2001, the CAS also conducted a seminar titled, “On Understanding the Enterprise Risk Process,” thus adding to the foundation of a growing movement to spread the word about enterprise risk management.

¹⁸ CAS *Forum*, Winter 2002.

In 2009, John Kollar (CAS President, 2008–09) joined a small group of actuaries from around the world to develop the CERA Global Association. It grants actuarial organizations the right to award the global Chartered Enterprise Risk Analyst (CERA)¹⁹ qualification to individual actuaries who have satisfied the requisite education and training requirements. The CERA is the most comprehensive and rigorous globally recognized ERM designation and is supported by 15 actuarial associations in 14 countries worldwide that are treaty signatories, including many of the major economies. The CERA credential combines a robust and forward-looking curriculum underpinned by actuarial science with a strong code of professional conduct and continuing professional development requirements, making it the most advanced and rigorous ERM credential in the world. Businesses that rely on CERAs can make smarter decisions based on sound analysis and understanding of their risks. The Casualty Actuarial Society became a CERA award treaty signatory in 2011 and, therefore, can award the CERA qualification to its members.

Actuaries are trained to deal with risk and their skills are particularly beneficial to chief risk officers (CRO) in all industries. Many CROs are actuaries.

THE FUTURE

In November 2010, the CAS Board of Directors adopted new mission and vision statements. They are as follows:

CAS MISSION

- to advance the body of knowledge of actuarial science applied to general insurance, including property, casualty and similar risk exposures;
- to expand the application of actuarial science to enterprise risks and systemic risks;
- to establish and maintain standards of qualification for membership;
- to promote and maintain high standards of conduct and competence;
- to increase the awareness of actuarial science;
- to contribute to the well being of society as a whole.

CAS VISION

Actuaries are recognized for their authoritative advice and valued comment wherever there is financial risk and uncertainty.

The CAS has one hundred years of history behind it, during which it has built a firm foundation of increasing competence and respect. The CAS mission and vision statements, and the strategic plans adopted to fulfill them, will guide future CAS leaders in continuing the upward trajectory of esteem that the CAS and its members currently enjoy.

¹⁹ In some jurisdictions the “C” stands for “certified” and in some jurisdictions the “A” stands for “Actuary.”

+ CONTRASTING DREAMS OF THE CAS FOUNDING FATHERS

BY FREDERICK W. KILBOURNE

Isaac M. Rubinow, the founder and first president of the Casualty Actuarial Society, was born in czarist Russia in 1875 and immigrated to New York City as a teenager. After earning his medical degree from New York University, he practiced medicine for a time on the Lower East Side. A passionate advocate of social insurance, he took a job in the insurance industry in his mid-30s, but left us in his early 40s to become director of the American Zionist Medical Unit in Palestine.

In 1913 he wrote a book titled *Social Insurance*, which was one of the earliest expositions on that subject. He later became a member of the Ohio Commission on Unemployment Insurance and was a consultant to President Roosevelt's Committee on Economic Security, which formulated the Social Security law that is with us to this day.

I have compiled the following 1915 quotation from Isaac Rubinow:

Over and above purely business considerations even dry-as-dust actuaries and statisticians must remember the social value of their service. I was gratified to read the new draft of our [CAS] constitution in which the field was enlarged to cover both casualty and social insurance. Throughout the country a powerful propaganda for sickness insurance, maternity insurance, old age pensions, unemployment insurance and mothers' pensions is rising.

It would be unfair and inaccurate, in my opinion, to characterize Dr. Rubinow as a conservative.

James D. Craig was a CAS charter member and the second president of the Casualty Actuarial Society. Born in New York City in 1878, Craig was one of the founders of the Actuarial Society of America (his father was also a charter member of the CAS) and was actuary at the Metropolitan for more than 50 years. Young James Craig was with the Metropolitan for 44 years, ending his career as vice president in charge of home office operations. He was active in church and YMCA work in his home town of Ridgewood, New Jersey. He was a Fellow of both the Actuarial Society of America and the American Institute of Actuaries, and was president of the former organization for two years. Craig was considered an authority on social insurance as well as on such other esoteric lines as pensions and group health insurance. During the Great War, he was on a committee of actuaries appointed by the secretary of the treasury to study costs under the War Insurance Act of 1917.

I have compiled the following quotation from James Craig in 1917:

To the hopes and desires of the advocates of the various plans of social insurance, we can take no exception. But, as scientific men, we must substitute facts for impressions and predicate our future upon the past. Reform administrations do not last long for the simple reason that the campaign promises and expectations created cannot be fulfilled. If social insurance is coming, let us not be too optimistic in our expectations.

In my opinion, it would be unfair and inaccurate to characterize Mr. Craig as a liberal.

So, at least two of the founding fathers of the Casualty Actuarial Society had contrasting dreams—at least insofar as social insurance is concerned. This impression is supported by some of their other utterances out of the early CAS *Proceedings*.

Rubinow in 1916 said, "Your President takes legitimate pride in believing that his occasionally revolutionary utterances (perhaps like all revolutionary utterances) were productive of some social good." He goes on to ask the question "To begin with, what is social insurance?" After rejecting the suggestion from another CAS member that "social insurance is insurance at the other fellow's expense," he goes on to answer his question:

I prefer to define social insurance as the insurance of masses encouraged and stimulated or established through the instrumentality of organized society for the purpose of combating the causes of destitution . . . This country stands committed to a policy of social insurance . . . one must be blind to the whole tone of American life to fail to see what is coming . . . a certain encroachment of social upon private insurance is possible—but not inevitable. Some of you may think that in announcing this doctrine I play false to my radical political beliefs and party affiliations. Whatever my beliefs in an ultimate cooperative commonwealth may be, it is not a problem for immediate decision as the polls, and as a practical man I may prefer to leave to the future generation the solution of the problems that will confront them.

Craig was not entirely in accord with this point of view. And yet, he was less an opponent of social insurance as such than he was an actuary with professional concern that any insurance scheme be soundly financed. In his 1917 presidential address he reminds us that "Our business is to understand the fundamental principles of insurance and then to insist that, irrespective of who carries it, the business shall be upon a solid foundation." He continues:

Let us be conservative in our statements, rather than extravagant. Let us not advocate a system under which, in a year or two, state funds . . . or other carriers will be in financial difficulties. Let us remember that probably no greater catastrophe could happen to a state fund than to be compelled to (go) to the legislature for an additional grant in order to make good the deficiencies caused by building too high and making too extravagant promises.

So, whose dreams came true, Ike's or Jim's? And whose nightmares? With three generations elapsed, surely the results are in? Well, not quite. Consider first their dreams for the professional organization they founded. I find little in the *Proceedings* to show whether Craig was or wasn't pleased by CAS progress during his generation of membership. I am convinced by the early *Proceedings*, however, that Rubinow would have been sorely disappointed as the future of the Society he founded was converted into the past. Listen to his dream, from 1916:

I venture to prophesy that problems of social insurance will acquire a dominating place in our deliberations. I venture to prophesy that . . . the development of sickness, invalidity, old age, unemployment and survivors' insurance will swell the membership and importance of our Society beyond the wildest dreams of those who were responsible for the initial

steps in its organization; until the [CAS] will gain for itself a very prominent position indeed . . . as an institution which can and will apply the scientific methods of mathematics and statistics to the elimination of grave social ills, and to the betterment of the world we live in.

Rubinow's list of social insurance lines has pretty much been split up between the life actuaries and the politicians, leaving little for the casualty actuaries. The first 30 volumes of the *Proceedings* had 34 papers on social insurance; the next 30 volumes had four such papers, and the dozen since have had just one. No longer do the CAS Fellowship exams include questions such as: "In your opinion, is social insurance at variance with American ideals?"

Rubinow might have been somewhat less disappointed with the lower-case society of which he was a member. There was depression, of course, which the pages of the *Proceedings* hint he might have suffered a decade early, through three Republican Administrations in the 1920s. But there were the heady years of Wilson, eventually followed by the activism of Roosevelt, nourished by the brain trust of persons such as Rubinow. He clearly would applaud the concepts of social insurance that have been implemented over the past two generations: Social Security, unemployment compensation, Medicare, Aid to Families with Dependent Children. It's less clear that he would have supported socialist states as such, in the face of torrents of adverse empirical evidence, though he would have been attracted to their banners, which are always emblazoned "social insurance." We might hope, and expect, that he'd be repulsed by, and would repudiate, those states that have elevated socialism, whether national or international, to a state religion, with all its attendant horrors. Blind faith in an "ultimate cooperative commonwealth" hardly justifies the extermination of six million Jews, or seven million Ukrainians, or two million Cambodians. Yet we might hope and expect as much of our contemporary brothers, and be disappointed by some of them. But there's little doubt in my mind that Rubinow would join Craig in deploring the unsound financing that has afflicted most

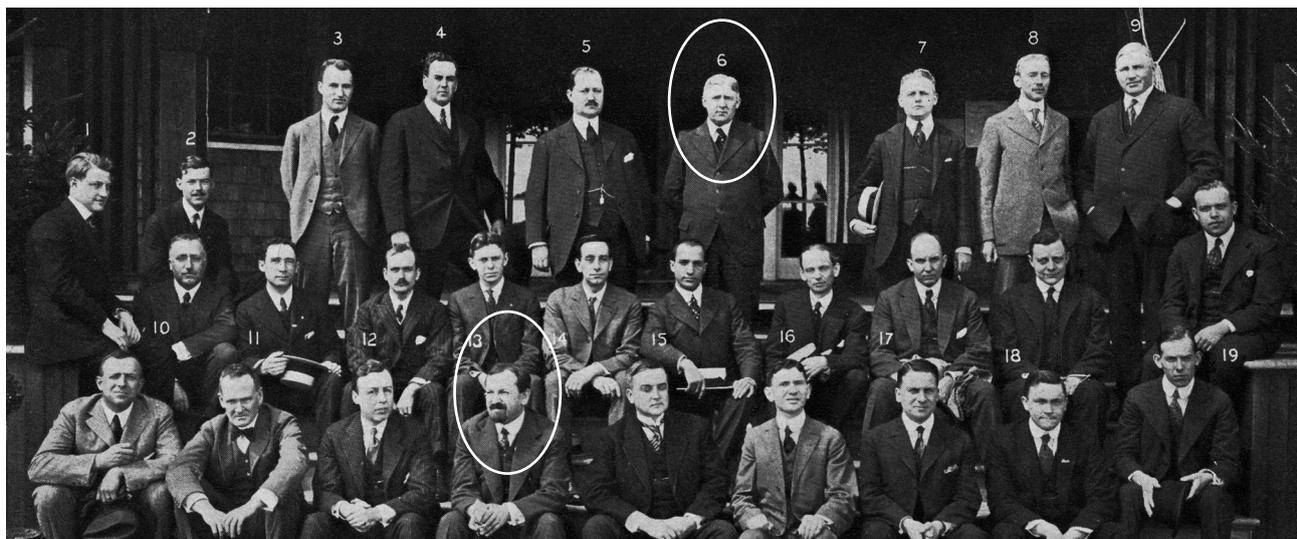
of our social insurance programs. Surely both would oppose the usual practice of making meager provision for benefits with meager costs, and would see it as consumer fraud to dress welfare in the sheep's clothing of insurance. Probably only Craig, however, would appreciate the observation that the old-time politicians who bought votes for cash at least had the integrity to pay for them with their own money.

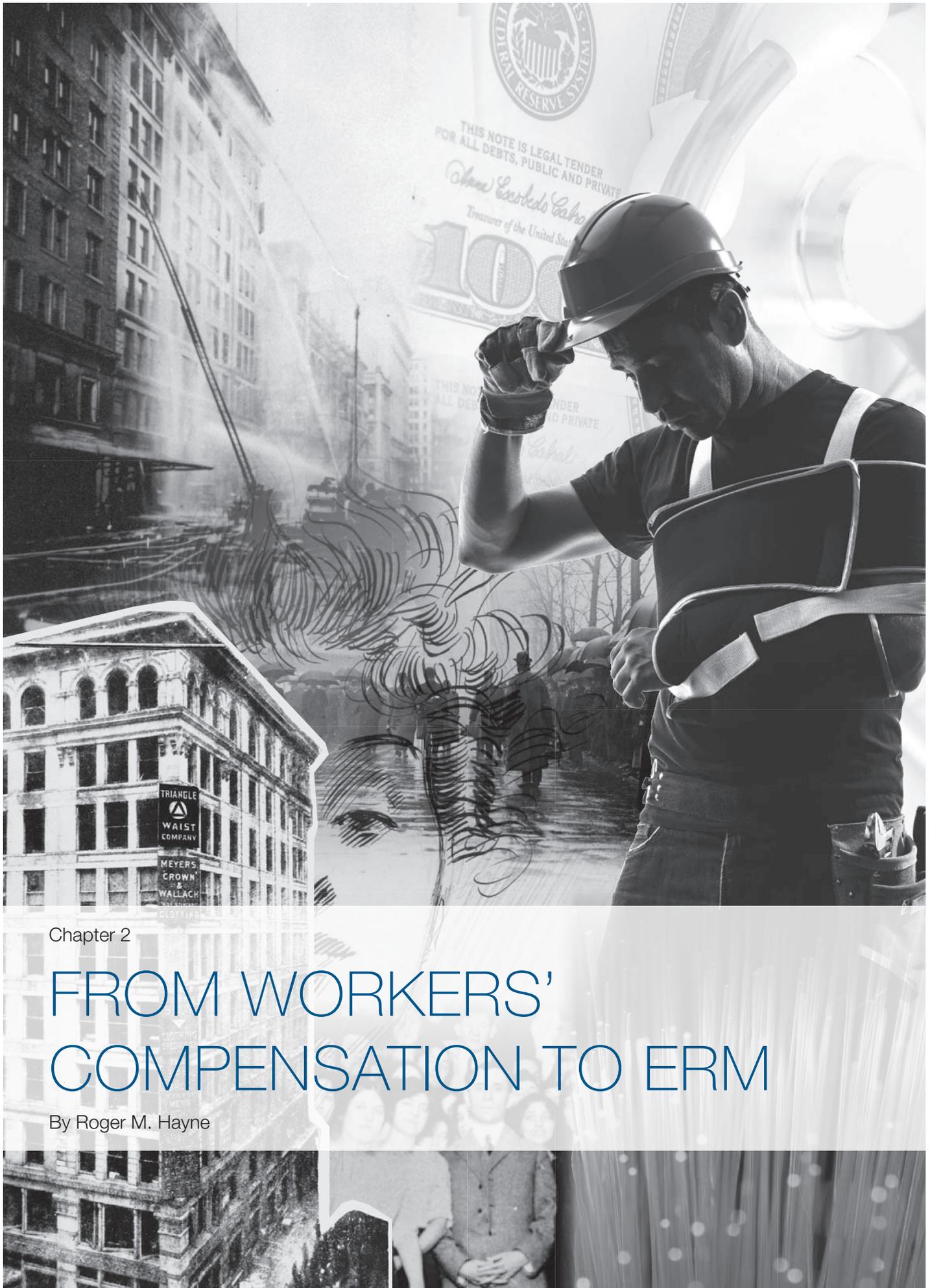
The *Proceedings* thus bear witness to a rich history for the Casualty Actuarial Society, with contrasting dreams among the founders concerning their hopes for our Society and society. One must read between the lines, however, to see the conflict that must have accompanied the contrast. Consider, for example, one surprising bit of information and where it led. Dr. Rubinow—medical doctor, author, social activist, and founder of the Casualty Actuarial Society—was not an actuary! He was a statistician, and the organization he founded was originally the Casualty Actuarial and Statistical Society of America. I suspect the tenth anniversary dinner in 1924 was not entirely a happy occasion for the organization's first president.

The dinner was held at the National Republican Club in New York City, and the organization had been renamed the Casualty Actuarial Society. Rubinow's remarks concluded with the sentence: "May I . . . conclude with a plea for the preservation of statistics as such, if not in the name, at least in the spirit of the Casualty Actuarial Society."

Six years earlier the presidential address of Mr. Craig was titled "The Relation between the Actuary and the Statistician." It included a one-sentence definition of both, taken approvingly from the constitution of the Institute of Actuaries. I would join Craig in approving of the definition of "actuary," but I suspect that Rubinow would demur when it came to the "statistician." The sentence includes the phrases that "the peculiar province of the actuary is the inquiry into all monetary questions involving a consideration of the separate or combined effects of interest and probability, while the statistician has been designated as one skilled in the science of counting."

Attendees of the 6th regular meeting of the Casualty Actuarial and Statistical Society of America held on May 26, 1916. Mr. I. M. Rubinow (seated) and Mr. James D. Craig (standing) are indicated.





Chapter 2

FROM WORKERS' COMPENSATION TO ERM

By Roger M. Hayne

With merchant cargo-sharing arrangements in the third millennium B.C. China and debt forgiveness agreements in the second millennium B.C. Babylonia, marine cargo insurance, a property-casualty (P&C) coverage, is probably the oldest of all forms of insurance. In those early days, the cargo sharing did not take any actuarial expertise. Merchants divided their loads among a number of vessels to protect themselves from the loss of a single load. One might argue, however, that the first P&C actuaries might have been the Babylonian lenders, who, for an extra charge (what we might now call a premium), would forgive the debt of a merchant if the merchant borrowed the money to fund a shipment and that shipment was subsequently lost.

Over the years, P&C coverages expanded and evolved from their marine base to include protection from other hazards and, in turn, became more important to not only commerce but also society as a whole. One of the first personal lines coverages, fire insurance, is an excellent example. With its expansion and social benefit came increased interest in the solidity of the insurers providing this valuable public service, a solidity that begins with adequate pricing. As a response, insurers shared data and statistics in rating bureaus to improve the accuracy and stability of their assessment of expected losses.

Then as now, the ability to sort, analyze, and interpret data was limited to the techniques and tools available. Casualty actuaries have always been looking for better, more accurate and more efficient ways to develop their estimates. Casualty actuaries have also come from a range of different backgrounds and have brought the tools and approaches of those disparate disciplines to bear on casualty actuarial problems. To a large extent, the advance of casualty actuarial science parallels the evolution of statistical and quantitative tools and is broadened by the various fields from which casualty actuaries came.

CAS BEGINNINGS—THE FIRST 25 YEARS

In the early 1900s, workers' compensation emerged across the United States, doing so virtually simultaneously in the various states. As a result, insurers were faced with problems of both rating and reserving a long-tailed and rather complex line of business with little or no historical experience available. This meant that the most had to be made of the statistics and data available. Statistical experts at insurers soon became pivotal in

creating solid mechanisms protecting employees. Their work largely involved organizing and analyzing existing experience data and chiefly focused on ratemaking.

Recognizing the unique character of the work they do, a group of these specialists banded together to form the Casualty Actuarial and Statistical Society in 1914. In this chapter, I will review the evolution and growth of casualty actuarial science in the United States through the papers presented to that Society as they appeared in the Society's journals, the *Proceedings of the Casualty Actuarial Society (PCAS or Proceedings)* and *Variance*. I will also briefly touch upon some of the many contributions to casualty actuarial science from outside North America.

Early papers from the Society, whose name was later shortened to the Casualty Actuarial Society (CAS), dealt with workers' compensation, ratemaking, and reserving. But even some of the earliest papers show interest in other lines of business, such as burglary and liability.

Of course, monitoring the solidity of insurers required analysis of reserves. Early papers in the *PCAS* approached workers' compensation reserving much as life actuaries approached assessing liabilities for annuities.

Proceedings papers soon expanded well beyond the workers' compensation roots of the CAS to embrace aircraft, auto, accident and health, agriculture, pensions, casualty, and unemployment. Topics also extended beyond rates and reserves to touch on accounting, financial reporting, statistical reporting, expense allocation, investment, and returns.

Casualty actuarial science itself also began to evolve from gathering and interpreting data as it applied to ratemaking to include questions of just how much data is necessary to provide stable results; thus, the concept of credibility emerged. Concepts of reinsurance and the science behind retrospective rating also showed up in early *PCAS* papers as well as discussions on compulsory automobile insurance and social insurance.

In the CAS' first quarter century, one paper in the early *PCAS*, titled "Analysis of Expenses by The Use of Hollerith Cards," indicated the use of punch cards in actuarial work. In the days before digital computers, Hollerith cards were at the forefront of technology and played a role in the practice of actuarial

science. Classification ratemaking generally focused on relative differences in costs among the classes and was based on simple expected value statistics.

CAS EARLY GROWTH 1939 TO 1963

The CAS second quarter century saw marked growth in casualty actuarial science in the United States and increasing sophistication and complexity in insurance coverage. During this time, papers in the *PCAS* touched on such topics as nonlinear retrospective rating and the use of loss distributions in actuarial analysis, including the Poisson and negative binomial. The science of credibility further developed with the publication of Robert A. Bailey and LeRoy J. Simon's seminal paper on the credibility of the experience of a single car.¹ Another *PCAS* paper by Simon² on the application of one of the most powerful statistical estimation techniques, maximum likelihood estimators, also added to the study of credibility. It is quite likely that the growing computing power during the CAS second quarter century also allowed casualty actuaries to focus more on understanding the science and spend less time actually performing detailed and often repetitive calculations.

During this time, CAS publications included papers touching on not only workers' compensation but also prolonged illness insurance, accident and health, individual hospital and comprehensive medical insurance, unemployment, nuclear energy, and crop hail. By and large, the techniques focused on point estimates. Even when distributions were used, they were employed to better understand expected values such as for retrospective rating plans and excess of loss coverage, or to assess credibility of limited data sets.

CAS MATURING—THIRD QUARTER CENTURY

The Society's third quarter century witnessed considerable growth in casualty actuarial science and an expansion in both actuarial methods and applications. More and more sophisticated statistical tools were being developed and used to solve actuarial problems. In fact, early in this time period a paper discussing the differences between pure and lay actuaries³ pointed out the growing number of actuaries who use mathematical and statistical tools in their applications. One example of these sophisticated applications is the use of Fourier transforms, which essentially solved the problem of calculating the distribution of total losses given distributions of the number of claims and the size of individual claims.

Much attention at this time was given to distributions of the size of claims. Those distributions were used in ratemaking applications such as retrospective rating, but also to assess uncertainty in reserve estimates. Papers also addressed fundamentals in credibility theory, building that theory on statistical foundations. More advanced statistical tools began showing up in CAS papers, such as multiple regression, hierarchical linear models, empirical Bayes estimators, as well as the first mention of generalized linear

models (GLMs)⁴. In addition to applications largely for ratemaking and financial analyses, reserving methods were analyzed more closely in CAS papers.

It is probably no coincidence that this growth occurred at the same time as the rapid spread of the personal computer (PC), which became a nearly universal tool of casualty actuaries and other quantitative professionals. The PC provided inexpensive computing power that a decade or so before was only available in large data installations. With relatively cheap and reasonably powerful computing available on an actuary's desktop, the actuary was freed from the schedule and capacity of a company's central data processing department and able to turn around analyses with more sophistication in much less time than before. Freed from some of the more mundane computational aspects of the job, actuaries who were more able to adapt were now able to apply more computationally sophisticated statistical and mathematical tools in solving actuarial problems.

CAS TODAY—THE MOST RECENT TWENTY-FIVE YEARS

The last quarter century continued the explosive growth of the application of more sophisticated techniques from the fields of mathematics, statistics, and finance. Ratemaking discussions were augmented with finance theory, incorporating concepts such as risk-adjusted returns in addressing profit and contingency loads in reserves. Finance theory was also brought to bear on issues of the valuation of not only insurance companies but also organizations with similar types of financial risk. Dynamic financial analysis (DFA) grew more sophisticated with more complex economic scenario generators and improved understanding of return theory such as capital asset pricing model (CAPM).

Rate regulation for automobile insurance in the United States is quite different than in the United Kingdom. In contrast to a generally highly regulated American market, pricing for British motor insurance is largely unregulated; British insurers can change rates almost on a minute-by-minute basis. Unencumbered by rate regulation and faced with strong market competition, British general insurance (property and casualty insurance) actuaries turned to sophisticated statistical tools to better understand the characteristics of profitable and unprofitable risks. They made extensive use of GLMs to gain this understanding, well before such use became widespread in the United States.

In addition to identifying profitable and unprofitable market segments, British general insurance actuaries and the insurers they worked with developed an understanding of price elasticity as it applies to insurance. Here price elasticity refers to a measure of how consumers react to price changes in a particular product or service. That understanding along with refined statistical tools to make use of that knowledge allowed those insurers to adjust the prices they charge to get the most profit across their book of business. These insurers could also closely monitor that profitability.

¹ "Two Studies in Automobile Insurance Ratemaking," *PCAS XLVII*, pp 1–19, <http://www.casact.org/pubs/proceed/proceed60/60001.pdf>.

² "Fitting Negative Binomial Distributions by the Method," *PCAS XLVIII*, pp 45–53, <http://www.casact.org/pubs/proceed/proceed61/61045.pdf>.

³ "How to Tell A Pure Actuary From a Lay Actuary," *PCAS LI*, pp. 126–130, <http://www.casact.org/pubs/proceed/proceed64/64126.pdf>

⁴ "Minimum Bias with Generalized Linear Models", *PCAS LXXV*, pp. 187–218, <http://www.casact.org/pubs/proceed/proceed88/88187.pdf>

Statistical tools were also brought more to bear in the quest to assess and quantify the uncertainty in reserve estimates. For example, the Markov Chain Monte Carlo simulation was shown as an effective way for actuaries to approximate Bayesian posterior distributions that prove to be intractable on an analytic basis. An increased interest in correlations and the effective treatment of them in actuarial and financial models, including the use of copulas, was also evident during this time.

Actuaries and actuarial science are not immune to the events in the world around them. During the CAS' fourth quarter century, the danger of concentrating risks was brought sharply into focus by the aftermath of Hurricane Andrew in Florida and the Northridge, California earthquake. In both cases, some insurers faced considerable financial strain—not because of poor pricing or reserving, but because their risk portfolios were not sufficiently diversified.

Old methods of dealing with catastrophe risk in pricing that looked to the long-term history of events at an industry level were found to be seriously lacking and particularly weak in dealing with individual insurers' catastrophe risks. The initial reaction of the industry was a severe reduction of catastrophe reinsurance availability with a real desire to better understand the true catastrophe risk potential of individual portfolios of risks. This desire in turn gave birth to a new area of risk science to which actuaries have made significant contributions: catastrophe modeling.

Catastrophe modeling brings together such disparate disciplines as meteorology (for hurricanes), geology (for earthquakes), engineering (for damage assessment), and actuarial science (for assessing impact on insured risks and understanding uncertainty) to provide an insurer, reinsurer, regulator, legislator, or other party interested in the concentration of risk with a more in-depth view of its loss potential. Like actuarial models, catastrophe models have evolved considerably since their inception early in the CAS' fourth quarter century and continue to evolve and to be refined.

During the fourth quarter century of the CAS, the *PCAS* was retired and the CAS started a new refereed journal, *Variance*. *The Proceedings* was generally for the publication of papers from CAS members (non-members could publish there on invitation) and, as indicated by its name, were intended to be a record of the CAS. *Variance* on the other hand was created as a separate refereed CAS journal, open to all authors. *The Proceedings* publication was internationally known for its practical orientation. *Variance's* editorial policy maintains this practical orientation and is much more international than the *PCAS* was.

CASUALTY SCIENCE AROUND THE GLOBE

So far this chapter has viewed casualty actuarial science through the lens of CAS publications. Until recently, those publications were nearly exclusively focused on American methods, techniques, and applications. But casualty actuarial science is alive and well outside the United States, especially in the U.K. and Australia, where it is known as general insurance. Since 1958 the *ASTIN Bulletin*, the journal of the International Actuarial Association (IAA), has featured the work and research of actuaries practicing in non-life insurance, as it is known in Europe and other places. In the early days of the *ASTIN Bulletin's*, its papers were generally practical and reflected non-

life actuarial science with a European influence. In an attempt to understand the processes that influence losses, the subject matter significantly focused on the stochastic foundation of insurance and risk theory. A parallel theme that developed was the study of the insurance mechanism itself, including insurance operations and optimal reinsurance structures, as well as assessing the degree of capital needed to assure the chance of ruin is acceptably small. This ruin theory was the analytic counterpart of what is now done using simulation in DFA or dynamic solvency testing. The theory of credibility was also a fruitful ground for early research in *ASTIN Bulletin*.

Actuarial science as applied to general insurance has been a global science for decades. On numerous occasions, American authors have written in the *ASTIN Bulletin* and in the journals of the Institute and Faculty of Actuaries in the U.K. and the Institute of Actuaries of Australia. By the same token, numerous *PCAS* and *Variance* contributors have been from outside of North America. However global casualty actuarial science has become, different countries tend to emphasize those aspects of the science that are especially pertinent to them. For example, in the early years of the *ASTIN Bulletin*, there seemed to be much greater interest in reserving topics than during that time in CAS publications. More recently, *ASTIN Bulletin's* papers have become more theoretical in contrast to the continued practical orientation of CAS publications.

The presence of these publications read by those on both sides of the Atlantic most likely helped tools such as GLMs and price elasticity models make their way across the Atlantic. GLMs and other sophisticated data mining tools are now widely used to identify potential areas of profitability. In addition, discussions of price optimization are now taking place in American circles.

CONCLUSION—JUST THE BEGINNING

A common thread winds through this entire history. From its earliest beginnings through the Society's fourth quarter century, the CAS has had at its core the understanding and quantification of uncertainty. In the early days, there was considerable art to this understanding in that the science and tools to support it were not readily available to the practicing casualty actuary. But as time passed, available tools have become more powerful. In addition, the CAS has historically benefited from the fact that a large number of its members have come to the profession after they were well into their college studies, and many not until after they have finished their education. The CAS is vibrant and robust today. This is not in small part due to the presence of a reasonably large number of casualty actuaries who bring with them skills and techniques not only learned from actuarial science curricula, but also from mathematics, economics, statistics, finance, management, liberal arts, and a wide array of other programs.

Casualty actuaries analyze a wide variety of hazards where the path from occurrence to final financial impact is usually not completely understood but which usually spans years and sometimes even decades. As such, CAS needs a wide range of methods that can develop forecasts but can also refine those models in a relatively short amount of time. This relatively fast feedback has allowed casualty actuaries to develop a "feel" for the uncertainty in their projections. However, casualty actuaries have recently been presented with questions that go

beyond simple point estimates, from requests for a sense of the level of uncertainty to demands for assessments of that level of uncertainty. DFA, an application mentioned earlier, requires not only point estimates but estimates of distributions.

In order to quantify this “feel,” casualty actuaries once more are turning to the field of statistics. Tools such as central limit theorem and maximum likelihood estimators are very powerful in assessing not only uncertainty due to random fluctuations, but also in cases where the parameters of actuarial models must be estimated. Casualty actuaries have turned to what is often called the “Frequentist school” of statistics to help assess the uncertainty in their projections. The Frequentist approach, which has its roots in the physical sciences, essentially assumes that there is some, as yet unknown but unchanging, fundamental process occurring and the goal is to quantify and parameterize that process as a result of observations. A corollary to that assumption is that if one were to repeat the sampling from that process often, one would get roughly the same result, with variation from one sampling to another being reasonably predictable.

Unfortunately, casualty actuaries must address uncertain events in a changing world. They do not have the luxury of being able to repeat their experiments a number of times to be able to refine and fine-tune their models. Because of this, another school of statistics, the “Bayesian school” is starting to be considered in developing tools for casualty actuarial science. In contrast to the Frequentist’s search to parameterize a fixed but unknown process, the Bayesian seeks to find the best way

to refine prior estimates in light of emerging data. As casualty actuaries have developed a feel for uncertainty, a Bayesian statistician begins with a prior quantification of the uncertainty inherent in parameter estimation. That prior quantification can be as formal as being based on a range of results from similar, but not exactly the same, forecasts, or as informal as an educated guess. In a Bayesian approach, the observed data is then used in conjunction with the prior model to refine that prior model. As noted before, Bayesian approaches have often been used in casualty actuarial science. Their budding application in quantifying uncertainty in forecasts is simply another example of an approach that casualty actuaries are using to try to understand and quantify uncertainty or risk in their estimates.

As I’ve tried to describe, the CAS’ first century has been marked by numerous challenges to which casualty actuaries have responded by using statistical approaches to quantify uncertainty. In so doing, they continue to deepen their own considerable understanding of uncertainty and risk. Not surprisingly, many casualty actuaries are now key players in enterprise risk management. Their history of experience with a very wide range of hazard risks translates in to an ability to model not only the hazard risks facing an enterprise, but also the financial and, to some extent, the operational risks. What started as a science focusing on a limited array of risks has grown into a profession capable of helping an enterprise understand and address all the risks that it faces.



CAS Diamond Jubilee Meeting in NYC in 1989.
Row 1 (left to right): Steve Newman, LeRoy Simon, William Hazam, Dan McNamara.
Row 2 (left to right): Thomas Murrin, Mike Fusco, Chuck Bryan, Mike Walters.

Chapter 3

THE BUREAU ACTUARIES AND THE COMPANY ACTUARIES

A BRIEF HISTORY OF RATING BUREAUS IN U.S.
PROPERTY-CASUALTY INSURANCE

By Michael Fusco and Kevin B. Thompson

The origins of insurance rating bureaus in the United States date back to the 19th century. Over the years, rating bureaus were alternately viewed as beneficial to the functioning of a viable insurance market or anti-competitive and unlawful, and then cycling back to necessary to ensure that companies did not enter into “rate wars” that led to insolvencies.

Early rating bureaus were established for fire insurance. In 1866 the first nationwide rating bureau, the National Board of Fire Underwriters (NBFU), was founded after several catastrophic fires led to numerous insurer insolvencies. Intense competition between bureau members and non-members caused the NBFU to dissolve in 1877. In 1879 the first of the new-generation rating bureaus organized on a state or regional basis was established: the Western Underwriters Association. Thus states or regional rating bureaus became the model for fire insurance bureaus for the next 90+ years.

The first cooperative casualty insurance organization, the Bureau of Liability Insurance Statistics (later known as the Insurance Rating Board), was organized in 1896. Throughout the first seven decades of the 20th century, rating bureaus proliferated. At various times there were scores of rating bureaus, each serving different lines of business, states, or regions. There were property bureaus, casualty bureaus, inland marine bureaus, and workers’ compensation bureaus. There were separate bureaus responsible for automobile liability and automobile physical damage. There were bureaus for stock insurers and bureaus for mutual insurers. There were bureaus for monoline insurance and bureaus for multi-line insurance.

In the early 20th century, bureaus set rates, established rules for how to write insurance, and developed standard policy language. Some states required all companies to belong to bureaus. Even where bureau membership was not mandatory, any company that was a member was required to adhere to the bureau rates, rules, and policy forms. In many instances, bureaus actually reviewed individual policy dailies submitted by agents to assure that they were properly rated in accordance with bureau rules. Also, a company wishing to use some bureau services was required by bureau rules to use all services.

In the bureau system, there was always tension as bureau companies and independent companies competed in the marketplace. Even within the bureau companies themselves,

there was a tension as insurers who wanted to develop special proprietary programs struggled against the mandatory use requirements that accompanied bureau membership.

Over the years, but especially after the South-Eastern Underwriters Association (SEUA) decision in 1944,¹ companies won the right to deviate from the bureaus on rates, rules, and forms as well as being allowed to use bureau services on a partial subscribership basis. Throughout the 1950s and 1960s, the bureaus evolved from the earlier model of mandatory adherence and one, all-encompassing level of membership, to a model of a service organization providing an a la carte menu of products and services to the insurance industry.

In 1971, the Insurance Services Office (ISO) was formed, consolidating most state property insurance bureaus and the regional and national bureaus for various other lines of property-casualty insurance. (See Table 3.1.)

Table 3.1 Summary of ISO Consolidation

Effective in 1971, the following organizations consolidated to form the Insurance Services Office (ISO):

- Fire Insurance Research and Actuarial Association
- Inland Marine Insurance Bureau
- Insurance Rating Board
- Multi-Line Insurance Rating Bureau
- National Insurance Actuarial and Statistical Association
- Insurance Data Processing Center (joint facility of IRB and NIASA)

During 1971 and 1972, the following local and regional fire organizations were consolidated into ISO:

- Pacific Fire Rating Bureau
- Railroad Insurance Rating Bureau
- Western Actuarial Bureau
- Alabama Inspection and Rating Bureau
- New England Insurance Rating Association
- Middle Department Association of Fire Underwriters
- South-Eastern Underwriters Association

¹ *United States v. South-Eastern Underwriters Association*, 322 U.S. 533.

Indiana Rating Bureau
 Maryland Fire Underwriters Rating Bureau
 Michigan Inspection Bureau
 Fire Underwriters Inspection Bureau
 Missouri Inspection Bureau
 Missouri Audit Bureau
 New Hampshire Board of Underwriters
 Fire Insurance Rating Bureau of New Jersey
 New York Fire Insurance Rating Organization

The Virginia Insurance Rating Bureau was consolidated into ISO in 1973.

The Puerto Rico Inspection and Rating Bureau was consolidated into ISO in 1975.

The Insurance Rating Bureau of the District of Columbia was consolidated into ISO in 1993.

ISO's charter prohibited requiring insurers to adhere to its advisory rates, rules, and policy language. Insurers could select among ISO's services, buying only the states, lines, and services they wanted. With the consolidation of the various bureaus and the expressed advisory nature of the services ISO provided, the concept of the bureau was transformed into the modern advisory organization.

Over the next quarter century, ISO continued to evolve, eliminating insurer decision making related to rates, rules, and policy forms, and ceasing to provide advisory rates, instead providing advisory prospective loss costs to its customers. A similar evolution occurred in other industry organizations, such as the National Council on Compensation Insurance, which provided workers' compensation services for many of the states.

Many CAS members served as presidents (or an equivalent title) of these bureaus over the course of time.

Table 3.2 CAS Presidents and other Members Who Were Employed By Rating Bureaus

Past CAS Presidents

William Leslie* (1923)—National Council on Compensation Insurance (NCCI)
 Gustav F. Michelbacher (1924–25)
 Winfield W. Greene (1934–35)
 Leon S. Senior* (1936–37)—New York Compensation Insurance Rating Board
 Charles J. Haugh (1945–46)
 James M. Cahill (1947–48)
 Thomas O. Carlson (1951–52)
 William Leslie Jr.* (1959–60)—NCCI and the National Bureau of Casualty Underwriters (NBCU)
 Thomas E. Murrin (1963–64)
 William J. Hazam (1968)
 Daniel J. McNamara* (1969)—ISO
 LeRoy J. Simon* (1971)—National Insurance Actuarial and Statistical Association (NIASA)
 Ronald L. Bornhuetter (1975)

George D. Morison* (1976)—New York Compensation Insurance Rating Board
 Steven H. Newman (1981)
 Carlton W. Honebein (1983)
 Michael A. Walters (1986)
 Kevin M. Ryan* (1988)—NCCI
 Michael Fusco (1989)
 Charles A. Bryan (1990)
 Albert J. Beer (1995)
 Mavis A. Walters (1997)
 Patrick J. Grannan (2000)
 Paul Braithwaite (2005)
 John J. Kollar (2008)

Other CAS Members Who Served as Rating Bureau Presidents

Dan Johnston*—Massachusetts Auto Bureau
 Stephen S. Makgill*—Pennsylvania Compensation Bureau
 Tim Wisecarver*—Delaware/Pennsylvania Compensation Bureau

*Served as presidents of the designated rating bureau.

GROWTH OF BUREAUS—GROWTH OF THE CAS

Early in the 20th century, a number of events spurred the need for the property insurance business to develop orderly ratemaking procedures. Following the Armstrong Committee investigation of abuses in the life insurance industry and the insolvencies of many companies as a result of the San Francisco earthquake, the New York legislature established the Merritt Committee to investigate the fire insurance industry. The report of the Merritt Committee in 1911 and subsequent deliberations in 1914 of the National Committee of Insurance Commissioners (later the National Association of Insurance Commissioners) concluded that the problems in fire insurance stemmed from unbridled competition, that individual companies did not have sufficient data upon which to set rates, and that the anti-compact laws were a failure. In particular, it was believed that concerted ratemaking was not only desirable, but the public interest required it to avoid the adverse consequences of inadequate rates, unfair discrimination, and insurer insolvencies. Thus, the stage was set for the rise of bureaus and the development of statistical data collection and concerted ratemaking.

At the same time that this turmoil was occurring in fire insurance, the various states were adopting workers' compensation laws to address the issue of on-the-job injuries and the erosion of the English doctrine of assumption of risk. In addition, public liability, particularly as regards automobile insurance, was increasing dramatically.

The push to regulate fire insurance rates, the creation of workers' compensation laws, and the adoption of automobile financial responsibility laws that ultimately resulted in compulsory automobile insurance laws beginning with Massachusetts in 1927, resulted in a contentious regulatory environment. The insurance industry (companies and bureaus), insurance buyers (employers, business owners, automobile owners, etc.) and other interested parties (labor, auto manufacturers, lawyers, public policymakers, etc.) joined in an adversarial process regarding the underwriting and rating of insurance with the regulators in the role of evaluating the

competing points of view. In such an environment, the skills of actuaries played a significant role.

In 1914, the Casualty Actuarial and Statistical Society of America (shortened to the Casualty Actuarial Society in 1921) was formed with 97 charter members. A review of the membership records as of May 1915 indicates there were 123 members with six working for bureaus (all related to Workman's Compensation), 72 for insurance companies, 11 consultants, 27 for government (primarily insurance departments) and seven in other areas of employment.

The CAS membership grew during its first two decades, particularly in the employment categories of Insurance Companies and Organizations Serving the Insurance Business (Bureaus). Between 1935 and 1945 (Great Depression and WWII), membership dropped, most noticeably in employment by Insurance Companies and Government. By 1955, membership had rebounded to the 1935 level and continued to grow in the following decades. Beginning with the 1965–1975 period and continuing into the new millennium, CAS membership has grown dramatically, especially in the Insurance Company employment category. From 1965 to 1975 (encompassing the consolidation of the various rating bureaus into ISO and the move from the historical concept of mandatory adherence to bureau programs to the modern concept of the Advisory Organization), the number of members in the Insurance Company employment category grew almost 100%. In the following 10 years, membership in this employment category continued strong growth, increasing almost 60%. From 1985 to 1995 (during which time Advisory Organizations moved from providing rates to prospective loss costs), growth in the Insurance Company employment category again grew over 100% and this pattern continued in the following 10 years, with growth of almost 70%.

In the half century from 1955 to 2005, employment of members by insurance companies increased over 1,360%, outstripping membership growth of 1,080% in all other categories combined. Employment of members by organizations serving the insurance industry grew only 330% during this period. While the growth in employment by insurance companies was strong in each 10-year period from 1955 to 2005, it was particularly strong in the 1965–1975 and 1985–1995 periods, years that saw significant changes in the way Bureaus/Advisory Organizations functioned and in the relationship between them and insurers. As Bureaus/Advisory Organizations moved from providing “final answers” to “advisory information and analysis,” insurers reacted by adding expertise in the person of actuaries as they responded to the need to enhance their own capabilities and differentiate themselves in the marketplace.

Despite the relatively small number of members employed by organizations serving the insurance business (never more than 10% of the membership and about 4% today) the contributions of these members should not be underestimated. Over one-third of CAS presidents spent some or all of their careers employed by these organizations and almost 400 current members have spent at least a part of their careers at them. (See this chapter's opening photo for a look at some in attendance at the CAS Diamond Jubilee meeting in New York City in 1989.)

THE ROLE OF THE COMPANY ACTUARY OVER TIME

Under older rate regulation protocols, many states used a method requiring that the insurance commissioner approve rates prior to their use, called the prior approval method. Companies relied on the rate bureaus to analyze loss experience and make rate recommendations. Such rate filings resulted in rates that the industry would use—by line, state, territory, class, etc. The regulatory focus was more directed to solvency of the insurance companies. The bureaus were also held accountable for achieving rate change goals by carrier-based governing committees. Carriers had limited actuarial personnel since they relied on the bureaus to establish adequate and fair rates. Such carrier personnel would provide actuarial support to the bureaus for review of the bureau data and in subsequent rate recommendations.

Company actuaries participated in bureau activities by serving on actuarial committees by line of insurance and therefore aided in the establishment of actuarial formulae. This enabled input as to just how cutting edge the bureau formulae would be and did allow for a good understanding as to what the bureau average rate (or loss cost) represented. The same applied to a determination of class definitions and relativities as well as increased limits relationships. Over time, these committees morphed into advisory panels without decision-making authority.

The regulatory landscape changed. The competitive landscape changed. The technology landscape changed. Popularly elected regulators demanded that additional company-data-support be provided for filed rate changes. Just “me-tooing” the bureau rate or loss cost actions was no longer sufficient. Carriers had little choice but to staff up their analytical/actuarial resources. With those additional resources and the additional computer tools to allow for the analyses of that data, soon carriers were expanding their independent analyses far beyond just filing support. Carriers began to seek more refined data, both internal and industry. The goal was to provide a data-based platform for making more sustainable strategic decisions than they might have previously. Changes in the marketplace demanded more refinement in external data, as well. The use of the Bureau of Labor Statistics, Census, and various economic and demographic databases had become more commonplace for the carrier actuary. The analyses of that data resulted in actuaries being more able to match their rate plans to the exposure presented by each risk. The introduction of predictive analytics enabled such data to be used in a clear, unbiased manner.

Required time to market continued to shorten over the years. While the bureaus improved their data collection efforts, additional refinements in the data requirements and more independent actions on the part of the carriers made the task of “scrubbing the data” more of a challenge on the part of the bureaus. The quest for data quality, while absolutely critical, nevertheless put time pressures and delays into the flow of data from collection to publication. Carrier actuaries were (and are) forced to focus more on their own data, marketplace trends, and underwriting judgment to make their recommendations. The assimilation of the core disciplines within a carrier—claims, underwriting, loss control, marketing—took on new meaning in an insurance world that was growing in both analytical sophistication and speed to market.

The translation of historic experience and a variety of exogenous forces (regulatory, legislative, environmental, economic, and governmental) into a prospective, decision-making framework became a more challenging necessity. Nuances of company culture, performance, people, and initiatives also had to be worked into the carrier actuary's daily work. While the focus of the actuary's job remained quantitative, the future context of the operating perspective forced the actuaries to view their work more holistically. Many carrier actuaries came to be recognized as "numbers-oriented business people" who had an ease not only with the data and its analyses but also with the application and implementation.

Over the last 50 years, certain companies in certain lines abandoned the rating bureaus entirely and in fact became the market leaders for some lines of insurance. When it came to Personal Lines, these independent companies (e.g., State Farm, Allstate, Nationwide, Farmers, etc.) had more combined share of the market than the bureau companies did.

Enhanced competition required company actuaries to increase their technical curiosity to challenge standard approaches and improve them. Rather than only help with the solution to problems, actuaries became prime movers when it came to uncovering what those issues might be, as well as participating in solutions.

Carrier actuaries had clearly gone beyond filing support to become a key resource in how the company should go to market. As more and more companies staffed up, additional

data sources were constantly sought and analyzed. Company underwriting judgment might have played a more key role in company decision-making in the past. Over time, such judgment began to be tested and validated before making changes in the way that the company would go to market. A role for underwriting judgment clearly remains but is now exercised within the framework of data-based analyses and recommendations performed by the company actuaries.

IMPACT OF TECHNOLOGY

While rating bureaus had scale and the law of large numbers to make their product valuable, technology has enabled company actuaries to do more with less data. Catastrophe modeling companies could provide tools for company actuaries to develop average catastrophe loads unique to their own individual exposures where before they relied on a rating bureau analysis over a lengthy period of years that may have been useful to the "average" company but not necessarily valid for individual insurers.

Predictive modeling techniques were developed allowing companies to make use of variables that were not necessarily used by rating bureaus.

CONCLUSION

There is a long history of actuaries being employed at rating bureaus and of how company actuaries utilized the actuarial information disseminated by rating bureaus. Time will tell how this will evolve over the next 100 years.

BY JOHN J. KOLLAR

Ratemaking and reserving were the two most important functions for the vast majority of actuaries during the first 20 years of my actuarial career. Working at ISO, my focus was on ratemaking; the formulas were relatively straightforward, only slightly “complicated” by credibility and off-balance factors. Actuaries handled hurricane and other wind losses with excess wind and water calculations that substituted the 30-year averages of large losses for those of a given period—a year or longer. At ISO, we applied the ratemaking formulas to aggregate databases derived from millions of records of policyholder insurance data to generate advisory rates.

And then the world changed. Around 1987, Applied Insurance Research (AIR) developed a hurricane model applying Monte Carlo simulations to scientific weather information, current exposure data, and building damageability functions. Increased computer power combined with more sophisticated mathematics and the latest scientific analysis tackled large insurance databases to generate probabilistic models of future catastrophe insurance losses. The model output replaced catastrophe losses resulting from the aforementioned excess wind and water procedure. ISO eventually acquired AIR and enhanced catastrophe modeling by using policyholder databases of exposures and losses to increase the accuracy of the catastrophe models and develop related products for the insurance industry.

Catastrophe models also generated a distribution of aggregate catastrophe losses for an entire portfolio of an insurer’s policies. That enabled a more robust measurement of the capital needed to cover an insurer’s catastrophe risk. The ability to measure the catastrophe risk of a portfolio of insurance policies facilitated the transfer of catastrophe risk to traditional reinsurers. But it also allowed for the securitization of catastrophe risk and its transfer to the broader financial markets through catastrophe bonds and other financial instruments.

And the world changed again. The ongoing effort to improve measurement of an insurer’s risk moved from the review of static historical financial statement data to the development of a more dynamic, probabilistic look at the future. Called dynamic financial analysis (DFA), the models examined an insurer’s underwriting and investment risk concurrently using a distribution of economic conditions that resulted in an indicated economic capital as a measure of an insurer’s risk during a specified future period. Again computer power and sophisticated mathematical techniques upped the ante for insurance data. But economic and investment data augmented the analysis.

The more robust analysis of an insurer’s risk and economic capital fit nicely into the growing management focus on the holistic view of an enterprise’s risks and opportunities. Risk management was evolving

into enterprise risk management (ERM). ISO established an Emerging Issues Panel of insurers to identify and study new developments that could affect insurer financials, and ISO convened the ERM Forum of insurers to discuss and explore the gamut of ERM issues.

ISO also began providing a variety of analytics to assist insurers in their ERM programs. In an effort to diversify its risk while still growing in the property-casualty industry, ISO pursued a number of business opportunities in health insurance and mortgage analytics.

And yes, then the world changed yet again. Predictive modelers began using sophisticated statistical techniques applied to individual policyholder insurance data and external (noninsurance) data to generate more accurate rates for subgroups of policyholders within existing rating classifications. External data included, for example, weather, population, and vehicle density. In 2005, ISO made a major investment by forming ISO Innovative Analytics (IIA), an independent division to develop new analytic solutions and enhance existing products and services. We’ve also extended the techniques to measuring risk and fighting fraud in the health and mortgage markets.

As I write this today, some insurers and consultants have developed or are developing and implementing pay-as-you-drive vehicle rating programs based on telematics data. The programs vary premiums based on how far an insured drives, how carefully he or she drives, where he or she drives, and so on. Insurers can vary an insured’s premiums with changing behaviors. Most impressive, these programs offer the potential to encourage a driver to improve his or her driving behavior. Telematics can provide a steady stream of data that could inundate any traditional actuarial analysis. But electronic transmission, real-time computer processing, and sophisticated mathematical algorithms have turned enormous amounts of data into a meaningful, actionable information stream. ISO has invested in telematics and has patents pending that will facilitate rating vehicles using telematics data.

The last 40 years have brought tremendous changes in ratemaking and computer power, as well as the number and size of databases, the use of statistical techniques to generate complex models, and the expansion of the breadth of actuarial functions. Actuaries have been key players in making those changes. To meet the evolving needs of its customers and to provide more robust and actionable information, ISO has expanded and transformed into a larger, publicly traded corporation called Verisk Analytics. Over the course of my career in the industry and at ISO and Verisk, my experiences have been anything but boring. The challenges, upheavals, and changes have made it fun. Where has the time gone?

BY RICHARD I. FEIN

When we recall the many experiences in our professional lives, sometimes, we can pinpoint the times in which our careers evolved. Sometimes, we are lucky enough to remember early encounters with leaders of the actuarial profession who, either directly or indirectly, were educators creating learning opportunities for their employees. Moments such as those characterize the time I spent at National Council on Compensation Insurance (NCCI), starting in the mid-1970s through the mid-1990s.

NCCI is an organization at the root of a \$100 billion business. It was a business undergoing great change when I arrived. The then recently promoted new standards for benefits to injured workers created an extremely high level of action by state and federal regulators. The stakeholders had much to consider and act upon. The resulting costs would increase and system-wide changes demanded greater responses from all parties. When I learned of an opening there that involved creating a new emphasis on presenting technically sound concepts in a public environment, I was intrigued. I was completing a brief stint at a small consulting firm run by the legendary Lew Roberts. I met with another legend, George Reall, under the clock at Grand Central Station. What followed was nearly 20 years of exposure to every aspect of professional life and a series of mentors I consider to this day, among the best ever.

George Reall and, importantly, Bob Heitzmann, neither of whom were actuaries, were both focused on the end result, namely maintaining the fluid environment with regulators that permitted the business of workers compensation insurance to remain sound and a basis for this highly politically charged system to function for all parties. Reall and Heitzmann saw that requirement in its starkest terms. Translating that into a motion from a technically sound analysis into a functioning system at all times was a difficult and demanding task. When it involved a system under change, it was even more demanding. They both treated the actuarial profession with respect and had a very high regard for the credibility we could display. If given the choice, they would choose the path that kept the actuarial profession as the credible foundation of NCCI. With that view at the top, any actuary can be successful. The professional side had a well-known foundation that afforded more than a few detailed and at times difficult papers and questions on the actuarial exams. It was the stuff of actuarial legends.

I was wandering around in a professional landscape painted by the likes of Ralph Marshall (FCAS 1928), who prepared the first published fundamental starting point for pricing workers' compensation insurance. I still treasure an old reprint of his article. His army consisted of others, such as Francis Perryman (FCAS 1930) (whose bones haunted the halls of my previous employer, Royal Globe Insurance). In spite of the rumors, I never worked with those gentlemen, but I did work with Roy Kallop (FCAS 1956) for nearly my entire stay at NCCI. Kallop's actuarial beginnings were in oil exploration but migrated to workers' compensation ratemaking.

This giant of a professional (and unrepentant punster) was an unassuming patient man whose quiet demeanor was disarming and created a trust noticed by the most cynical opposition. He was in demand by the tough leaders of the stevedores in Louisiana to present his views directly on the necessary cost changes, because of the credibility created by his professionalism. That was a quietly important lesson. Among the others I encountered was Frank Harwayne (FCAS 1950), who joined NCCI from the New York Insurance Department to create the first-ever research division there. Harwayne's earlier years were spent developing and reviewing interstate trucking rates, which were regulated. Did anyone ever start their careers with the intention of being an actuary? Not many in those days.

The start of a research group and a government, consumer and industry relations team, my entry point was only the beginning of the many innovations to come. Those actuarial roles were consistent with the changes occurring in the insurance business, with property-casualty actuaries throughout the 70s and 80s emerging to be significant forces and leaders in the insurance business.

Among those fine actuaries were Kevin Ryan (FCAS 1968) chief executive officer of NCCI, following George; and Tony Grippa (FCAS 1976) lead actuary for many years during the transition times; Ron Retterath (FCAS 1974), a solid actuary who was able to present difficult concepts to an interested public; and many others too numerous to risk offending by failing to name them. These people formed such a great team of actuaries within and outside of NCCI. These were the important actuarial leaders in the insurance industry who helped guide the organization through those times. These actuarial leaders were able to introduce many new concepts over those 20 years and bring some sense of order to the decision-making processes in play.

NCCI ADVANCES

I was fortunate enough to participate in several developments during my time at NCCI. For example, financial data replaced the slow-to-mature unit statistical plan for assessing overall rate needs and accident year data supplemented and then replaced policy year data. Detailed claim data also filled the demand for more information on the underlying sources of cost changes for legislators to make informed decisions.

Economists were also brought in to complement the actuarial analyses so that the world of business and economics could be bridged to the developing domain of actuarial work. Trend calculations were introduced to replace, in a technical way, what we all knew were cost drivers.

Creating and maintaining residual markets that stood on their own was one of the great achievements of private industry, whose strong actuarial foundation was vital to making them work. It defused a potential non-negotiable blocker to a sound business environment.

Implementing fee-based services for members and some for non-members proved to be a difficult concept to accept for the traditional stakeholders of this business and its assets. Mainly, fee-based services distracted from the main goals articulated by the earliest CEO, George Reall, and another great CEO for whom I worked, Kevin Ryan. This was a necessary step, however.

Creating professional audio-visual materials was done quietly with purpose, and was not dictated from upper management. These materials supplemented and, at times, replaced the necessary give and take during presentations. I drafted my first such materials in the basement of my house, by hand, to the surprise of local counsel. These types of materials have since evolved into the vital underpinnings used today as part of every NCCI presentation.

Establishing the new and replacing the old is vital for a leading company. NCCI created more technically sound and effectively operating experience rating and retrospective rating plans to replace outdated plans. NCCI also swapped a 1200-class classification system with a more updated and reliable 600-class classification plan. Despite being actuarially based, the new classification plan faced the challenge of familiarity, which always requires a substantial momentum to overcome.

Increased emphasis on communications to all stakeholders made it necessary to build public affairs and media relations teams. These teams were new at the time and a reflection of the obstacles and demands brought on by an increasingly broad and challenging public stage.

NCCI's forming a focused team for benefit change analyses was beneficial and had a great impact. When it became clear to the stakeholders that the current system costs were unsustainable, this team became a significant contact point for legislative changes. This focus culminated in the Workers' Compensation Congress, set in motion by then-CEO Kevin Ryan.

Other voices, perceived to be credible sources independent of the insurance industry, came about as products of the time and the fundamental changes being made. These voices included alternate rating organizations; the Workers Compensation Research Institute (WCRI,) effectively led by Rick Victor; a formal association of independent rating organizations representing the large and important states, such as New York, New Jersey, Pennsylvania, Massachusetts, California and many others. These were independent, alternate voices, but they were always either steeped in or supplementing the work of the actuaries.

Self-insured groups emerged as effective alternatives to insurance companies. These were ultimately subjected to the same cost drivers and, after a time, all parties understood that the goals set out by the NCCI leaders in the early days were still in place. What began as contentious and politically driven arguments became quieter and much more businesslike. NCCI rating plans and classification plans

are widely recognized as appropriate even by its most ardent critics. Keeping your eye on the horizon does that.

These changes, now so ingrained in the current workers' compensation environment, are hardly noticed by practitioners. But they were implemented in the tumult of great change driven by the actuaries at NCCI and the actuaries who emerged as the leaders in the insurance industry. I was privileged to be able to build on my actuarial knowledge to become further involved in the many operational aspects of NCCI and eventually to become the chief operating officer, a newly created position, during my final five years.

The key theme here was the respect for actuaries at the top; it was essential to the success of NCCI and eventually morphed into a hard-won lesson that emerged in the late 90s and throughout the early 2000s. Happily, the attitude at the top reigns and the actuaries remain as the bedrock of the industry.

LESSONS LEARNED

Throughout my time there I was exposed to nearly every business setting an actuary can be involved with, always standing on the principles and professionalism in every environment. There were very good states in which we had to do business, places in which we were treated as professionals with a credible story to tell. Texas was among them, in spite of the large public hearings, among my earliest memories, we were treated respectfully by the public. As opposed to some classification challenges in some other Western states, in which the members of the class showed up with their hunting rifles at their sides to see the New Yorkers with pollution on their suits! The drama emerged in other places: major class action suits, anti-trust threats, hearings run by politicians with agendas to keep, extensive filing documents dramatically tossed into the waste basket by commissioners with a point to make (true story).

In spite of those events, I learned many lessons:

- Keep your eye on the horizon as a professional—it helps when the seas get rough.
- Professionalism is a bedrock in every aspect of business actuarial work products.
- Even difficult actuarial concepts can be explained credibly; if you can't explain it, you likely don't understand it.
- Credible ideas from any source can provide valuable insights so keep an open mind.

Those years were important to my professional development. I am particularly grateful to those who knowingly and unknowingly provided the educational and professional opportunities.

EXAMINATIONS OF THE SOCIETY.

COMMITTEE ON EXAMINATIONS.

GEORGE D. MOORE (CHAIRMAN)

LOUIS I. DUBLIN

GUSTAV F. MICHELbacher

CHARLES S. FORBES

HARWOOD E. RYAN

EXAMINATION FOR ENROLLMENT AS ASSOCIATE.

HELD ON MAY 3, 1916.

PART III. FIRST PAPER.

Time Allowed, Three Hours.

Select any six of the following questions:

1. (a) Two notes—one of face value \$200.00, due in one year, the other of face value \$300.00, due in two years, are purchased for \$450.00. What effective rate of interest is realized?

(b) Prove and interpret verbally the following formula:

$$1 = i a_{\overline{n}|} + v^n.$$

(c) State symbolically the difference between discount at simple interest, discount at compound interest and commercial discount.

2. (a) Explain the "marginal utility" theory of value.

(b) Define real wages.

3. What are the chief characteristics and causes of the coefficient of dispersion?

4. (a) If v, v^2, v^3, \dots represent the values of 1 due 1, 2, 3, ... years in the future and x, v^2x, v^3x, \dots the number of persons who have attained the exact ages $x, x+1, x+2, \dots$, find

the present value of a series of payments of 1 payable at the end of each year commencing at age x by a person now aged x .

(b) Express the result in commutation symbols.

5. Explain the advantage of the following type expressions:

Arithmetic average,
Mode,

Median.

Chapter 4

THE CAS EXAMS: A FOUNDATION OF THE CAS FOR 99 YEARS

By Michael L. Toothman

INTRODUCTION

Nearly every living member of the CAS has encountered the CAS Examination system, as it has been the exclusive route to membership for over 50 years and the primary route to membership for all but the earliest years of our Society. In recent years, a small number of individuals have been admitted through various mutual recognition agreements, but these agreements have thus far been established only with organizations that have their own examination systems that have been deemed reasonably equivalent to that of the CAS. The exam system is for most people their first encounter with the CAS and represents the most significant shared experience for all CAS members. Each of us has our own story to tell of exam successes, usually of exam failures, and of exam frustrations. No history or other commemorative of the CAS would be complete without a discussion of the CAS exams.

The first syllabus and rules regarding examinations were adopted by Council (Council was the organization's first governing body, the 1915 version of today's board of directors) on March 29, 1915, and Joseph H. Woodward, actuary for the New York State Industrial Commission, was the first chairman of the Committee on Examinations.¹ (Yes, this is the same Woodward whose work is commemorated, along with that of Richard Fondiller, by the Woodward-Fondiller Prize, the first prize program established by the CAS.) The first examination was given on October 6, 1915. Thirteen successful candidates from that exam were admitted as Associates on October 22, 1915, just 16 days after taking the exam. The first Fellowship exam was given in May of 1916, and the first full set of two Fellowship exams was given in May of 1917. Two Associates successfully completed their Fellowship exams in 1917 and became the first to achieve their Fellowship status via the examination route. These two were A. H. Brockway and Robert J. McManus, both from Travelers.

This chapter will discuss the CAS exam system and some of the significant changes it has undergone during its first 100 years. This is not intended to be a comprehensive history of the exams; that would be much too voluminous for this book. Rather, I

¹ Much of the content of this paragraph is taken from Dudley Pruitt's excellent paper "The First Fifty Years," which first appeared in *Proceedings of the Casualty Actuarial Society* Volume LI (1964) and was subsequently reprinted in Volume LXXVI (1989). I would highly recommend this paper to all members and others interested in our history.

will attempt to identify and discuss some of the overarching themes and the most significant changes to the system. A much more detailed history of the exam system, up to 1989, appears in the two excellent histories authored by Dudley Pruitt and Stan Hughey.² I will not repeat all of the detail contained in those two papers in this volume, though I have relied heavily upon them and borrowed from them in order to discuss some of the overarching themes I have identified. It is also fair to be clear at the outset that others might identify some different important themes than those I have selected. What follows are my own views, informed by my own participation on the Exam Committee from 1974 through 1986, followed by four years as vice president responsible for the membership/admissions process and subsequent service as president and as a board member and service on several different education/examination-related task forces, as well as by discussions with several other individuals who preceded or followed me in these roles.³

OVERVIEW: NUMBER OF EXAMS

When the first *Syllabus* was adopted in March of 1915, there were four exams for Associateship and an additional two exams for Fellowship. Each exam consisted of four "sections," or subjects for examination. These were as follows:

ASSOCIATESHIP

Part I: Elementary Algebra; Plane Trigonometry; Analytical Geometry; and Double-Entry Bookkeeping

Part II: Advanced Algebra; Differential and Integral Calculus; Finite Differences; and Probabilities

Part III: Compound Interest and Annuities Certain; Statistics; Life Annuities and Assurances; and Elements of Economics

Part IV: Applied Statistics; Policy Forms and Underwriting Practices; Insurance Accounting; and Insurance Law

² Pruitt's "The First Fifty Years" was reprinted in *PCAS* Volume LXXVI (1989) alongside M. Stanley Hughey's piece "The First Seventy-Five Years." Future references will utilize page numbers from the 1989 volume rather than the 1964 *PCAS* in which Pruitt's paper was first published.

³ Much appreciation is also due to the CAS Office staff, most particularly, but not exclusively, to Mike Boa, Bob Craver, Tom Downey, Elizabeth Smith, and Ashley Zamperini.

FELLOWSHIP

Part I: Calculation of Premiums and Reserves; Inspection of Risks; Adjustment and Settlement of Claims; Investments of Insurance Companies; and Current Problems

Part II: Social Insurance; Usage of Government Statistics; Systems of Invalidity, Old Age, and Unemployment Insurance; and the Calculation of Premiums for and Valuation of Pension Plans

As impressive as this syllabus is, any candidate who has worked his way through the CAS exams knows that every syllabus change requires a transition program. This was even true for the introduction of our first *Syllabus*. When the first exam was given in 1915, only Part IV of the Associateship syllabus was given, and that was sufficient for enrollment as an Associate. In 1916, only Parts III and IV of the Associateship syllabus were required to become an Associate, and those two exams were given along with Fellowship Part I. Parts I and II of the Associateship syllabus continued to be waived through 1920. Then came 1921 and the first major revision to the *Syllabus*.

The story of the 1921 *Syllabus* revision will sound very familiar to those CAS members who have been members for awhile. Dudley Pruitt's paper describes this change in some detail (Pruitt, pp 236–237). The CAS Educational Committee reviewed the whole question of exams and issued a "comprehensive report," which was adopted by Council in May of 1920,⁴ less than five years after the first exam had been given and in the same month as the first full administration of the *Syllabus*. Pruitt identifies two major issues discussed in the report. The first was whether exam requirements ought to be different for the actuaries and the statisticians. The report recommended no distinction between the two groups in this regard. The second question was what the distinction was between an Associate and a Fellow and particularly what level of work Associates ought to be deemed qualified to handle. This debate continued to rage within the CAS until the middle of the 1970s and is such an important theme that I will discuss it in a bit more detail in the next section. In 1920, it was determined that Associateship should "be an evidence of certain qualifications which might justify an executive of a casualty company entrusting certain work definitely to those who had so passed Associate examinations."⁵ The committee then recommended reducing the Associateship syllabus to two exams and moving some of the more advanced material to the Fellowship exams, thereby deemphasizing to some extent the original focus on social insurance. This new *Syllabus* was adopted May 28, 1920, to be effective in 1921. This was the first major syllabus change, but it would not be the last.

Over the years the number of exams required for Associateship and for Fellowship has varied, from a low of four exams in total in the 1920s to a high of 10 exams⁶ in total in the late 1970s and throughout the decades of the 1980s and 1990s. In 1991, a requirement for completion of an in-person professionalism course was added to the requirements for Associateship. In

2005, three subjects⁷ were dropped from the examinations but were kept as requirements for Associateship through a new process called Validation by Educational Experience (VEE), most commonly satisfied through passing, with a grade of B- or better, a college course approved by the CAS. The VEE topics were ones which were considered very important for a casualty actuary but were not seen as part of an actuary's core competency and were felt to be better taught and tested through a college course. Finally, in 2011, the CAS added a requirement for the completion of two courses provided online over the Internet. This change reflects the additional evolution of thinking within educational circles as well as within the CAS in terms of effective education and testing and is a major development.

A summary of the requirements for Associateship and Fellowship, at least in terms of number of exams and these additional requirements as identified above is contained in the following Table 4.1.

It should be noted that each of the exams given in the period 1921 through 1933 consisted of both a morning session and an afternoon session, with each session lasting three hours. Thus four total exams really represented 24 hours of exam time. The change from four exams to eight exams which occurred in 1934 was in reality a split of each of the previous day-long exams into two half-day exams. Thus the increase in the number of exams that shows in 1934 did not represent any increase in the amount of exam time. Partitioning, as implemented in 1987 and subsequent years, was evidently not a new idea after all. There is no record of how "travel time" (the amount of time necessary to complete all of the exams) was affected by this change.

ALTERNATIVE ROUTES TO MEMBERSHIP

All but a very few of those members of the CAS who are still living have known the exam system as the exclusive route to CAS membership. However, that has not always been the case. Of course, the 97 charter members of our Society never had to pass a CAS exam. However, even though the first exam was given in 1915, producing thirteen new Associates, and even though the first new Fellows by examination were admitted in 1917, there were two alternative, non-examination routes to membership that continued to be used for much of our Society's first fifty years. These were the "invitation route" and the "paper route." In addition, in recent years the CAS has begun to accept a small number of new Fellows through Mutual Recognition Agreements with other actuarial organizations, though these agreements are perhaps most accurately understood as accepting another set of actuarial examinations in place of our own. A brief discussion of each of these alternative routes to membership follows.

The Invitation Route: This method of adding new members to our Society was evidently used rather extensively in the early years of our existence. Even after the admission of the 97 charter members, it was found to be quite useful to add to the size of the organization and increase its stature and recognition by inviting some individuals to accept Fellowship in the CAS. The practice was evidently used largely to invite into membership "prominent insurance executives," many of whom were perhaps not nearly as quantitatively oriented as membership in

⁴ The Report of the Educational Committee is available in *PCAS* Volume VI, p. 420.

⁵ Report of the Educational Committee, as quoted in Pruitt, p. 237.

⁶ This ignores the impact of the Partitioning Era of the 1990s, in which some exams were divided into smaller pieces and separately administered, with separate pass lists. Partitioning will be discussed in a later section of this chapter.

⁷ The three VEE subjects are applied statistical methods, corporate finance, and economics.

TABLE 4.1 ACAS AND FCAS REQUIREMENTS OVER TIME

Year	Designation Requirements					
	Associate				Fellow	Total No. Exams
	No. of Exams	Professionalism Course	Validation by Educational Experience	Online Courses	No. of FCAS Exams	
1915	4				2	6
1921*	2				2	4
1934	4				4	8
1941	5				3	8
1948	4				4	8
1968	5				4	9
1976	6				4	10
1977	7				3	10
1991	7	Y			3	10
2000	7	Y			2	9
2005	7	Y	3		2	9
2011	6	Y	3	2	3	9
2013	6	Y	3	2	3	10

*Parts 1 and 2 were waived during the first education structure (1915–1920). For the education structure introduced in 1921, each of the two ACAS and two FCAS exams had both a morning session and an afternoon session.

+ THE ROAD TO SEVEN EXAMINATIONS

BY RONALD L. BORNHUETTER

One of the most critical situations in CAS's history occurred when the CAS Council in 1975–76 had to consider the possible merger of the SOA and the CAS. It was the belief that, instead of being rivals, the two organizations should look at the possibility of merging. Both the CAS Council and the SOA Board of Directors agreed that such an attempt should be made even though the SOA membership was multiples of the CAS. As a result, a joint merger committee was formed with senior members on both sides and Harold Schloss, former CAS president, as chair.

The "Schloss" Committee did come up with a positive plan that addressed the two main concerns, governance and examination structure. As to governance, a system similar to United States federal structure was proposed—two groups, one voted on by all members together and the other voted on separately by each organization with each organization having equal senatorial membership, thus addressing the imbalance in membership.

As to examinations, the SOA was five for Associateship and another five for Fellowship, while the CAS was four and four. The new structure was basically 4–3–3 with seven examinations required for Associateship in the merged organization with essentially three paths after the first four common areas, these being (1) property-casualty, (2) life and pensions, and (3) accident and health. The CAS Council was especially pleased with this structure as it addressed a major concern, that is, students who stopped taking examinations after achieving Associateship (four examinations) were not fully qualified,

the main reason being that accounting and loss reserving topics were covered in the Fellowship examinations and a qualified casualty actuary must be tested in these areas. Seven examinations for Associateship solved this problem.

Both the CAS Council and SOA Board agreed to take the proposed merger plan to the membership through various means. The SOA presented the plan at various regional meetings.

They had such a bad reaction, especially the proposed five to seven examinations for Associateship that ultimately the merger plan was dropped.

This left the CAS Council in a terrible dilemma—a strong need to move to seven examinations for the Associateship against the huge disadvantage in recruiting trainees as the SOA stayed at five. Added to this was the very difficult transition for current CAS candidates. To the Council's credit, they took the bold move to require seven examinations for CAS Associateship despite the competitive disadvantage. This disparity still exists today and time has shown that the Council's wisdom back then was right and proper.



Ronald L. Bornhuetter

the CAS might have implied.⁸ Of the 132 new Fellows admitted between 1915 and 1928 (i.e., excluding the 97 charter Fellows), two-thirds entered through the election, or invitation, route, and only one-third qualified via the examinations.⁹

The invitation route to CAS membership was specifically provided for in our Society's original Constitution, which "permitted the Society, after a recommendation by Council, to admit persons as Fellows without examination by ballot with not more than four negative votes and not less than twenty affirmative votes."¹⁰ The Constitution was later changed so that the membership approval was by three-fourths of the Fellows present and voting. I have been a member of the CAS since 1972 and have been quite active in our governance over much of that time, yet I must confess to a complete unawareness of this provision. Yet, this provision was still in our Constitution at the time I became an Associate, and it was not removed until November 18, 1976.

Apparently, the invitation route was rarely used after about 1934, though there is at least one interesting instance of its use after that. The CAS was founded by individuals largely interested in Workmen's Compensation and other forms of Social Insurance. The words in the mission statement of the Constitution were "casualty and social insurance", though the phrase "casualty insurance" certainly carried a much different understanding in 1914 than it does today. There were clearly some tensions between this young group of actuaries and other constituencies. Some of these are discussed very eloquently in Dudley Pruitt's aforementioned paper. One of these tensions was with underwriters and was due to the natural conflict between the use of science and the use of judgment in the pricing process. One of my first assignments upon achieving Fellowship was to chair the Rating Committee for certain lines of business for my employer. In that committee, the actuarial, underwriting, and marketing departments were all represented and charged with coming to an agreement on pricing strategy for each line of business within each state. It was through this experience that I developed one of the governing philosophies of my career that the actuary's role is to bring facts to bear upon the decision-making process. It appears that my experiences were certainly not unique.

A second tension was between casualty actuaries and life insurance actuaries. Can we all say, "The more things change, the more they stay the same?" Dudley Pruitt cites a definition of an actuary that is limited to life insurance and annuities.¹¹ So perhaps it is not so surprising that many life actuaries looked askance at this rogue organization when the accepted definition of the day did not include non-life hazards within the scope of actuarial practice. I guess this is further proof of how far we have come!

A third tension mentioned in Pruitt's paper is between casualty actuaries and fire insurance actuaries, who were not included within the original scope of the CAS. At the time of our founding, fire insurance and casualty insurance were typically sold by separate companies, and they were certainly

not covered by one policy. The concept of the Homeowner's policy combining both first-party and third-party coverages was first developed by the INA beginning in the mid-1950s.¹² In any case, after the SEUA decision and the passage of the McCarran-Ferguson Act in the 1940s, the CAS began to think about its own version of the "Big Tent" for that era. Specifically, should the CAS expand its mission to include fire insurance and other property covers? In 1950, the mission statement within our Constitution was changed to include "insurance, other than life insurance" rather than the previous wording of "casualty and social insurance." This led to the use of the invitation route to CAS membership again. In 1951, six prominent men in the field of fire insurance ratemaking became CAS Fellows.

Though the option to invite others into the CAS via this procedure remained in place until 1976, it was rarely used after 1951. Research by the CAS office staff has determined that it was used in eight instances between 1953 and 1958, but we have identified no uses of this route after 1958, though there are some gaps in the CAS records between 1959 and 1971. If any reader of this chapter is aware of such an instance, we would greatly appreciate it if you would inform the CAS office so that we might make our history more complete and accurate.

The Paper Route: Another alternative route to CAS membership was the paper route.¹³ This alternative has taken various forms at different points in time. At times, a paper on an approved subject was permitted in place of some of the Fellowship exams. At times, Associates with twenty years experience could submit a paper in place of all Fellowship exams. At other times, candidates with a certain age and level of experience could submit a paper in place of all Associateship exams. The program in its various forms did evidently produce some worthwhile additions to the literature in the *Proceedings*. However, there were also instances which caused concern and even embarrassment to the Society, particularly in cases of papers of unacceptable quality. I have not been able to determine how often this option was used, but the option was eliminated in 1962. Since then, with the exception of the invitation route that was available until 1976 but apparently not used during that period of time, the only option to CAS membership has been the exams, though the Constitution has always allowed for some exams to be waived on an individual basis if the person had passed similar exams deemed to be equivalent to the CAS exam.

Mutual Recognition: As the world has become more "global," the actuarial profession has become more global as well. The transformation of the International Association of Actuaries from a "membership organization" to an "association of associations" is a story that will be told elsewhere, but it is a development that has had great impact on the CAS as well as the actuarial profession as a whole throughout the world. Our leadership now spends a significant portion of their time dealing with international matters. Indeed, the CAS has never defined itself as a national organization, though it has in practice been first a U.S. organization and then a North American organization for much of its history, though there was a member resident in the U.K. as early as May of 1915.

⁸ See Pruitt, p. 241

⁹ Moorhead, E.J., *Our Yesterdays: The History of the Actuarial Profession in North America 1809-1979*, p. 290.

¹⁰ See Pruitt, p. 240

¹¹ Pruitt, p. 252

¹² The story of this innovation is fascinating and is a wonderful example of the innovation and creativity of actuaries, as well as others. For part of that story, see LeRoy Simon's Reflections elsewhere in this volume.

¹³ Again, much of this discussion is based heavily on the more extensive discussion in Pruitt, primarily from p. 240.

In the late 1990s there was some discussion among various actuarial organizations about the possibility of establishing a network of bilateral agreements to grant mutual recognition of the Fellows of each organization in order to allow them to practice in the other's country. The CAS established a Task Force on Mutual Recognition, whose recommendations were adopted by the Board on November 14, 1999. One of these recommendations was that the CAS should not seek to enter into bilateral agreements with other actuarial organizations granting reciprocal Fellowship status to Fellows wishing to practice in the host country of the other organization.

Subsequent to that decision, there were some international developments which caused CAS leadership to feel that the organization's position on the mutual recognition issue should be revisited. At its September 2001 meeting, the Board formally decided that the issue should be readdressed, and a new Task Force on Mutual Recognition was established, chaired by Alice Gannon. That task force issued its report in August of 2002,¹⁴ and in November the Board endorsed the concept of entering into Mutual Recognition Agreements. In June of 2003, the Board adopted the wording for a proposed constitutional amendment that would allow Mutual Recognition Agreements, and the amendment was passed later that year. The subject was rather controversial at the time, as the amendment passed with an affirmative vote of only 72.8% of those voting (with two-thirds affirmative vote required for passage).

The amendment includes, among other provisions, a requirement that any applicant approved as a Fellow of the CAS via a Mutual Recognition Agreement must have completed a "rigorous testing of a comprehensive property and casualty specialization." It is not clear whether a "rigorous testing" could include some process other than an exam system similar to that of the CAS, but it is probably fair to view this route to CAS membership not as an alternative to passing exams but rather as a substitution of other exams for those of the CAS, at least as the provision has been applied thus far. At the time of this writing, the CAS has entered into three Mutual Recognition Agreements, with the Faculty of Actuaries, the Institute of Actuaries (U.K.), and the Institute of Actuaries of Australia. To date, thirty-two individuals have become Fellows of the CAS through a Mutual Recognition Agreement, twenty-seven from the Institute and Faculty of the U.K. (which have now combined) and five from the Australian Institute.

MEANING OF ASSOCIATESHIP

The distinction of Associate in the CAS has been one that has been debated since the beginning of the Society. What does the ACAS credential signify? Is it just a milestone on the way to Fellowship? Should an ACAS be someone who is qualified to perform certain tasks? Is an ACAS qualified to render professional opinions? These questions and others have been asked at various times throughout the history of the CAS, and the answers reached have had implications for the exam system.

As indicated above, the first revision to the Syllabus, in 1921, revolved heavily (though not exclusively) around this issue. At that time, it was determined that Associateship should be more than a stepping stone towards Fellowship and that Associates ought to

be qualified to perform certain tasks within a casualty insurance company. In 1925, however, the CAS revised the Syllabus again, concentrating all the mathematics of the exams in the Associateship exams and moving all the "practical problems" of the insurance business to the Fellowship exams, thus completely reversing its decision as to the meaning of Associateship.¹⁵

The 1934 Syllabus change, which doubled the number of total exams from four to eight, was in reality simply a partitioning of six-hour exams into three-hour exams without a change in substance. Therefore, the meaning of the Associate credential did not change again until 1941. At that time, it was felt that the ACAS credential needed to warrant some knowledge of the insurance business and the ability to perform some practical duties. The result was that the requirement for Associateship was raised from four exams to five with the movement of two subjects to the Associateship Syllabus: (1) Policy Forms and Underwriting Practice and (2) Casualty Ratemaking Procedures.¹⁶

Subsequent Syllabus changes between 1941 and the mid-1970s do not seem to have revolved around the Associateship question to a very great degree, if at all.

The specific subjects on the Associate exams certainly changed over that period of time, sometimes quite radically. However, since 1941, the ACAS designation has always warranted at least some practical knowledge of the insurance business and some training on certain basic actuarial functions. Basic Ratemaking has been an Associateship subject since 1941. However, reserving was never an Associateship requirement at any point up to and including when I achieved my ACAS designation in 1972.

By the 1970s the industry was beginning to consider requiring some sort of professional opinion on the reasonableness of an insurer's loss reserves. That is also another story which is beyond the scope of this chapter. However, the developments of the 1970s again brought the meaning of the ACAS designation to the forefront. Among the questions being considered is just who should be qualified to offer a reserve opinion. Should it be accountants? Should it be actuaries? Should the many individuals who had been historically performing the function of determining reserve levels, though not professionally credentialed at all in many cases, be allowed to provide these opinions? Within the CAS it was felt that if actuaries were to perform that task, all of our members ought to be qualified, not just the Fellows. However, Associates had not been tested on the subject of reserving. Therefore, in 1975, the decision was made to increase the Associateship requirement from five exams to seven, over a two-year transition period, so that Associates would be deemed to have demonstrated competence in the basics of both of the core actuarial functions: ratemaking and reserving. When the requirements for a Statement of Actuarial Opinion were subsequently established, we could legitimately argue that both an ACAS and an FCAS had the basic education to render such an opinion. While there have continued to be occasional debates about the worth of the ACAS credential and whether the Society ought to have the credential at all, in the last thirty-five years the CAS has not strayed from its conviction that the ACAS designation warrants that its holder is qualified to practice as an actuary.

¹⁴ The full report is available on the CAS website under a section on background for Mutual Recognition.

¹⁵ Pruitt, p.237

¹⁶ Pruitt, p. 237

Finally, it should be noted that the CAS's 1975 decision to increase the Associateship requirement to seven exams was a rather bold decision at the time and was not without considerable risk to the organization. By that point in time, several of the Associate exams were jointly sponsored with the Society of Actuaries (SOA). The SOA was significantly larger than the CAS, and the vast majority of candidates had their first contact with the actuarial profession through the SOA, as it was their office that provided most of the administration for the jointly-sponsored exams. The ASA designation remained at five exams, and there was a real fear that candidates might perceive the ASA as easier to reach than the ACAS and would not recognize the value of the difference in the level of training required for each of those designations. Fortunately, time has proven the wisdom of the CAS decision, which has certainly increased the value of the ACAS designation and has served the CAS well.

MAJOR SYLLABUS CHANGES

As every CAS member is well aware, the exam Syllabus has been anything but static over the lifetime of our organization. It must be remembered that our Examination system is both an education system designed to guide the basic education of aspiring casualty actuaries, most of whom are largely self-taught, as well as a testing or validation system designed to determine just which candidates have learned the material sufficiently and, in the case of the essay exams, can express that knowledge in a cogent and coherent fashion under the stress of test conditions. Of course, the particular readings on the Syllabus are changed frequently as new items become available that would improve the education of the aspiring actuary. However, there have also been rather frequent upheavals to the Syllabus as the educational philosophies underlying the entire system are changed, either in terms of what material ought to be included on the Syllabus or how that material should be tested. A full decade without a major Syllabus change has been an unusual occurrence for the CAS.

The aforementioned Dudley Pruitt paper does an excellent job of identifying and discussing the major Syllabus changes during the first fifty years of the CAS. Similarly, the paper by Stan Hughey, cited earlier, does a nice job of identifying the key Syllabus changes during the period from 1964 to 1989. I would refer the interested reader to those two papers for the detailed discussion of those changes. Here I would like to provide a timeline highlighting some of the more significant changes, without as much of the detail.

1915: First Syllabus adopted (described in detail earlier), with much mathematics on the Associateship exams and a heavy emphasis on Social Insurance on the Fellowship exams.

1921: First Syllabus change, reducing the Associateship exams from four to two exams, removing much of the mathematics, and reducing the emphasis on Social Insurance.

1934: No substantive changes in total, but each six-hour exam was divided into two three-hour exams, thereby doubling the total number of exams from four to eight.

1941: Requirement for Associateship raised from four to five exams and perceived value of ACAS increased by moving Policy Forms and Underwriting and Ratemaking Procedures

from the Fellowship exams to the Associateship exams. Emphasis on Social Insurance increased.

1948: Algebra dropped.

1955: All remaining mathematics dropped from the Syllabus except Probability, Statistics and Elementary Life Insurance Mathematics. Much practical material moved to Associateship exams.

1960: General Mathematics added to the Syllabus as Part 1, evidently at a more stringent level than had previously been the case.

1963: First joint sponsorship of early exams with the SOA.

1975: ACAS requirements increased from five to seven exams over a two-year transition period so that Associateship now includes testing on Reserving and an ACAS will now be deemed to have the necessary basic education to be qualified to practice. Part 3—Numerical Analysis and Theory of Interest now jointly sponsored with the SOA.

1980: First four exams now jointly sponsored with the SOA, including Operations Research and Life Contingencies.

1984: Significant changes to Parts 3 and 4. Only the first three exams are now jointly sponsored, as the CAS decides to test Life Contingencies at a more basic level than the SOA but adds Casualty Contingencies and Credibility Theory to Part 4, with the goal of providing candidates with useful casualty material at an earlier point in the examination sequence.

1987: Nation-specific exams first introduced, with nation-specific material concentrated on one exam (Part 8) and separate Part 8 exams offered for the U.S. and for Canada. Also, the "partitioning era" begins as Part 3 is divided into three smaller exams, separately administered and graded.

1990: Finance added. The two pieces of Part 5 were administered separately for those individuals needing only one of the two segments of this exam as part of the transition rule.

1991: Professionalism Course added as an additional requirement for the ACAS designation.

1992: Part 4 partitioned.

1993: Part 5 partitioned.

2000: All partitioning ended. Total number of exams reduced from ten to nine. Significant restructuring of the entire Syllabus occurred. Nation-specific exam moved to the Associateship Syllabus.

2005: Three subjects removed from the Syllabus and added to the Associateship requirements as VEE subjects (Validation by Educational Experience). Parts 1–4 significantly restructured.

2007: Enterprise Risk Management (ERM) added.

VOLUNTEERISM

Volunteerism has been arguably the single most important tenet of the CAS culture. This was true at the inception of the Society and it continues to be true today, despite the establishment of a professional office staffed by dedicated people who have added their own professional expertise to the resources provided by our own members. Nearly every member of the CAS has given back to the organization by volunteering their time and expertise in one capacity or another. For many new Fellows, the Exam Committee has been a natural place to first contribute their volunteer time.

Table 4.2 below shows the number of Fellows in 10-year intervals beginning in 1915. The table also shows the number of members serving that year on the Exam Committee and for the more recent years the number of active exam candidates. Unfortunately, consistent candidate information is not available for the years before the establishment of the CAS office.

TABLE 4.2 EXAM COMMITTEE VOLUNTEERS

Year	Fellows	Exam Committee Members	Percentage	Number of Candidates*
1915	134	5	3.73%	N/A
1925	157	7	4.46%	N/A
1935	184	9	4.89%	N/A
1945	154	7	4.55%	N/A
1955	170	10	5.88%	N/A
1965	218	17	7.80%	N/A
1975	299	61	20.40%	N/A
1985	699	86	12.30%	1,677
1995	1,420	249	17.54%	3,368
2005	2,751	300	10.91%	6,657
2011	3,848	427	11.10%	7,195
2013	4,230	512	12.10%	4,545

*Represents "Active" Candidates, i.e., who have registered for an exam in the last two years.

The numbers shown in this table can speak for themselves for the most part. What I find most fascinating is that as the number of candidates began to increase very significantly in the 1970s, the percentage of Fellows on the Exam Committee increased at one point to over 20% of all CAS Fellows. That does not mean that 20% of Fellows had served on the Exam Committee at some point in their careers but rather that 20% of all Fellows were serving on the Exam Committee at that particular point in time. My memory is that at one point I had calculated the percentage of Fellows actively serving the CAS as a volunteer at a given point in time and had determined that it was nearly 50%, though I have not tried to confirm that again now. It is clear that the Exam Committee consumes a great deal of volunteer resources. Their dedication is greatly appreciated!

At some points in our history, a Fellow recruited to serve on the Exam Committee was making a seven-year commitment. At other points it was a five-year commitment. Since the 1970s I believe it has been true that it is most common for new committee members to be asked to make a three-year commitment to writing or grading the exams. Some volunteers serve their three

years and have then completed their service to the CAS. Others move from the Exam Committee to other areas of service within the CAS. Some find that their three years somehow extends beyond that. I believe that my original three-year commitment to the Exam Committee somehow extended to fourteen years in various capacities until I finally resigned. About a month later, I was asked to be Vice President-Membership and found myself responsible for the whole basic education process. It truly has to be a labor of love! Many volunteers have testified to their CAS volunteer time as being some of the most rewarding time of their careers. And I am confident that nearly all members of the Exam Committee come away with war stories that they will (fondly, I hope) recall for the rest of their lives.

The driving force for the volunteer Exam Committee was the Exam Committee Chairman. Generally, that position changed each year, though Gus Michelbacher held the position for three years from 1916–1918. Some others served in this role for two years. Eventually, the importance and work load of this job was recognized, and it was made an officer position within the CAS beginning in 1949. From 1949 through 1968, this position was General Chairman Examination Committee. In 1969, the position was expanded and the title became General Chairman Education and Examination Committee. When the governance structure of the CAS was changed, effective in 1983, this position became the Vice President-Membership. The label for that position was changed in 1989 to Vice President-Admissions, which is still the title today.

Chap Cook joined the Exam Committee in 1966, the same year he attained his FCAS designation. He eventually served as General Chairman Education and Examination Committee for three years, from 1974 through 1976. In his "day job" Chap has held various positions, including Chief Actuary of a major insurer, later CEO of a different carrier at a time when they were having major financial difficulties, and as Managing Partner of a medium-sized consulting firm. Chap told me that being Chairman of the E&E Committee was the "toughest job I had ever had."

The individuals who have held this leadership position, in all of its manifestations as to title, are shown in Appendix A to this chapter.

STRUCTURE OF THE EXAM COMMITTEE

As is shown in Table 4.2, the Examination Committee has grown from a total of five people in 1915 to well over 400 people today. Of course, that should not be totally surprising when you recognize that in 1915 the CAS offered a single exam and it was given once that year at only one location. We do not have a record of how many candidates took that exam, but we do know that thirteen candidates passed. In 2012, the Exam Committee was responsible for 8 distinct exams, administered at approximately 130 different exam centers located throughout the world, and a total of 4,037 exam papers were written and therefore subsequently graded by the Exam Committee. In addition, CAS Examination Committee members accounted for about half of the committee membership for the jointly-sponsored exams, for which a total of 41,407 exams were taken in 2012. The evolution of the CAS exams cannot be truly understood without understanding how the structure of the Exam Committee itself has changed over time and without understanding the interaction of the Exam Committee with

management of the now far-flung and increasingly professional CAS exam system.

As can be seen from Table 4.2, the size of the Exam Committee remained in or near to single digits for the first forty years or so of our history. Of course, the number of Fellows did not increase at a very high rate during that time either. Dudley Pruitt describes in his paper (p. 239) the typical Exam Committee structure during that period. One new committee member was recruited each year. The commitment was to serve on the Exam Committee for a total of seven years. Each committee member would spend two years working on the Associate exams, would spend his third year as chairman of the Associate section, would then spend two years on the Fellowship exams, would spend his sixth year as chairman of the Fellowship section, and would then become Chairman of the Exam Committee during his seventh and final year of service. Each person typically served one year as the Exam Committee Chairman.

In Ron Bornhuetter's recollections, found elsewhere in this volume, he describes his experience on the Exam Committee, which he joined in 1958. At that point two new Fellows were added to the committee each year, and the commitment was for five years. At that point, each team of two Fellows worked in tandem over the next four years, working together as a team to write the exams and grade the papers for two exams per year. However, each team moved through the entire exam structure over their first four years on the committee, covering Parts 1 and 2 in the first year, Parts 3 and 4 in the second year, and so forth. In the fifth year of service, one of the individuals became Chair

of the Associateship exams (Parts 1–4) and the other became Chairman of the Fellowship exams (Parts 5–8).

By the time I became a Fellow (1973), the structure of the Exam Committee had changed. I was asked to join the committee in 1974, one year after obtaining my FCAS. At that point, the commitment was for three years and each individual was assigned to a subcommittee to work on one exam and would stay on that exam assignment for the entire three years. I was fortunate enough to have completed my CAS exams without a failure along the way. Generally I had been well prepared and felt that I deserved to pass. However, there was one exam where I felt I had not really mastered the material and that I probably would not pass. That was the exam on Individual Risk Rating, then Part 8. Of course, when I was asked to join the Exam Committee, I was asked to serve on the Part 8 exam. I suppose that was good, as I really learned the material as I studied it again in order to write questions and grade the papers. When I joined the committee, there was a separate subcommittee for each exam, but the position of Part Chairman did not yet exist. My experience in my first year on the Exam Committee is described in the sidebar.

Chap Cook recalls that the creation of the Part Chairman occurred during his tenure as E&E Committee Chair, which was during 1974–1976. I believe I was the first Part Chair for the Individual Risk Rating exam, which had then become Part 9. Now there was assurance that an experienced individual would have hands-on responsibility for each exam. This was an important step in quality control and in preventing the type of unfortunate experience that had occurred in my first year on the committee.

THE WORST EXAM EVER?

Nearly everyone who has taken a CAS exam has a war story or two. Many will cite a particular exam that they thought was a particularly poor exam. I too have my own nomination for possibly the worst exam ever. However, my nominee is not an exam I took as a candidate but rather the first exam that I helped write as a member of the Exam Committee. Perhaps this exam was one of the catalysts behind the creation of the Part Chairman role on the Exam Committee. If so, then I can take some solace that some good came from this one horrible exam!

When I first joined the Exam Committee in 1974, I was assigned to Part 8, Individual Risk Rating. Our Part Committee consisted of four individuals. Three of us, including myself, were on the Exam Committee for the first time. These three rookies were joined by one experienced member of the committee, who unfortunately did not participate in the committee functions that year (or in any subsequent year). Therefore, the exam that year was prepared by three "rookies."

The three of us had just recently finished our exams. I believe this was our first opportunity to give back to the CAS as a volunteer, and we were all very conscientious and eager to do a good job. In addition to studying diligently all the material on the Part 8 Syllabus again, we carefully read the guidance given to candidates. Included in the Syllabus for the Fellowship exams was a sentence that still appears there to this day. "The ability to apply ratemaking knowledge and experience may be tested through questions dealing with problems for which there are no generally recognized

solutions." Today an additional sentence appears on the Syllabus which I do not recall from thirty-eight years ago but which now appears immediately after the one I have just quoted. "To some degree, the examination will deal with the types of practical problems that a fully qualified actuary working in ratemaking should be able to solve." We each read those directions (or perhaps warnings) to the candidates, and we were inspired! Having just completed the exams, we had seen our fill of "list the four . . ." type of questions or questions that began with "according to (fill in author name here) . . ." We were going to write an outstanding exam that truly tested the knowledge of the candidates.

Each of us also had actual projects on which we were working at that time—projects for which there was no generally recognized solution. Each of those projects found their way onto our outstanding exam. My project was how Table M could be adapted for use with a participating CMP policy.

Unfortunately, an exam that probably had between 40 and 60 points devoted to such challenging thought questions was not one on which the candidates could perform well within the time allowed to write the exam. My recollection is that the top score on the exam was less than 40%, that the passing score was somewhere in the high 20s, and that the resulting pass ratio was still well below 30%.

It is long overdue, but to those of you who sat for this exam in November of 1974, may I offer my most sincere and heartfelt apology!

+ WORKING ON THE EXAMINATION COMMITTEE

BY RONALD L. BORNHUETTER

If one was “lucky” after passing the last CAS examination and receiving the cherished diplomas, he or she was one of two new Fellows who were asked to join the Examination Committee. In 1958 Adger Williams and I were the “lucky” ones.

What one has to understand is what the structure was like.

There were eight examinations in total without any joint examinations with the Society of Actuaries (SOA). In our first year, Adger and I were responsible for developing the questions for the first two examinations plus grading them afterwards. This was

bad enough for only two people, but in year two we moved to examinations three and four with the same responsibilities, which meant relearning the subjects covered. In all, one ended up doing four years working on all eight examinations plus one year as either chair of the Associateship (1–4) or Fellowship (5–8) examinations passed. It was like taking the examinations twice.

After the five years, the two retiring Fellows were elected to the Council (today’s CAS Board of Directors) for a three-year term—a just reward for doing all the examinations twice.

Subsequently, the Exam Committee added the position of one or more “consultants” for each examination. The consultant was an individual who had significant experience in the practice area covered by the exam and had significant experience on that particular exam subcommittee. Most often this was someone who had completed several years work on the committee and agreed to move into the consultant role upon completion of his or her commitment to write questions or grade the exams. The consultant was no longer involved in actually drafting the exam or in actually grading the papers. Rather the consultant performed a detailed review after the exam was drafted but before it was final to be sure that questions were not ambiguous and that the overall exam was a fair exam. This was another step that hopefully improved the overall quality of the exams and helped avoid the occurrence of exams that were either too difficult to allow the qualified candidate to demonstrate their knowledge or were so easy that they failed to distinguish the knowledgeable candidates from those who had not mastered the material.

The current Examination Committee Chair is Steve Armstrong, reporting to the Vice President-Admissions, who is Virginia Prevosto. The Exam Committee consists of 440 individuals, broken out as follows:

Exam Committee Chair (Steve Armstrong)	1
Assistant Chair	1
General Officers	8
Part Chairs	9
Vice Part Chairs	12
Committee Members (Question Writers and Graders)	384
Consultants	24
Candidate Representative	1

The duties of the eight General Officers (GOs) are also illuminating. Four have oversight responsibility for specific exams. The fifth GO has responsibility for the function of Grading and Pass Mark Panels. The sixth GO has administrative responsibilities for the Exam Committee. The seventh GO is solely responsible for recruiting new members to the committee. The eighth GO is responsible for researching how we can further use Computer-Based Testing, particularly

for the essay exams. I will briefly discuss this “peek into the future” in a later section.

In conclusion, it can be seen that the examination function has certainly come a long way and has evolved tremendously, particularly in the last 25 years of our history. Even those of us who were heavily involved in the system earlier in our careers are amazed at the way the system has been improved.

THE USE OF OUTSIDE TESTING EXPERTS TO IMPROVE THE BASIC EDUCATION PROCESS¹⁷

In November 1999, the CAS Task Force on the Review of Education and Examination Process and Procedures issued a recommendation in its final report to work with professional consultants to improve the basic education process. In October 2000, the CAS chose The Chauncey Group International, a subsidiary of Educational Testing Services, to assist with this project.

In early 2001, consultants from The Chauncey Group conducted an audit of the CAS admissions process based on *Standards for Quality and Fairness* developed by Educational Testing Service. In its report, the consultants identified aspects that the CAS does well and areas where there were opportunities for improvement.

As a result of the report, the CAS engaged The Chauncey Group to help with three educational initiatives:

1. CREATE BETTER LEARNING OBJECTIVES

In fall 2001, The Chauncey Group met with members of the Syllabus and Examination Committees by exam part to craft the learning objectives for each exam. Each learning objective clearly identifies what a candidate should be able to do after successfully completing the educational experience. Each learning objective has related knowledge statements that candidates must know in order to achieve the learning objective. The associated readings provide the appropriate learning materials.

¹⁷ The content of this section was provided to me by Tom Downey of the CAS office. The material was so well written that I have included it nearly verbatim in this section.

CASE STUDY OF AN EXAM APPEAL

Every candidate taking a CAS exam has the right to appeal the grading of their exam or the grading of a specific question. The process may be a bit different now than when I was vice president, but the same fundamental right applied back then.

One year I received an appeal from a candidate who had failed his last exam for Fellowship. I remember the appeal to this day because the candidate wrote a letter of several pages providing us with full and complete answers to several questions for which he felt that the grade he had received was not fair. From reading his letter, it was clear that this candidate really understood the material. Having read this wonderful letter, I then pulled the candidate's actual exam paper to see why his grade was not any better than it was. Unfortunately, his exam paper contained very little of the knowledge that was clearly demonstrated by his letter. The appeal was denied. Fortunately, this individual did subsequently pass the exam and obtained his FCAS. He is still actively practicing and has made many wonderful contributions to the work of the CAS. I am proud to count him a valuable colleague.

The CAS Executive Council approved the new learning objectives in spring 2003 and they were first used for the fall 2003 exams.

Both candidates and Examination Committee members were told to view the syllabus readings in light of the learning objectives.

2. DEVELOP A TRAINING PROGRAM FOR ITEM WRITERS

Until this time, new item (question) writers were paired with experienced item writers and learned from them. The Chauncey Group worked with Examination Committee officers to develop a tailored training program for the CAS. The training emphasizes writing test items based on the learning objectives as well as crafting test items that are clear and unambiguous. The training supports the creation of exams that are fair, valid, and reliable. New item writers participate in the formal item-writer training.

Examination Committee officers assign writers to specific learning objectives rather than readings. This reinforces the importance of focusing on the learning objectives and, with the knowledge statements, helps to identify the important and relevant concepts in the readings.

3. INTRODUCE CONTENT-BASED PASS MARK STANDARDS

For establishing pass marks, the CAS traditionally used a trend-analysis process. Within the testing industry, however, it is common to use a content-based pass mark. The consultants recommended that the committee adopt a content-based pass mark.

The process begins with the committee developing a definition of a minimally qualified candidate for each exam based on the published learning objectives. For each exam administration, a

pass mark panel is convened to review the exam and estimate how a minimally qualified candidate would perform on each question. An *a priori* pass mark is determined by this process but may be adjusted based on findings from actual performance data. A transition to the content-based pass mark process began with the fall 2001 exams.

The multiple-choice exams that are administered by computer-based testing are scored according to computer-based testing methodologies.

In May 2010, the Task Force to Review the Admissions System issued a report that acknowledged that the exams do a good job assessing knowledge of the property-casualty actuarial practice as well as an understanding of the application of actuarial concepts to the practice area. The task force recommended, however, that the testing should be expanded to include greater assessment of the ability to apply judgment in solving actuarial problems, an ability that is clearly required to be successful as a practicing actuary.

Concurrent with this recommendation, the CAS was in the process of integrating into its syllabus the skills related to the Chartered Enterprise Risk Analyst (CERA) designation. The issue of testing at higher cognitive levels was a result of this discussion as well. The CAS Board of Directors asked that there be an increase in the percentage of testing at higher cognitive levels (i.e., synthesis and evaluation) for the upper-level exams. This process continues with the Syllabus and Examination Committees working together to identify appropriate cognitive levels of testing for various parts of the basic education syllabus.

COMPUTER-BASED TESTING

One very recent development regarding the CAS exams is the advent of computer-based testing (CBT). Our exam system has been a system of professional exams on rather specialized material written and graded by volunteers. As a result, each administration of an exam required the creation of a new examination, consisting almost entirely of new questions. The large amount of volunteer resources utilized in this process resulted in each exam being given just once, or at most twice, a year. On the preliminary exams, the use of outside resources allowed the exams to be given more often, but there were still time constraints. CBT creates the possibility of loosening those constraints considerably.

CBT could take many forms, but as it is being considered by the actuarial profession it involves the concept of a candidate being able to go to an exam center individually and take an exam at a computer console. A different exam would be generated for each candidate, with questions drawn from a large bank of questions so that one candidate's questions are different from those of any other candidate. The technique is now being used for many of the multiple-choice exams which are jointly sponsored by the CAS, the SOA, and the Canadian Institute (CIA). In particular, CBT was implemented for Exam 1 in September of 2005, for Exam 2 in May of 2008, for Exam 4 in November of 2009, and for Exam 3F in May of 2011. Utilizing CBT, the exams are generally available to the candidates in 4–6 windows of time each year. The candidate's grade is available almost immediately, and an unsuccessful candidate can retake the exam in two to three months rather than waiting six months or a year as was the case previously.

In August of 2010, the Exam Committee created a new General Officer position responsible for computer-based testing. That position is currently held by Geoff Werner. He has been charged with investigating whether we can convert essay exams into computer-based exams and, if so, how that could be done. Obviously, there are several difficult questions that would need to be resolved if this were to become a reality, including how a CBT process would impact grading of these exams. I don't know just how this may manifest itself in the future, but the CAS exams have never been static. The challenge will be just how to utilize new technologies in ways to improve the examination and education processes and better serve our candidates and the profession as a whole. Stay tuned!

PARTITIONING

The "partitioning era" for the CAS exams began in 1987 and ended in 2000. When viewed within the perspective of the entire history of our organization and of our exam system, it was relatively short-lived. In the end, it was not a success story, yet the story of the CAS exams would not be complete without some discussion of it. There are interesting aspects of the partitioning story that include our interaction with the SOA, the desire to apply improved educational concepts, and behavioral dynamics.

A full discussion of all the thought and debate that went into the decision to partition Parts 3, 4, and 5 of the CAS exams is far beyond the scope of this chapter, as is a full discussion of all the study and debate that took place subsequent to the implementation of partitioning and which eventually led to the end of this era. Indeed, nearly 300 pages of material on this subject from the years 1988 through 1990 were reproduced in the Winter 1991 edition of the *CAS Forum*. Those wishing to gain a detailed understanding of all the study and debate which led to the partitioning decisions are referred to that material. A good summary of the steps leading to this decision can be found in President Charles Bryan's December 24, 1990 letter to CAS members and exam candidates, which starts on page 61.

As context to the entire partitioning discussion, it must be recalled that the Society of Actuaries (SOA) had implemented an entirely new syllabus for their examinations during the mid-1980s. This new syllabus was known as the Flexible Education System (FES) and involved breaking all of their exams into smaller units as well as identifying core and elective material and creating a series of tracks, or specializations, within the Syllabus. In 1987, Exam 3, one of the exams which was jointly sponsored with the SOA, was divided into three smaller exams. This was the first partitioned exam for the CAS.

In reaction to the SOA's implementation of their FES Syllabus, the CAS Education Policy Committee (EPC) was asked to address the issue of whether the CAS should adopt its own version of a Flexible Education System. Its white paper on the subject was presented to the CAS Board at its September 1988 meeting, with the recommendation that the CAS adopt a Partitioned Examination System, with no electives, for all its examinations. The recommendation was based on a thorough discussion of several key decision criteria, the most important of these being that it was believed that such a change would improve the overall educational experience produced by the entire CAS exam process. The Board approved the concept of smaller exam units for all of the CAS exams and directed

the Vice President—Membership to develop a detailed implementation plan and schedule which addressed all of the considerations itemized in the EPC's White Paper and also reflected input from exam candidates regarding this concept.

A Partitioned Examination Task Force (PETF), chaired by Jerry Degerness, was appointed with the charge to determine if an implementation plan could be developed which adequately addressed all of the considerations itemized in the EPC White Paper. This Task Force of nine individuals performed a remarkable work. Their recommendations, along with the recommendations of the EPC in response to the PETF report, were forwarded to the Board by the Vice President—Admissions, along with the Vice President's own recommendations for Board action. The Board adopted the VP—Admission's recommendations at the November 1990 Board meeting, as follows:

1. Part 4 was partitioned into two exams effective May of 1992.
2. Part 5 was partitioned into two exams effective November of 1993.
3. Both Parts 4 and 5 were to be given twice a year rather than once a year, beginning with the date that the exam was first partitioned.
4. It was decided that Parts 6 and 7 would not be partitioned.
5. Consideration of partitioning for the Fellowship exams was deferred for at least three years.

This was a much more limited "partitioning" than had been implemented by the SOA. As it turned out, the Fellowship exams never were partitioned.

I was the Vice President—Membership (retitled Vice President—Admissions in 1989) during the entire time that partitioning was being considered. I do not remember any more controversial subject, or any more controversial Board decision, during my entire experience with the CAS. I was employed at Tillinghast during this time period, and I recall the individual responsible for all the administrative aspects of the firm at that time describing his position as being like he was the only fire hydrant on a street with 500 dogs. Though perhaps a bit crude, that was also an apt description for the VP position during this period. I cannot recall any meeting before or since one particular Town Hall meeting at the CAS Annual Meeting (I believe it was in New Orleans) in which so many actuaries ever have shown so much emotion or raised their voices to that degree.

My letter to the Board containing my recommendations to implement partitioning concluded with a statement that it was "my belief that partitioning in general will improve the education of the students coming through our system and provide increased flexibility for those students so that they may proceed at their own pace." I went on to say that "partitioning will not deter students that are being successful under our current system but will make it possible for good candidates who are not succeeding under the current system to obtain membership in the CAS." Again, my entire letter is available in the aforementioned 1991 edition of the *Forum*. The subject had been thoroughly reviewed and the arguments were persuasive, though not without controversy.

In the end, partitioning was not successful, although almost all of our original thinking was correct, even in hindsight. It failed almost entirely because of the effect that the changes had on travel time, which was defined as the total amount of time necessary to complete the entire set of examinations. (Actually, many variations in the precise definition of travel time were examined over the years in order to minimize distortions in the data, but those various definitions do not materially change the big picture on this subject.)

Travel time was in fact increasing even before the introduction of partitioning, and the reasons for those travel time increases over the years were not clear. Under a partitioned system, it was almost certain that travel time would be impacted in different ways for various individuals, but it was felt that overall travel time would not be significantly different because of partitioning, with some individuals moving through the exams more rapidly and some more slowly. Overall, it was believed that the average travel time might increase somewhat because some candidates might stay within the system and eventually achieve credentialed status who might have dropped out of the non-partitioned system without ever achieving Associateship or Fellowship. All of this thinking was based on the belief that candidates would continue to take exams at roughly the same rate as before partitioning. It was this assumption which turned out not to be true. In practice, many candidates ended up taking the exams at a slower rate than previously, for whatever reasons, and average travel time was notably increased as a result.

By the late 1990s we had seen enough. When the next major change to the Syllabus of Exams was introduced in 2000, one of the changes was to put an end to partitioned exams. Our partitioning era had ended. Of some interest, though perhaps of little consolation, the SOA's Flexible Examination System was not a success either, and they eventually unwound their entire system and returned to a new system with exams of similar length and coverage as their pre-FES exams.

RELATIONSHIP WITH THE SOCIETY OF ACTUARIES AND OTHER ACTUARIAL ORGANIZATIONS

Finally, no chapter on the CAS exams would be complete without some discussion of our relationship with the SOA, as well as with other actuarial organizations, and our joint efforts over the years to produce a highly respected credentialing system for actuaries in North America and indeed around the world.

As can be seen from the timeline of major syllabus changes which appears earlier in this chapter, the CAS successfully conducted its own credentialing system for nearly the first fifty years of its existence. The first joint sponsorship of an exam with the SOA occurred in 1963. From 1963 until about 2011, the partnership between the two organizations (and in later years the CIA as well) was very successful. While there were at times some disagreements between the CAS and the SOA, the partnership was built on cordiality and professional collegiality. Both organizations worked together to create an exam structure for the early examinations that was effective in attracting students to the profession, that effectively identified those with the appropriate math skills to be effective actuaries, and that allowed students to make significant progress towards their initial credential before it was necessary for them to choose a particular practice area. All in all, the CAS/SOA partnership has been very good for the

profession in North America. Indeed, as the profession became more global, the two organizations worked well together to benefit the profession internationally as well in many ways going far beyond the basic education function.

Over the years, there have been instances when the two organizations have disagreed about the best way to proceed about some aspect of the basic education function. There have certainly been times when the educational leaders of the CAS did not feel like the SOA was treating us as equal partners with regard to the jointly-sponsored exams. These differences were always worked out by cooperation and discussion between the two organizations and frequently by compromise on the part of both parties. On occasion, the two organizations felt the need to go their separate ways with regard to one matter or another, usually because of legitimate differences in educational objectives between the two parties. Most frequently, these differences were due to the desire of the SOA to test Life Contingencies at a much more demanding level than was desired by the CAS or by the desire of the CAS to test Statistics at a much more demanding level than desired by the SOA. Both of these differences reflected appropriately different educational objectives for the different practice areas that were the focus of each of the partners.

In terms of the policy of the CAS regarding joint sponsorship, there are a few instances when the Board has adopted formal policy statements on this subject. In November of 1971, the Board directed the Education and Examination Committee to invite other actuarial organizations to become joint sponsors of any parts of the CAS exams which count towards membership in their organizations. The Board further directed the E&E Committee to invite other actuarial organizations to appoint liaison representatives, who did not need to be CAS members, to the CAS Education and Examination Advisory Committee.

In September of 1972, the Board approved an overall program of maximum joint sponsorship of actuarial examinations as it applies to both the joint sponsorship of CAS examinations by other actuarial organizations and the participation of the CAS as a joint sponsor of the examinations of other actuarial organizations.

As noted earlier in the overview of major syllabus changes, in 1984 the CAS discontinued joint sponsorship of Part 4, the Life Contingencies exam, as the CAS desired to test Life Contingencies at a more basic level than the SOA and also wished to add Casualty Contingencies and Credibility Theory to Part 4, with the goal of providing candidates with useful casualty material at an earlier point in the examination sequence.

Finally, in March of 2001, the Board adopted a policy regarding joint sponsorship of examinations, which reads as follows:

The Board recognizes in general that it is desirable to jointly sponsor examinations with other actuarial organizations whenever all organizations wish to examine the same topics and all organizations have comparable learning objectives for those topics. In these situations, the CAS will consider joint examination partnerships as long as the CAS has at least an equal role to those of other partners in decision-making on all matters including but not limited to such items as syllabus, exam questions, and pass marks, and the financial arrangements are deemed equitable by the CAS.

The Board further reaffirms that achieving the learning objectives established by the CAS is more important than achieving or maintaining joint sponsorship.

In addition to the joint sponsorship of the early exams with the SOA and the CIA, more recent examples of the application of this 2001 policy statement include joint sponsorship with the CIA of the nation-specific Canadian exam and joint sponsorship with the Taipei association of a nation-specific exam for Taipei.

In 2012 the SOA announced that its board had approved a proposal to discontinue the Joint Preliminary Actuarial Examination Agreement with the CAS, effective at the end of 2013, and to create its own General (Casualty) Insurance Track within the SOA examination system, thus placing itself in direct competition with the CAS in the basic education of casualty actuaries and signaling a shift by the SOA away from its long history of cooperation and collaboration with the other U.S.-based actuarial organizations. The stated purpose of this decision was a desire by the SOA leadership to be able to offer exams in all practice areas.

The CAS has come a long way since the founding of the Casualty Actuarial and Statistical Society of America in 1914. In his 1976 Presidential Address, Ron Bornhuetter observed that the CAS had become the largest repository of property-casualty actuarial knowledge in the world as well as the best provider of casualty actuarial education and challenged us to expand our horizons beyond the United States. In my own Presidential Address of 1992, I opined that the casualty branch of the actuarial profession is stronger in the United States than it is anywhere else in the world, that we indeed do have the largest bank of property-casualty actuarial knowledge, and that it was highly unlikely that our repository of casualty actuarial knowledge would be anywhere near the size it had become if it were not for the existence of the CAS as a stand-alone organization. While it is important for us to maintain a thriving, separate casualty actuarial organization, it was

also important then, and remains so today, to cooperate with other North American actuarial organizations wherever that makes sense and to forge new partnerships with other actuarial organizations abroad as we expand our view as casualty actuaries and assist in the development of the actuarial profession on a global basis. It is heartening to see how the CAS has progressed towards those goals in the twenty years since that address was given. Hopefully, those partnerships, including the partnership with the SOA, will continue to develop positively over the next twenty years.

CONCLUSION

As indicated at the outset, the intent of this chapter is not to present a comprehensive history of the CAS exams but rather to identify and discuss some of the most significant changes to the system over its first 100 years. I recognize that other authors might have identified different aspects; I selected the overarching themes and changes that seemed most significant to me.

For me the task of writing this chapter has been most rewarding. Part of it has been a trip down “memory lane.” For other aspects of the chapter, the research necessary has further enhanced my great respect for the multitude of individuals who paved the way for me to benefit from a profession that I have found to be most rewarding and has increased my appreciation for the efforts still being expended today to continue to improve the CAS examination process. I look forward to watching as our system further evolves.

Finally, I should again express my great appreciation to all those who assisted me in compiling this material. These individuals include several members of the CAS office staff, particularly Mike Boa, Bob Craver, Tom Downey, Elizabeth Smith, and Ashley Zamperini. Others who offered valuable insights, assistance, and encouragement include Steve Armstrong, Glenn Balling, Chuck Bryan, Chap Cook, Steven Goldberg and Pat Teufel. Of course, any remaining errors are my responsibility.

+ THE VALUE OF ACTUARIAL EXAMS

BY FRANK HARWAYNE

My experience teaching at the City College of New York, Pace College (now Pace University) and the College of Insurance convinced me that passing a course in economics, law, or mathematics should not be a substitute for the CAS examinations. Today's economics professionals can be used to help in some matters but should not take over the actuarial field.

A parting word to actuaries steeped in probability and mathematical expectation, I paraphrase Harry Williams's common sense observation at a meeting of the National Bureau of Casualty Underwriters on increased limits—I'll be damned if I'll risk a million dollars of my company's assets for one dollar just because the expected value statistically works out to one dollar.

FIGURE 4.3 CAS Examination Committee Leadership, 1914–2013

This list shows the most senior CAS member responsible for the CAS exams at each point throughout our history. The title and specific responsibilities have changed somewhat over time.

1914–1948: EXAM COMMITTEE CHAIRS

1914 Joseph H. Woodward
1915 George D. Moore
1916–1918 G. F. Michelbacher
1919–1920 Mervyn Davis
1921–1922 E. S. Fallow
1923 Samuel Milligan
1924–1925 Paul Dorweiler
1926 James S. Elston
1927–1928 Sydney D. Pinney
1929–1930 Joseph Linder
1931 Charles J. Haugh Jr.
1932 Harold J. Ginsburgh
1933 Norton E. Masterson
1934 Arthur N. Matthews
1935 Albert Z. Skelding
1936 Thomas O. Carlson
1937 Ralph M. Marshall
1938 James M. Cahill
1939 Nels M. Valerius
1940 Mark Kormes
1941 Russell P. Goddard
1942 Robert V. Sinnott
1943 Harry V. Williams
1944–1945 Arthur E. Cleary
1946 John A. Mills
1947 George B. Elliott
1948 Seymour E. Smith

1949–1968: GENERAL CHAIRMAN EXAMINATION COMMITTEE

1949–1951 Roger A. Johnson
1952–1956 John W. Wieder Jr.
1957–1961 William J. Hazam
1962–1968 Norman J. Bennett

1969–1982: GENERAL CHAIRMAN EDUCATION AND EXAMINATION COMMITTEE

1969–1971 M. Stanley Hughey

1972–1973 George D. Morison
1974–1976 Charles F. Cook
1977–1979 Jeffrey T. Lange
1980–1982 Phillip N. Ben-Zvi

1983–1988: VICE PRESIDENT—MEMBERSHIP

1983–1985 Wayne H. Fisher
1986–1988 Michael L. Toothman

1989–2013: VICE PRESIDENT—ADMISSIONS

1989 Michael L. Toothman
1990–1992 Steven G. Lehman
1993–1995 John J. Kollar
1996–1998 Kevin B. Thompson
1999–2001 Mary Frances Miller
2002–2004 Thomas G. Myers
2005–2007 James K. Christie
2008–2010 David L. Menning
2011–2013 Virginia R. Prevosto

FIGURE 4.4 Charles A. Bryan's December 1990 Letter to Members Regarding Partitioning



CASUALTY ACTUARIAL SOCIETY

*Charles A. Bryan
President*

*277 Park Avenue
30th Floor
New York, NY 10172
212-773-1871*

December 24, 1990

**TO: Members and Persons Pursuing Actuarial
Designations of the Casualty Actuarial Society**

**RE: Recent Board Decisions Regarding
A Partitioned Examination System**

A Partitioned Examination System has been the focus of considerable study and discussion within the CAS over the last three years. Such a system has been the subject of two formal communications to our members during 1989 and the subject of study for a special task force. A request for membership and student input has resulted in many letters and in discussions at CAS meetings and meetings of regional affiliates. We are grateful for the amount of membership involvement that we have had on this subject.

At its November 11 meeting in New Orleans, the CAS Board of Directors received the final report of the Partitioned Examination Task Force and the recommendation of the Education Policy Committee and the Vice President-Admissions. The Board then took several actions to decide future policy on partitioning. The Board's decisions were first announced to the membership during the business session on Monday, November 12, in New Orleans. Since many of you may be unaware of these actions, this letter details the various steps leading to the Board's November actions and reports these actions to you.

September 1988 Board Action

The CAS Education Policy Committee was asked to address the issue of whether the CAS should adopt a Flexible Education System, similar in some respects to that implemented by the Society of Actuaries. The Education Policy Committee report was presented to the Board of Directors at its September, 1988 meeting. That "White Paper" report presented an objective discussion of the advantages and disadvantages of a partitioned system. The entire "White Paper" was provided to the membership as an attachment to the President's letter of March 14, 1989. At the end of its report, the Education Policy Committee made the following recommendation:

As a result of our deliberations, the Education Policy Committee recommends that the CAS adopt a Partitioned Examination System, with no electives, for all of its examinations. This recommendation is principally founded on the basis of educational merit, including enhancements in the

ability of the CAS to achieve educational objectives and in the quality of education, without affecting materially the type of FCAS graduate produced.

The Education Policy Committee report concluded with a section entitled "Additional Considerations for Implementation." In that section, the committee listed six additional considerations:

1. There should be minimal effect due to any new system on candidates succeeding under the current system.
2. Travel time should be affected as little as possible.
3. Effective implementation requires that the Syllabus and Examination Committees be well informed as to the deliberations leading up to the adoption of the new system. Representatives from these committees should be directly involved throughout the implementation process.
4. Employers must be well informed.
5. Performance standards must be established, monitored, and evaluated very carefully to assure fair and equitable treatment of all candidates.
6. Consideration must be given to the mode of implementation, i.e., a staged implementation versus all examinations at once.

It is therefore further recommended that implementation plans be codified, with the intended effect in all such areas clearly described and subject to an approval process that includes the Board.

The Board of Directors adopted the recommendations of the Education Policy Committee's report by unanimously passing the following motions:

That the CAS Board endorses the concept of smaller examination units for Parts 4 through 10. It directs the Vice President-Membership to develop a detailed implementation plan and schedule which addresses, at a minimum, all of the additional considerations for implementation itemized in the Education Policy Committee's report plus seeking input from students about this concept.

1989 Activity

Subsequent to the 1988 Board action, the Partitioned Examination Task Force, chaired by Jerry Degerness, was created to determine whether an implementation plan could be developed which satisfactorily addressed the various additional considerations itemized by the Education Policy Committee. In addition, input was sought from our membership and students, via the President's letter to the membership of March 14, 1989; the VP-Admissions's letter to the membership of August 10, 1989; a student survey conducted by

the Partitioned Examination Task Force; and numerous presentations and discussion sessions at CAS and regional affiliate meetings.

In addition to Jerry Degerness, the Partitioned Examination Task Force was staffed by eight hardworking individuals representative of a significant cross-section of the CAS, by type of work, length of CAS membership, and geography. The Task Force's assignment proved even more demanding than originally anticipated, and the individuals on this Task Force have all contributed significantly to the Task Force and the Casualty Actuarial Society. They deserve our heartfelt thanks and appreciation.

Partitioned Examination Task Force Recommendations

We anticipate publishing the final report of the Partitioned Examination Task Force in an upcoming issue of the Actuarial Forum. The Board considered a draft of this report at its September, 1990 meeting. An oral presentation of the PETF recommendations was also made at that meeting and substantive and lengthy discussion took place. The recommendations of the PETF were:

1. Require systematic study of performance by sub-part prior to every partitioning and Syllabus reorganization decision.
2. Charge the Vice President-Administration (CAS office) with collecting and reporting demographic information which may be related to exam performance.
3. Subject to the appropriate study, partition Part 4 into 4A (interest and life contingencies) and 4B (credibility theory and loss distributions).
4. Not partition, at this time, beyond Part 4.

Education Policy Committee Recommendations

The Education Policy Committee considered the PETF recommendations at its October 23 meeting. The recommendations of the Education Policy Committee were:

1. Partition Part 4 effective in May of 1992.
2. On part 5, the committee was evenly divided (3 yes, 3 no) as to whether Part 5 should be partitioned in the near future.
3. Not partition Parts 6 and 7 for the foreseeable future.
4. Defer consideration of partitioning the Fellowship exams for the foreseeable future.
5. The committee also suggested continued study of the potential for partitioning of exams beyond the Part 4 and Part 5 level but felt that

such study should be part of a broader review of the examination process and structure.

6. Finally, the committee recommended that the Board authorize the creation of a database along the lines suggested by the Partitioned Examination Task Force and that work on the database begin as soon as practical.

Vice President-Admissions Recommendations

The Vice President-Admissions presented the Board with the report of the PETF, the recommendations of the Education Policy Committee and a letter that provided the Board with an analysis of the various advantages and disadvantages of a partitioned system. It was his recommendation that the following motions be positively acted upon by the Board of Directors:

1. That the Executive Council be charged with developing a Management Information System that will, at a minimum, allow the CAS to properly assess changes in travel time and exam performance and to manage the entire exam process.
2. That the CAS partition Part 4 into two pieces, effective in 1992.
3. That the CAS partition Part 5 into two pieces, with the effective date to be either in 1992 or 1993.
4. That the CAS not partition Parts 6 and 7.
5. That the CAS defer any decision with regard to the partitioning of the Fellowship examinations for at least three years so that we can adequately measure the effect of the above changes to the Associateship Syllabus.

Board Action

Between the September and November Board meetings, Board members exchanged with each other, in writing, their own feelings on this very important subject. Substantial discussion and debate took place at the November 11 Board Meeting. The Board placed great weight on the advantages of a better capability to keep the syllabus current and to improve the educational system for casualty actuaries. The Board decisions may be summarized as follows:

- Part 4 will be partitioned effective May of 1992.
- Parts 5 will be partitioned effective November of 1993.
- Both Parts 4 and 5 will be given twice a year beginning with the exam session when the exam is first partitioned. Part 4 will be

Members and Students of the Casualty Actuarial Society
December 24, 1990
Page 5

given twice a year beginning in May of 1992 and Part 5 will be given twice a year beginning with the November 1993 exam.

- Parts 6 and 7 will not be partitioned.
- Consideration of partitioning for the Fellowship exams will be deferred for a least three years.
- The transition rule currently in place for Part 5 will be extended for one year through 1992. Since Part 5 will then be partitioned beginning with the 1993 administration, any individual who currently has credit for one of the two pieces of Part 5 will no longer have the possibility of losing that credit if the other half of the exam is not passed by the end of the transition period.

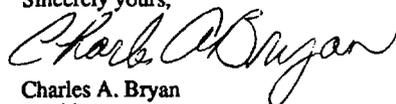
As clarification to the above items, Part 4 will be partitioned into two pieces: 4A will cover life contingencies and compound interest; 4B will cover credibility and loss distributions. Part 5 will be partitioned into two pieces: 5A will cover economics and risk theory; 5B will cover finance.

The need to develop a comprehensive Management Information System was deemed so obvious that no motion was considered necessary. This objective is included in the Executive Council Goals for 1991.

In the interest of full disclosure, it is our intention to publish the original report of the Education Policy Committee, the report of the PETF and the letters containing the most recent recommendations of the Education Policy Committee and the Vice President-Admissions in a forthcoming issue of the Actuarial Forum. For those of you who wish further information on this subject, we recommend those items to you.

All of us who participated in the discussions concerning partitioning examinations appreciate that not everyone agrees with the decision to partition examinations 4 and 5. However, there were strong and convincing arguments presented that indicated partitioning these examinations would improve the educational system. Consistent with its responsibilities, the Board chose to base its decision on what it believed to be in the best interests of both our present and future members. I believe that our members, after reviewing all the available material and deliberations, will agree that both the process and the decision were consistent with the fine traditions of our Society.

Sincerely yours,



Charles A. Bryan
President
Casualty Actuarial Society

FIGURE 4.5 Actual Exam Questions through the Years

1915

16. (a) What control, if any, does the state exercise over the rates of casualty insurance companies in
- (i) New York
 - (ii) Massachusetts
 - (iii) New Jersey?
- To what lines of insurance does this apply?

1925

7. (a) The values of a function are 150, 392, 1,452, 2,366 and 5,202 corresponding to the values of the argument 5, 7, 11, 13, 17 respectively. Apply the Lagrange formula to find the value of the function when the argument has the value 9.

1940

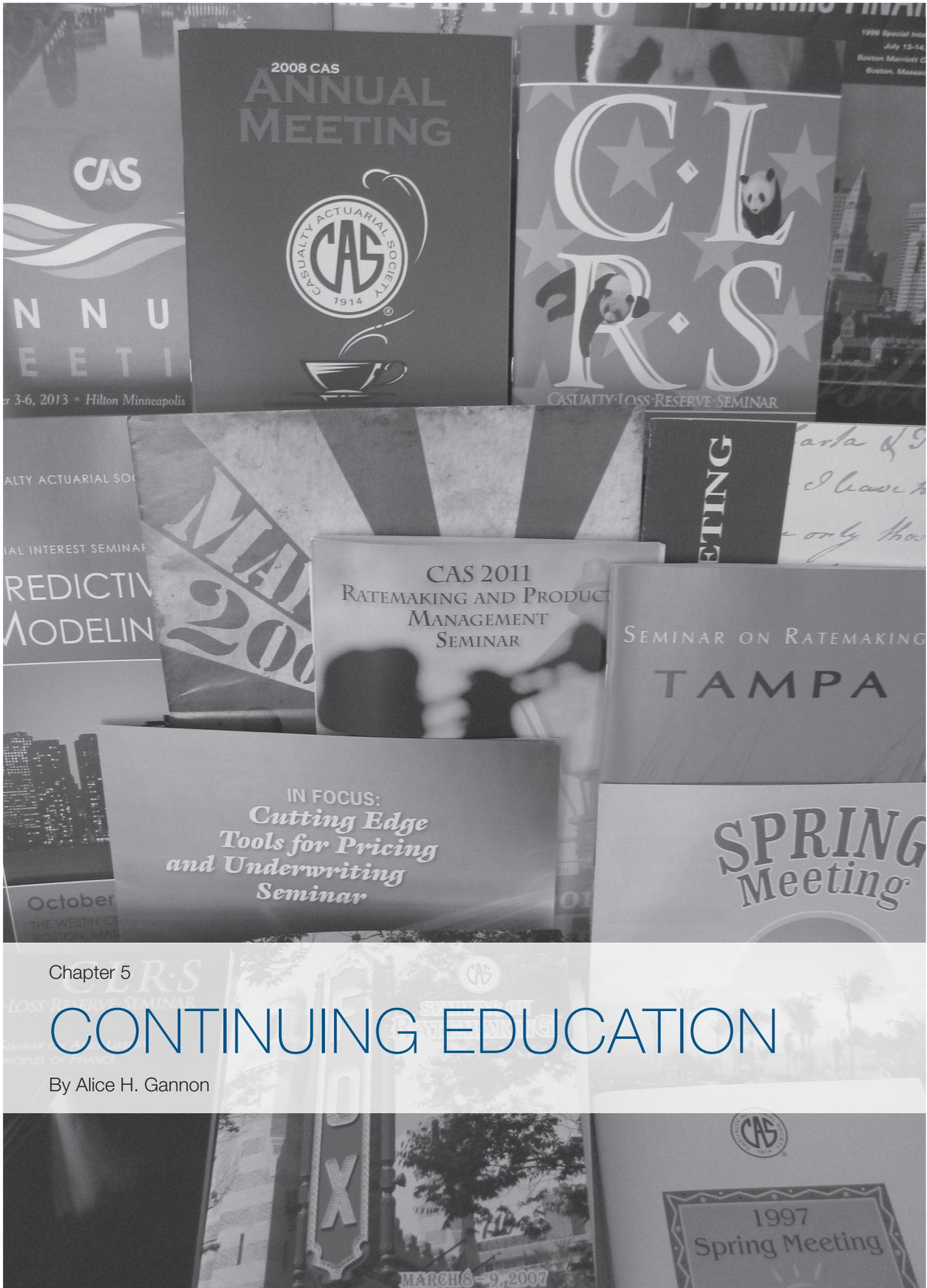
7. At the end of 1938 the distribution of admitted assets of a representative group of stock and mutual casualty companies was as follows:

	Stock Companies	Mutual Companies
Bonds— Government	29.3%	34.6%
State and Municipal	6.7	8.0
Other Bonds	<u>16.2</u>	<u>20.8</u>
Total Bonds	52.2%	63.4%
Total Stocks	20.0%	5.8%
Cash	11.2	17.1
Uncollected Premiums	9.6	5.9
Real Estate and Miscellaneous	<u>7.0</u>	<u>7.8</u>
Grand Total	100.0%	100.0%

- (a) Give reasons for the differences in distribution of assets between the two types of carriers.
- (b) What differences would be noted between the figures above and a similar tabulation as of the end of 1930 or 1931?

1940

4. As actuary of a multiple line casualty company with branches throughout the country, you are called upon to determine whether the cost of the various branch offices is being kept within reasonable limits. Indicate the elements which you would consider in your treatment of this problem.



Chapter 5

CONTINUING EDUCATION

By Alice H. Gannon



Learning is not attained by chance.
It must be sought for with ardor and
attended to with diligence.

—Abigail Adams

From its very inception, ongoing education of its members has been an important aspect of the CAS's activities. It was not, however, a stated or intentional purpose when the CAS was created or even during its first half century. CAS founders focused on creating an organization devoted to advancing the science and its practical application. But from the very first meeting, a natural by-product of pursuing that goal was the continuous advancement of members' actuarial knowledge.

The original CAS constitution states: "The object of the Society shall be the promotion of actuarial and statistical science as applied to the problems of casualty and social insurance by means of personal intercourse, the presentation and discussion of appropriate papers, the collection of a library and such other means as may be found desirable."

Now the 2010 Statement of Purpose in the CAS constitution also explicitly includes the phrase "*to promote and maintain high standards of conduct and competence for the members.*" The CAS now expends considerable resources primarily aimed at providing educational activities for its members to assure their ongoing actuarial competence and has also formally embraced the *requirement* of significant continuing education for its members to maintain their qualification to practice.

Although this change from unintended by-product to aggressively pursued goal occurred gradually, it was not until changes made to the constitution in 1969, 55 years after the founding of the CAS, that continuing education became an explicitly stated purpose when the phrase "promoting educational activities in the actuarial sciences for its students and members" was added. Another milestone occurred with the addition of a Committee on Continuing Education in 1974 and then, in the CAS's 75th year, with the creation of a vice president of continuing education. By 2011, the CAS was offering over 20 formal continuing education events annually many including dozens of topics and presentations, and leveraging advanced technology to make the offerings convenient and inexpensive including webinars, online transmission of some presentations, and recorded videos available online through the CAS website. Despite the tremendous growth and investment of resources in continuing education, one thing has not changed during the CAS's 100 year history. The continuing education work of the CAS is still primarily the effort of volunteer CAS members!

A SHORT CONTINUING EDUCATION JOURNEY THROUGH THE YEARS

Below is a representative listing of educational offerings at CAS meetings through the years.

1914

(97 Charter members)

MAY 1914

At the group's first organized meeting, they vowed "to hold meetings from time to time, at which papers contributed by members of the society will be read and discussed."

NOVEMBER 1914

(Membership: Charter members—104)

The Society's first meeting featured three papers that were read aloud and discussed.

- "Scientific Methods of Computing Compensation Rates" by I. M. Rubinow
- "How Extensive a Payroll Exposure is Necessary to Give a Dependable Pure Premium" by Albert H. Mowbray
- "Valuation of the Death Benefits Provided by the New York Compensation Law" by Winfield W. Greene

Three Fellows were also chosen to prepare individual papers on methods of reserving for liability and compensation losses for the next meeting.

At the group's dinner after the meeting, 10 members gave speeches on a range of topics:

- Various Aspects of Social Insurance
- The Mutual Compensation Insurance Companies
- Statistics in General
- State Insurance Departments
- State Insurance Funds
- The Mission of Statistical Journalism
- Present Plan of Securing and Compiling Statistics by the Workmen's Compensation Service Bureau
- Pioneering in the Casualty Actuarial Field

1915–1920

(Membership as of November 1919: 150 FCAS, 50 ACAS, 200 Total)

The same process continued, with papers being presented and discussed. Papers presented at one meeting were typically discussed at the following meeting.

1924

(Membership as of November 1924: 159 FCAS, 87 ACAS, 246 Total)

A review of the first 10 years of CAS was given, in this excerpt from the *Proceedings*:

During that period, the Society has held twenty-two meetings and after each meeting the papers and discussion held at each meeting have been published in our PROCEEDINGS. These papers covered practically every subject in the various casualty lines.

The Presidential Address from that year details all the topics covered in the first decade of CAS meetings, from a heavy concentration on compensation insurance to valuable contributions on accident, health, and automobile insurance.

1929–1930

(Membership as of November 1929: 175 FCAS, 124 ACAS, 299 Total)

By now, there was a Committee on Programs operating within the CAS and they were inviting non-members to attend the meetings to speak about different topics, as shown in the following examples.

NOVEMBER 1929

Along with the papers that were prepared in advance and presented at the meeting, the Committee on Programs invited H.W. Heinrich from the Engineering & Inspection Division of Travelers Insurance Company to speak about "Relation of Accident Statistics to Industrial Accident Prevention." Speakers had also been invited for an informal discussion of "Should There be a Definite Provision for Profit in Workmen's Compensation rates?"

MAY 1930

Highlights from this meeting include addresses by Austin J. Lilly, general counsel for Maryland Casualty Company in Baltimore on "A Study of Motor Vehicle Safety Responsibility Legislation" and Edward S. Brashears, Washington, D. C. attorney on "What Do We Prove As Actuaries?"

1934

(Membership as of November 1934: 182 FCAS, 129 ACAS, 311 Total)

The same process continued, with papers presented and discussed and speakers pre-selected to talk on the following topics:

1. Recent and probable future trends of experience in the following lines:
 - (a) Automobile personal injury and property damage liability
 - (b) Personal accident and health
 - (c) Fidelity and surety

2. The rising cost of medical in workmen's compensation and how to curb it

The subject matter of the papers presented to the Society was described in this excerpt from the address to the members on the 20th anniversary:

In the early years a chronic case of workmen's compensation, then a flurry or two of accident and health almost simultaneously with a slight automobile fever, and of late an acute attack of workmen's compensation.

1944

(Membership as of November 1944: 155 FCAS, 123 ACAS, 278 Total)

No meeting was held in 1944 due to the war.

1949

(Membership as of November 1949: 151 FCAS, 119 ACAS, 270 Total)

Two meetings were held annually with the same type of schedule: papers were presented and then an informal discussion of a specified topic took place. In May, the topics were "The Function of Casualty Insurance Companies Under State Disability Benefit Laws, with Particular Reference to New York" and "Retrospective Rating for Combinations of Lines (Plan D) and What is Ahead." In November, the topic was "Uniform Accounting of Expenses and its Effect on Ratemaking Procedures."

1954

(Membership as of November 1954: 164 FCAS, 144 ACAS, 308 Total)

MAY 1954

Three panel discussions were held during this Annual Meeting with the following topics: "A Look at Rate Regulation Ten Years after the SEUA Decision," "Progress Report on Electronics," and "How to Live with Property Insurance Catastrophes." A guest speaker also talked about being a practical insurance man.

NOVEMBER 1954

The same procedure was followed—panel discussions followed by a guest speaker and finally papers from the year. The panel discussions at this meeting were titled "Progress through Research," and "A Constructive Look at Social Security—Value vs. Cost." A guest speaker talked about "the trials and tribulations of both the actuary and the insurance editor."

1964

(Membership as of November 1964: 213 FCAS, 184 ACAS, 397 Total)

NOVEMBER 1964

By now, four panel discussions were held during the course of the meeting and eight papers were presented.

1969

(Membership as of November 1969: 239 FCAS, 212 ACAS, 451 Total)

MAY 1969

By 1969, the Society began offering concurrent sessions, in addition to the meetings' general sessions. On the first day of the meeting, two concurrent workshop sessions were held: "Insurance Investments and Capital Markets" and "Current Thoughts on Ratemaking Techniques." On the second day, two more concurrent sessions were held: "Loss Reserve Problems—Financial and Ratemaking" and "Operation of Individual State FAIR Plans."

1974

(Membership as of November 1974: 282 FCAS, 328 ACAS, 610 Total)

While the Society still continued holding just two meetings a year, the number of concurrent sessions grew making it necessary to schedule three concurrent sessions for certain time slots.

1976

(Membership as of November 1976: 321 FCAS, 415 ACAS, 736 Total)

The first, as it was called then, Casualty Actuarial Society Symposium, was held in September 1976. This was an effort to have a one-day event where members got together to talk about a single topic. This program was put together by the Committee on Loss Reserves and featured panel discussions and presentations. The events were audio taped and then later transcribed.

The symposium was the first of what came to be known as the Casualty Loss Reserving Seminars and appears to have been the first CAS event for the sole purpose of providing continuing education.

1982

(Membership as of November 1982: 561 FCAS, 435 ACAS, 996 Total)

As part of the Society's "obligation to provide a variety of opportunities for continuing education to its members and fulfill this through its Committee on Continuing Education," two seminars were held in addition to the Spring & Annual Meeting. The second Loss Reserve Seminar and a new Reinsurance Seminar were held.

1989

(Membership as of November 1989: 924 FCAS, 616 ACAS, 1540 Total)

In addition to the Spring and Annual Meetings, annual seminars on Casualty Loss Reserve and Ratemaking were held, as well as a special Seminar on Valuation Issues.

1994

(Membership as of November 1994: 1309 FCAS, 990 ACAS, 2299 Total)

By this time, an annual Seminar on Reinsurance was added to the growing list of CAS meetings and seminars. There was also a special Seminar on Medical Cost Containment and Health Care Issues and the Actuarial Approach for Financial Risks (AFIR) Colloquium, a co-sponsored event with the Society of Actuaries.

1999

(Membership as of November 1999: 1923 FCAS, 1350 ACAS, 3273 Total)

More special interest seminars were taking place by 1999. Added to the above, were the Seminar on Catastrophe Issues, the Seminar on Emerging Technologies, and the Dynamic Financial Analysis Seminar

2007

Webinar technology was used for the first time by the CAS to deliver continuing education. A webinar on Reserve Variability was offered on September 27, 2007 with Mark Shapland & Louise Francis as speakers.

2009–95TH YEAR OF CAS

(Membership as of November 2009: 3465 FCAS, 1640 ACAS, 5105 Total)

The CAS Professional Education Policy Committee, along with the planning committees of individual meetings and seminars and the Webinar Committee, provide programs that focus on many of the following topics:

- Enterprise Risk Management & Modeling
- Ratemaking & Product Management
- Loss Distributions, Reinsurance
- Reinsurance Pricing Techniques
- Predictive Modeling, Reserve Assumptions
- Reserve Variability, Loss Reserves
- Property & Casualty Reinsurance
- Underwriting Cycle
- Case Studies & Tools for the Appointed Actuary
- Economic Capital
- Insurer Responses to Climate Change
- Professionalism & the Practicing Actuary
- Improving Information Quality
- Actuarial Leadership

Over the 12 years from 1997 to 2009, the CAS moved from providing seven educational offerings per year to 18 educational opportunities. In addition to the live education offerings, the CAS launched the University of CAS (UCAS) in 2009. UCAS provides a virtual world of educational opportunities by extending the education offered at CAS live events beyond the classroom.

PRESENT

The CAS provided 30 formal continuing education opportunities in 2013, including 13 webinars and two online courses.

Some of the recent developments in education have focused on:

- Cutting Edge Tools in Pricing and Underwriting
- Copulas and their Applications
- Reinsurance Counterparty Risk
- Claim Fraud Detection
- Solvency II

It is interesting to note the shift in the emphasis of the offerings from the CAS's earliest years to today. At the beginning the emphasis was on workmen's compensation and social insurance. Gradually more topics and events were added as well as multiple delivery approaches as a result of evolution in technology.

The CAS is now offering several computer-accessible modules based on its Course on Professionalism, a course normally reserved for candidates about to be admitted to CAS membership. These modules allow experienced actuaries to gain continuing education (CE) credit in professionalism. The CAS has also dramatically increased the number of recorded sessions at meetings and seminars to expand the opportunities for CE in the UCAS. Many of the 17 CAS Regional Affiliates also offer continuing education at their meetings.

THREE KEY DEVELOPMENTS IN THE CAS'S CONTINUING EDUCATION PROGRAM

Three specific developments in the past 40 years are of particular importance to the history of continuing education in the CAS and each deserves some special attention. They are the Casualty Loss Reserve Seminar (CLRS) and the Ratemaking Seminar, as well as the creation of the Qualifications Standard.

CASUALTY LOSS RESERVING SEMINAR (CLRS)

Estimation of loss and loss adjustment expense (LAE) reserves during the 1950s generally depended heavily upon individual case reserve estimates, a simple estimate of average costs of "fast track" claims (such as medical-only claims for workers compensation and other similar estimates for small claims) and a judgmental load for IBNR (incurred but not yet reported claims.)

In fact, at that time only a relatively few actuaries were responsible for the final reserve carried by their companies in their financial statements. Rather, that responsibility was often assigned to the accounting department, sometimes with assistance from their auditing firms.

There was, however, a gradual recognition that more mathematical and actuarial methods were required to obtain improved estimates. Hence more actuaries became involved in the process.

Some of those actuaries were active in the CAS Loss Reserve Committee. One of its goals was to define the data best suited for the task of estimating losses and LAE for each line of business. It also had the responsibility to develop methods of analyzing loss data to estimate ultimate losses and LAE by line of business. During committee deliberations they realized there was also a need to share the results of those discussions not only with members of the CAS but with all persons responsible for estimating ultimate losses and LAE.

Thus the idea surfaced of the CAS sponsoring a seminar open to anyone interested in the estimation of ultimate losses and LAE. The next step was to develop an agenda and recommend it to the CAS Board of Directors. The committee suggested an experiment of a single-topic seminar open to *anyone* interested in discussing the methods of estimating ultimate losses and LAE, not just CAS members.

The committee recommended a low-budget meeting in a central location to attract participants from smaller companies without actuaries. The Board adopted the proposal and the meeting was held in St. Louis.

The first seminar, held in 1976, turned out to be much more successful than anticipated. The Board, therefore, decided to continue the seminar on an annual basis with some improvements over that first meeting. For example, the Board appointed a separate committee to develop and improve the program.

This event evolved as issues surrounding loss reserving grew, and it became a jointly sponsored event with the American Academy of Actuaries in 1981.

The first jointly sponsored CLRS started on "square root" day, 9/9/81. Jim MacGinnitie recalls having to fill in for Ron Bornhuetter as the emcee at the last minute, since Ron had a golfing accident. Ron was immediate past president of the AAA at the time, and Jim was the incoming treasurer.

The co-sponsorship was modeled, to some extent, on the Enrolled Actuaries meetings that the AAA and the Conference of Consulting Actuaries had begun holding a few years earlier. In both cases, there were major threats to the role of the actuary. The U.S. federal government had decided that Enrolled Actuaries didn't have to belong to the major actuarial organizations, and actually set the initial qualifications quite low—there was a famous postcard exam with two easy questions. The AAA and Conference had decided they needed to sponsor the major continuing education event in that space, lest it be taken over by the lesser qualified.

Similarly, the NAIC was beginning to require a property-casualty reserve opinion. There was a real risk they would allow any certified public accountant (CPA) to "certify" reserves. The AAA, with the help of a lot of life actuaries, lobbied various insurance departments to give preferred status to actuaries and not give automatic status to CPAs. As an aside, it should be noted that some CAS Fellows involved at the time believed that the casualty actuaries would almost certainly have lost that battle but for the efforts of several life actuaries, both insurance department employees and company employees. In later years, Dick Roth, Jr., FCAS would be instrumental in strengthening the qualifications, but the initial battle was won before he got involved.

With this background, the AAA and the CAS decided to sponsor a seminar for all loss reserve specialists, specifically including the CPAs, on our turf, where we could control the agenda. It has continued as a jointly sponsored event ever since and one that is always well attended.

RATEMAKING SEMINAR

A decade later, in 1986 the first Ratemaking Seminar was held in Philadelphia. It was intended as a one-time, limited attendance

+ THE BEGINNINGS OF THE LOSS RESERVE SEMINAR

BY RONALD L. BORNHUETTER

C.L.
R.S.

One might wonder why the Casualty Loss Reserve Seminar has been jointly sponsored by the AAA and the CAS every year since its beginning.

First, it was started when Jim MacGinnitie was CAS president and I was AAA president—timing was good. Secondly, our concern was on the interested audience—that was in the public arena and not necessarily only CAS members. We wanted to attract insurance stock analysts, state insurance department personnel who reviewed rate filings, auditors, both insurance departments as well as members of the accounting profession, and academics. At the same time, there were informal discussions at the NAIC level about “certification” of loss reserves as portrayed in the NAIC Annual Statement Blank. One of the main concerns was who was qualified to opine on the loss reserves. The AICPA was pushing for its members to be automatically qualified to opine although their examinations did not specifically cover the subject. Also, very very few CAS members worked for public accounting firms. With this background, the CAS decided to take the initiative together with the Academy.

Thus began a project in 1979 at the Allstate auditorium outside Chicago where more than 100 individuals attended a seminar that has grown into what it is today—The Casualty Loss Reserve Seminar—although the audience make-up is quite different today. It was also the first CAS-approved special interest meeting of its kind and was the forerunner of what is today a multiple of special interest meetings held on a regular basis by the CAS.

As previously mentioned, during the late 1970s, concern was rising about the accounting profession and the belief that its members were responsible for the adequacy of the casualty loss reserves of audit clients; there was little interest, if any, for the accounting firms to develop their own actuarial departments. “Reliance on an outside expert” was not in their lexicon.

Jack Hart, General Re’s audit partner for Coopers & Lybrand, and I enjoyed discussing this situation from opposite sides. As an outgrowth of these and other discussions within both professions a joint Actuarial/Accounting Committee ultimately was formed. It was put under the auspices of the AAA as many issues would go beyond just casualty loss reserves with life and accident and health issues. The committee was made up of senior executives from both sides.

The committee may not have accomplished anything concrete but it certainly had some effect early on in defining the subject from our (actuarial) point of view. We wanted the dialogue in order to promote the subject of reliance and, hopefully, promote the hiring of CAS members by the large accounting firms.

In any event, it is not how we got where we are now but today’s standards of operation in the audit arena have turned out the way they should have, with CAS members having critical responsibility on loss reserves. Also, all major accounting firms now have strong actuarial departments.

As an afterthought, “certification” became “actuarial opinion.”

seminar with a maximum attendance of 125 people. In fact, two CAS members, Shelly Rosenberg and Art Cadornine, volunteered to do all the support work themselves since it was such a workable number. How wrong they were; the attendance hit 250 plus with about 100 walk-in registrants that morning. Art still has vivid memories of the chaos with food and meeting arrangements. Plus, the then state-of-the-art overhead projectors with transparencies did not make for easy copy making. Despite the chaos, it was very well received except for those who complained about the food!

With this success, a more formal committee structure was put in place to plan future seminars and the CAS staff was utilized for support. The seminar grew each year, hitting a highpoint of 996 attendees for a meeting in Las Vegas in 1996. The number of sessions went from eight concurrent sessions at the first meeting to over 50 different sessions covering subjects from data management to advanced ratemaking for all lines of business. Attendees included CAS members, students, and underwriters. Subject matter was presented at all levels, from basic to advanced tracks.

The Ratemaking Seminar remained in this format until 2009 when it was combined with the Predictive Modeling Seminar. This coalition made sense since much of the subject matter overlapped. What began in 1986 as the Ratemaking Seminar is

now the Ratemaking and Product Management Seminar and continues to be well attended and received.

QUALIFICATION STANDARD AND CONTINUING EDUCATION REQUIREMENTS TO PRACTICE—U.S.

The CAS has served members’ qualification needs in many countries. However, this history below is specific to the U.S., the country where the majority of CAS members practice.

Around the mid-to-late 1970s, instructions for the NAIC annual statements for Property and Casualty, Life and Accident and Health were beginning to request a statement of opinion by a qualified actuary about the adequacy of the loss reserves. There was considerable concern within the actuarial profession about who would be considered a qualified actuary for the purpose of these statements. After much effort on the part of many actuaries, the NAIC eventually deemed a member of the American Academy of Actuaries to be a qualified actuary for Life and a member of the Casualty Actuarial Society to be qualified for Property and Casualty. However, the actuarial profession recognized the need for more specific requirements in order for an actuary to be considered qualified, and they undertook the effort to define more extensive qualifications.

The outcome of those efforts was “Qualification Standards to Sign Statements of Actuarial Opinion on NAIC Annual Statement Blanks,” adopted by the Academy Board in October 1981.

These first Qualification Standards contained a provision that actuaries “update and maintain knowledge by continued study and practice” but did not prescribe specific mandatory CE requirements. In 1985, the Council of U.S. Presidents or CUSP formed a task force on continuing education to consider mandatory CE requirements, identify the pros and cons, and emphasize the importance of continuing education to Academy members.

After extensive solicitation of member opinions and two exposures, the Academy Board approved the task force’s continuing education recommendations on June 22, 1989. Instead of a voluntary CE program for all members, a mandatory CE program was established for just those actuaries subject to any of the existing qualification standards.

At the same meeting in June 1989, the Academy Board adopted the final report of the Committee on Qualifications, which recommended restructuring the Qualification Standards to develop two types of standards: a General Qualification Standard that would apply to any Prescribed Statement of Actuarial Opinion (PSAO), and a Specific Qualification Standard. The latter classification included the three currently existing qualification standards for NAIC annual statements.

The Academy Board adopted the newly structured “Qualification Standards for Public Statements of Actuarial Opinion” in January 1991 and incorporated the new CE requirements into these standards in September 1991. The AAA’s Committee on Qualifications assumed the responsibility for administering the CE requirements. Several revisions to the Qualification Standards took place throughout the early 1990s that added clarifications, expanded definitions, and provided additional guidelines on acceptable types of CE activities.

In November 2002, the Committee on Qualifications solicited input on a discussion draft that proposed to expand significantly the scope of the Qualification Standards from its then-current focus on statutory and regulatory work to all statements of actuarial opinion (SAOs). The proposed change was based on the recognition that, while Precept 2 of the Code of Professional Conduct broadly requires that all actuaries be qualified “on the basis of basic and continuing education and experience” when performing Actuarial Services, the existing Qualification Standards applied only to actuaries who issue PSAOs.

In May 2007, the Academy Board adopted the current “Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States, Including Continuing Education Requirements,” effective January 1, 2008. These revised standards essentially expanded the scope of its application beyond merely issuers of PSAOs to issuers of SAOs, and substantially increased the annual CE requirements to a mandatory 30 hours, six of which must be from organized activities and three on professionalism topics. The Qualification Standards also separately address in Section 3 the qualification of issuers of the three NAIC annual statement opinions (casualty, life, health) with more specific guidance on the basic education, experience, and continuing education required to issue such actuarial opinions. These U.S. Qualification

Standards apply to all members of the CAS practicing in the U.S., not just Academy members.

CONTINUING EDUCATION REQUIREMENTS BEYOND THE U.S.

Because CAS members were mainly practicing in North America, for many years it was sufficient to rely on having CAS members meet the CE requirements of the American of Actuaries and the Canadian Institute of Actuaries. As the numbers of CAS members practicing outside North America grew, however, the CAS decided that all practicing CAS members must be held to the professional standard of some mandatory continuing education. So in May 2010, the CAS Board of Directors adopted for the first time a CAS Continuing Education Policy.

This policy, with requirements very similar to those of the Academy, mandated that CAS members practicing in countries with nation-specific CE requirements were obliged to meet the conditions of those countries. If, however, a nation did not have published CE requirements then by default the CAS members were bound to the requirements of the CAS Continuing Education Policy. Adopting the policy ensured that CAS members practicing in any part of the world would be held to ongoing professional and educational principles.

DISCIPLINE PROCESS

Just as one of the important hallmarks of a profession is the requirement of continuing education to maintain qualification to practice, so also is the existence of a code of professional conduct and a process for enforcing it.

The CAS’s has a strong professional code of conduct that is actively enforced.

The CAS helped to create the Actuarial Board for Counseling and Discipline (ABCD) which is “housed” within the American Academy of Actuaries. It is only relevant to those CAS members who practice in the United States. The ABCD is the organization which, in addition to answering questions and providing counsel to U.S. practicing actuaries, investigates and makes recommendations concerning alleged violations of the CAS professional code of conduct by CAS members. The American Academy of Actuaries and the Society of Actuaries also uses the ABCD in this same way.

If, following investigation and a subsequent fact-finding hearing, the ABCD decides to recommend disciplinary action, the report containing the facts and the recommendation is sent to the CAS and then forwarded on to the Joint Discipline Council, a body made up of the presidents and president-elects of the CAS, SOA and AAA. The Joint Discipline Council then appoints a Disciplinary Panel which holds a hearing and decides upon the appropriate discipline, if any, to be administered. Their decision may be appealed by the Subject Actuary, but only on the basis of purported procedural error or new evidence not available previously. The Joint Discipline Council then appoints an Appeal Panel whose will hear the case and make a final binding decision.

This procedure, which involves all three of the U.S.-based actuarial organizations, assures that an actuary practicing in

the U.S. who is a member of two or more of the U.S.-based organizations will receive the same disciplinary action from all organizations for the same offense.

Although the discipline process is not directly related to continuing education, there is a relationship illustrating how the requirements that apply to actuaries have been strengthened over the years and how the requirements have been enforced.

CONCLUSION

The history of CAS continuing education is one of continual expansion. At the CAS's inception it was an unintended by-product. Today it is a major focus of our Society.

In Jim MacGinnitie's address to new members in 2006, he provided the new members with a list of four responsibilities that come with their new designations. The first that he listed was: "The responsibility to continue your education throughout your professional career."

This sentiment is strongly reflected in the current activities of the CAS, which has been investing significant resources to assure that its members can readily access the continuing education they need to fulfill their professional responsibilities.

+ MEETINGS' SUBJECT MATTER REVEAL AN OVERALL RECORD OF EXCELLENCE AND GROWTH

BY M. STANLEY HUGHEY

Growing old is better than the alternative, and one of the benefits is that it qualifies me to relive some of the early CAS history, and comment on its development and current stature.

The CAS was organized in 1914 as the Casualty Actuarial and Statistical Society of America, with 97 charter members. The actuaries were outnumbered by the statisticians and others, and there was a strong interest in the then evolving workers compensation insurance. The early years saw modest growth, as the pioneers worked to collect information on which to develop rates for compensation and various forms of public liability insurance and indemnity lines.

By 1921, the Casualty Actuarial and Statistical Society membership had stabilized at 156 Fellows, and with the emphasis on the actuarial developments, the name was changed to the Casualty Actuarial Society.

Jumping ahead to the mid-1950s, a review of the minutes of the 1955 meetings show 68 Fellows and Associates in attendance at the Edgewater Beach Hotel in Chicago for the Spring Meeting, and 97 Fellows and Associates in attendance at the Hotel Statler in Boston for the meeting in the fall. Papers, discussions and seminar subjects covered included:

- Massachusetts Auto Compulsory Ratemaking
- Prolonged Illness Insurance
- Boiler & Machinery Rating
- Expense Provisions in Rating
- Windstorm Differentials
- Fire Classifications
- Investment Fluctuation Reserves
- Compensation Loss and Loss Expense Reserves
- Workers Compensation Ratemaking
- Multiple Line Ratemaking

Scanning these topics, it is evident that the bulk of the subject matter involved ratemaking in one form or another, with a little exposure to loss reserves and a “sideways” reference to the impact of investments.

In 1960, 97 Fellows and Associates attended the Spring Meeting at Skytop, Pennsylvania, and 115 Fellows and Associates attended the fall meeting at the Statler Hilton Hotel in Washington, D.C. Papers, discussions and seminar subjects covered included:

- Automobile Merit Rating
- Multiple Peril Ratemaking
- Non-Cancellable Accident & Health
- Single Car Credibility
- OASDI Estimates and Valuations
- Rating of Crop Hail Insurances
- Use of Negative Binomial On Auto Rating
- Burglary Insurance

Again, the preponderance of subjects involved ratemaking in one form or another.

In 1965, 152 Fellows and Associates attended the fall meeting at the Sheraton-Boston Hotel in Boston. Papers, discussions and seminar subjects included:

- Package Policy Ratemaking
- Functions of the Actuary

- Operations Research
- Fire and Casualty Financial Statements
- Reserving for Retrospective Returns
- Dual Operations—Investments and Underwriting
- Special Seminar on Credibility

The emphasis continues to be on ratemaking, but research and investment aspects of the actuary's functions also appear in the material covered.

In 1970, 149 Fellows and Associates attended the fall meeting at the Palmer House in Chicago. Papers, discussions and seminar subjects included:

- Current Status of Auto Insurance Systems
- Regulating for Solvency
- Liability Increased Limits Statistics
- The Investment Analyst Looks at the Insurance Business
- Credibility for Severity
- Trend and Loss Development Factors
- A Stochastic Approach to Auto Compensation
- Distortion in IBNR Factors

Ratemaking subjects continue to be on the program, but major financial topics are very much in evidence.

In 1975, the CAS began to show the signs of the explosive growth that has become a characteristic of our more recent years. The fall meeting was held at the Le Chateau Champlain in Montréal, and had 249 Fellows and Associates in attendance. Papers, discussions and seminar subjects included:

- Classifications—Too Many or Too Few?
- Ratemaking in Recession
- Reinsurance—Umbrella Policies
- Living under a Corporate Plan
- Current Status of Auto No-Fault
- Expanding Role of Casualty Actuarial Consultant
- Use of Trend Factors in Ratemaking
- Loss Reserve Testing
- Workers Comp Ratemaking
- California Table L
- Canadian Insurance
- Malpractice—Why did the Actuary Fail?

The expanding number of topics, the broadening of the subject material, and the challenge to the actuary to expand his or her areas of participation stand out clearly.

Turning to the CAS Constitution, Article II—Statement of Purpose, it states that the aim of the CAS is to “Advance the body of knowledge of actuarial science applied to property, casualty, and similar risk exposures,” with spelled out standards. Reviewing the subject matter considered in a sampling of our earlier years suggests the gradual expansion of the actuaries' role. It also suggests the



M. Stanley Hughey

benefits to be derived by bringing the skills of the actuary to bear on evaluating difficult insurance problems, and in finding workable long-range solutions to property, casualty, and risk exposure problems.

With this background, it is interesting to jump way ahead to the November 2006 fall meeting held in the Hyatt Regency Hotel in San Francisco. The minutes record that 749 Fellows, Associates, and Affiliates were in attendance. Further, as of November 13, 2006, the CAS had a total of 4,361 members.

Reviewing the program, there were 36 different papers, discussion sessions and seminars presented, on a very wide range of topics. Summarizing is difficult, but using considerable editorial latitude, the grouping by subject matter was as follows.

Subject	Number of Presentations
Ratemaking	2
Specialty Ratemaking	5
Actuarial Qualification, Exams, Opinions, Standards	7
Data Collection, Data Management, Modeling	5
Regulation, Insurance Structure	4
Nontraditional Role of the Actuary	1
Transfer of Risk, Reinsurance, Risk Management	5
Dealing with Catastrophes	4
Loss and Loss Expense Reserves	3
Total	36

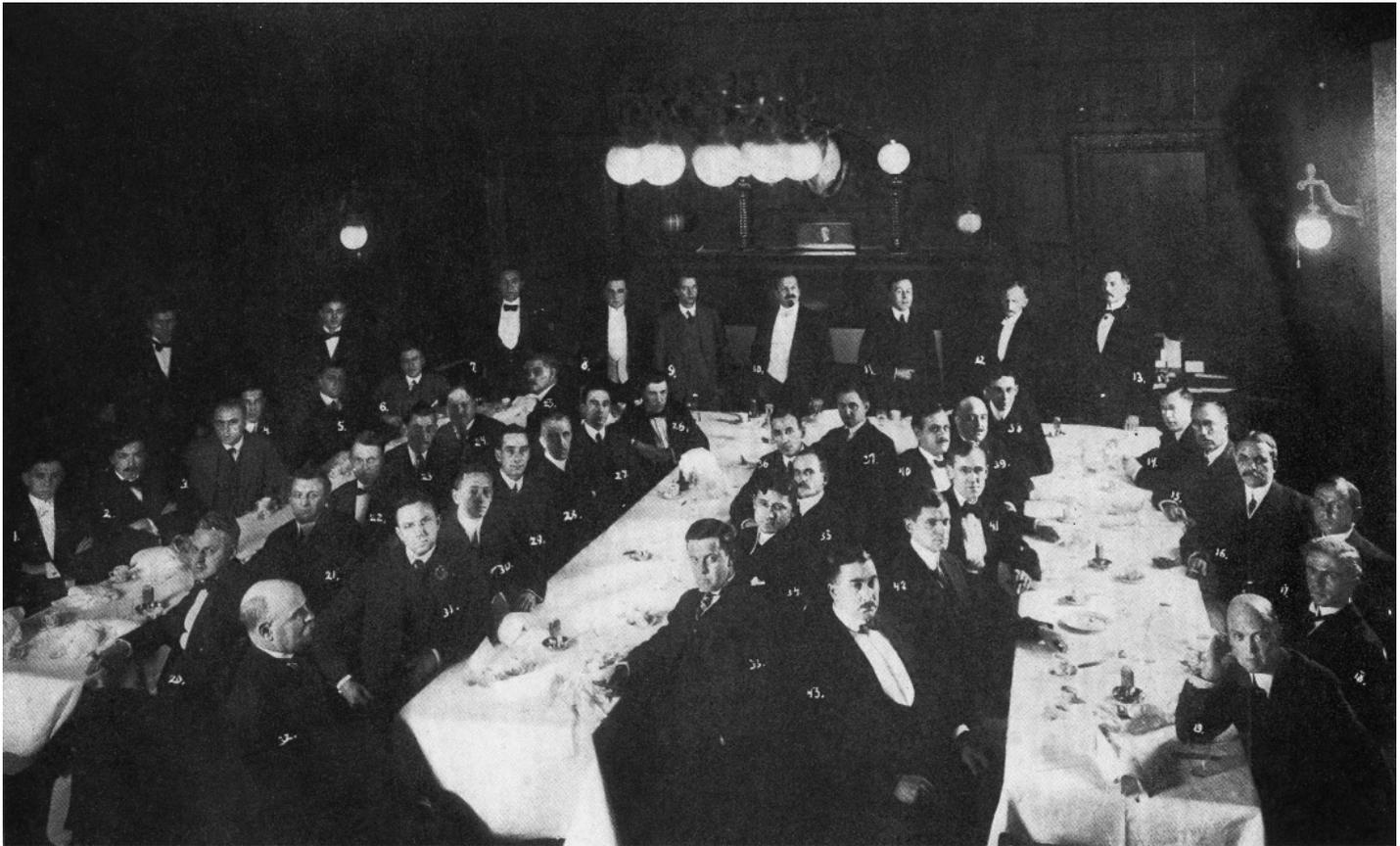
This simple summary of topics considered at the 2006 fall meeting provides ample evidence that the CAS has made substantial progress in carrying out its purpose of advancing the body of knowledge of actuarial science.

Reviewing this list of topics serves to emphasize the increasing importance the CAS and other actuarial organization have assigned to what might be called “mechanics of operating our profession”: qualification standards, standards of practice, and disciplinary procedures. The need for some form of control emerged in the early 1980s; it was the subject of long study and discussion by the American Academy of Actuaries, which is responsible for high professional standards of qualifications, practice, and conduct.

This effort culminated in the establishment of the Interim Actuarial Standards Board in 1985, which converted to the Actuarial Standards Board (ASB) in 1988. Setting a model of joint actuarial cooperation, the ASB was followed by the ABCD in 1992 to consider questions regarding professional conduct. The importance of these professional controls is reflected in the CAS subject matter.

The CAS has set its sights high, and the overall record is exciting! The future holds a strong challenge to build a bright and influential future.

Up and away!



First dinner of the Casualty Actuarial and Statistical Society of America. City Club, New York City, November 7, 1914.

1. E.S. Goodwin; 2. E. Olifiers; 3. W.W. Greene; 4. F.F. Brown, Statistician, Frankfort General Insurance Co. (guest); 5. L.J. Wolfe; 6. J.L. Train; 7. C.M. Hansen; 8. C.E. Scattergood; 9. A.H. Mowbray; 10. I.M. Rubinow, CAS President; 11. B.D. Flynn; 12. F.L. Hoffman; 13. S.L. Otis; 14. Arthur Hunter*; 14. W.I. King*; 15. Charles Hughes; 16. Edward B. Phelps; 17. C.H. Remington; 18. E.E. Cammack; 19. R.V. Carpenter; 20. A.H. Craig; 21. S.H. Wolfe; 22. Robert K. Orr; 23. W.B. Marsh; 24. F.E. Law; 25. A.R. Marsh, Editor of *Market World and Chronicle* (guest); 26. F.R. Mullaney; 27. L.S. Senior; 28. Harry Furze; 29. Henry Farrer; 30. T.A. Lehmann; 31. J.H. Woodward; 32. M.M. Dawson; 33. A.B. Dawson; 34. W.H. Gould; 35. G.D. Moore; 36. Roland Benjamin; 37. E. Scheitlin; 38. W.A. Budlong; 39. T.F. Treovett, Chief Adjuster, Commercial Travelers Mutual Accident Association of America (guest); 40. L.D. Egbert*; 40. E.B. Fackler*; 41. William Breiby; 42. A.B. Graham (guest); 43. Elmer H. Dearth

*Misidentified in the *Proceedings of the Casualty Actuarial Society, Volume I.*



Isaac Max Rubinow, first president of the Casualty Actuarial and Statistical Society.



James D. Craig, the Society's second president.



Attendees of the sixth regular meeting of the Casualty Actuarial and Statistical Society held May 26, 1916 at the Hartford Golf Club, Hartford, Connecticut. 1. Herbert Hess; 2. George B. Buck; 3. W.R. Williamson; 4. L.G. Hodgkins; 5. H. Pierson Hammond; 6. James D. Craig; 7. A.H. Craig; 8. John M. Parker Jr.; 9. Edward B. Morris; 10. Charles Hughes; 11. Leon S. Senior; 12. George D. Moore; 13. Edward S. Goodwin; 14. Henry Farrer; 15. S. Leon Levy; 16. B.A. Hunt; 17. Fred S. Garrison; 18. Virgil M. Kime; 19. U.H. Brockway; 20. Joseph H. Woodward; 21. Albert W. Whitney; 22. Benedict D. Flynn; 23. I.M. Rubinow; 24. Claude E. Scattergood; 25. Richard Fondiller; 26. Harwood Ryan; 27. S. Bruce Black; 28. Everett S. Fallow.

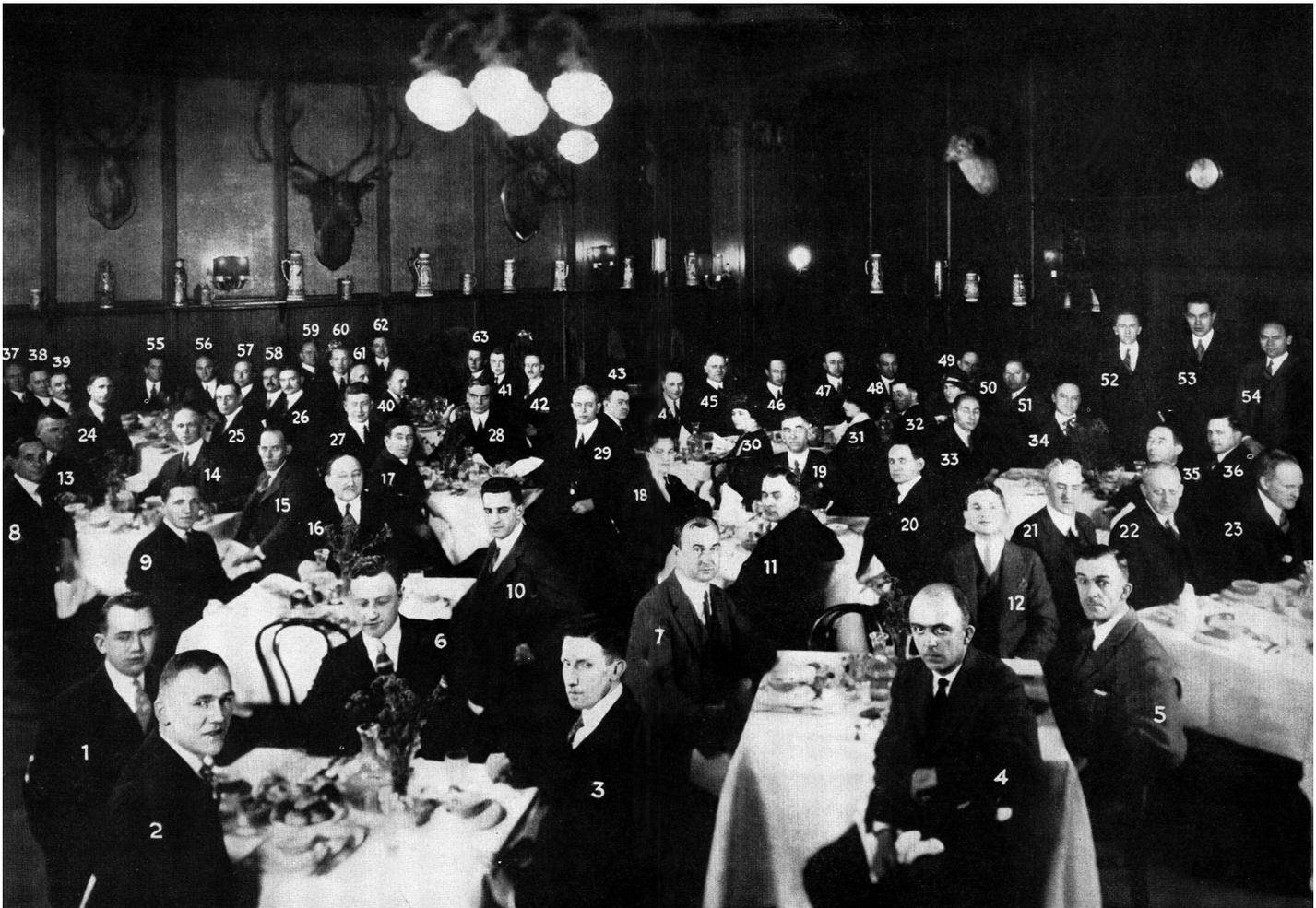


Joseph H. Woodward



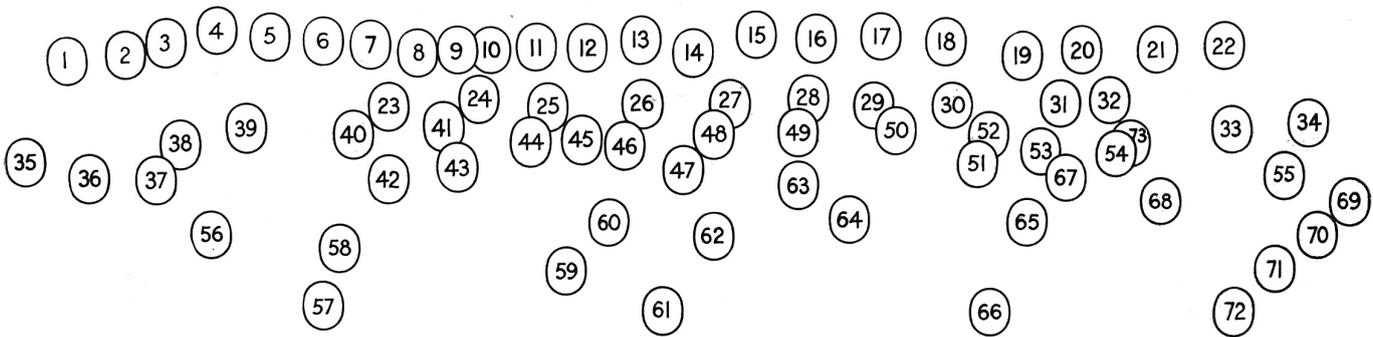
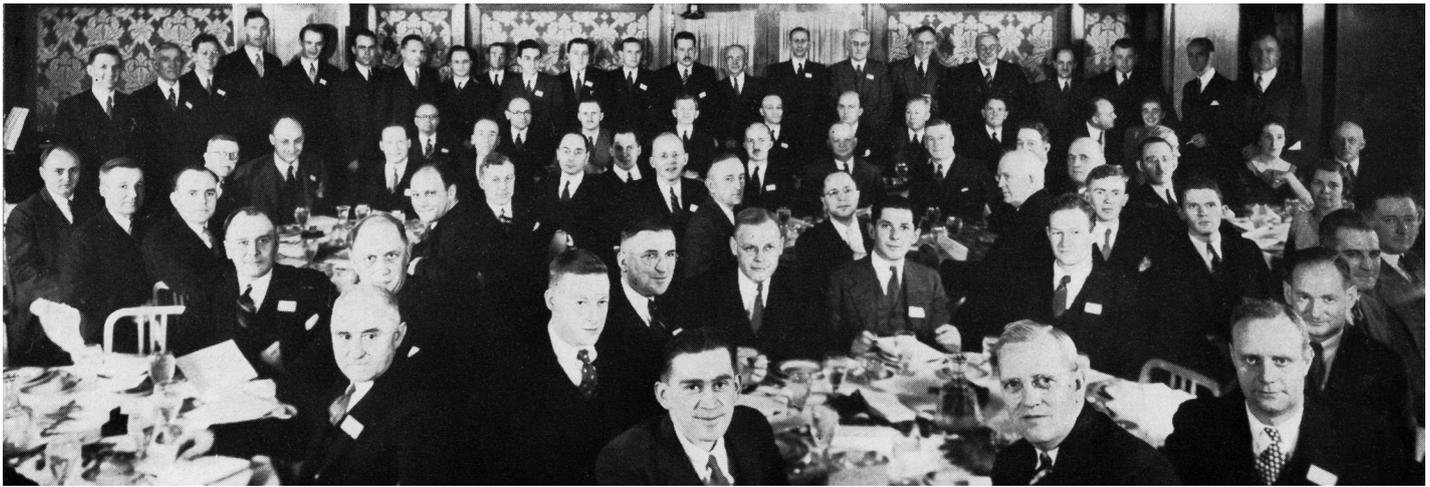
Richard Fondiller

Initiated in 1963, the Woodward-Fondiller Prize commemorates the work of Joseph H. Woodward and Richard Fondiller, who were tireless volunteers throughout the early years of the Society. The two formed the firm Woodward and Fondiller, which was quite possibly one of the first casualty actuarial consulting firms in the United States. The Woodward-Fondiller Prize was the first prize program established by the CAS. It was awarded to the best eligible paper submitted to the *Proceedings of the Casualty Actuarial Society* by an Associate or Fellow who had attained his or her designation within the last five years of submitting his or her paper. An eligible *Proceedings* paper showed evidence of original research and solved advanced insurance problems.



Attendees of the Tenth Anniversary Dinner of the Casualty Actuarial Society. Photo taken November 20, 1924, at the National Republican Club of New York City.

- | | | |
|--------------------------|-----------------------------|--|
| 1. William M. Corcoran | 22. William N. Magoun | 43. Otto C. Richter |
| 2. William Breiby | 23. Albert W. Whitney | 44. Joseph Linder |
| 3. J.C. Montgomery | 24. Hiram O. Van Tuyl | 45. C.N. Young |
| 4. Winfield W. Greene | 25. William A. Budlong | 46. William Newell |
| 5. Leslie LeVent Hall | 26. Stanley L. Otis | 47. Richard M. Pennock |
| 6. Herbert Hess | 27. James S. Elston | 48. Paul Dorweiler |
| 7. Charles Gordon Smith | 28. Robert Henderson | 49. Olive E. Outwater |
| 8. Henry Farrer | 29. Wendell Melville Strong | 50. Rainard B. Robbins |
| 9. Morris Pike | 30. E.M. Davis | 51. James W. Glover |
| 10. Milton Acker | 31. M. Elizabeth Uhl | 52. William Leslie |
| 11. Walter P. Comstock | 32. Samuel M. Michener | 53. James A. Beha (New York State Superintendent of Insurance) |
| 12. Richard Fondiller | 33. Harold J. Ginsburgh | 54. Gustav F. Michelbacher |
| 13. Robert J. McManus | 34. Charles A. Wheeler | 55. Marcus Meltzer |
| 14. Robert S. Hull | 35. Leon S. Senior | 56. Emil Scheitlin |
| 15. Everett S. Fallow | 36. S. Bruce Black | 57. Hartwell L. Hall |
| 16. Samuel Deutschberger | 37. Lewis A. Nicholas | 58. George D. Moore |
| 17. Samuel Milligan | 38. James D. Maddrill | 59. Sanford B. Perkins |
| 18. Julius Pallay | 39. Nellas C. Black | 60. Harmon T. Barber |
| 19. Charles S. Warren | 40. Arthur G. Smith | 61. Albert Edward Wilkinson |
| 20. Arthur Sawyer | 41. Arthur N. Matthews | 62. William J. Constable |
| 21. Arnette Roy Lawrence | 42. Charles M. Graham | 63. Mr. Stokes |



Attendees of the CAS 20th Anniversary Dinner—November 22, 1934, Hotel New Yorker, New York City

- | | | |
|----------------------------|-------------------------|--------------------------|
| 1. Howard G. Crane | 25. Francis S. Perryman | 49. Earl O. Dunlap |
| 2. Charles S. Warren | 26. Richard Fondiller | 50. Frederick Richardson |
| 3. John J. Gately | 27. Paul Dorweiler | 51. Mr. O'Neill |
| 4. Mr. Barron | 28. Winfield W. Greene | 52. Ralph H. Blanchard |
| 5. Harold W. Bittel | 29. Benedict D. Flynn | 53. Jesse S. Phillips |
| 6. Unknown | 30. Thomas F. Tarbell | 54. Karl Newhall |
| 7. Sydney D. Pinney | 31. Sanford B. Perkins | 55. E.M. Davis |
| 8. Edward S. Skillings | 32. Joseph H. Woodward | 56. Walter P. Comstock |
| 9. William H. Kelton | 33. Emma C. Maycrink | 57. Emil Scheitlin |
| 10. Dudley M. Pruitt | 34. William N. Magoun | 58. Scott Harris |
| 11. M.J. Wood | 35. Russell O. Hooker | 59. James M. Cahill |
| 12. Harold E. MacKeen | 36. Mr. Gibson | 60. Robert J. McManus |
| 13. F. Stuart Brown | 37. Norton E. Masterson | 61. Thomas O. Carlson |
| 14. Robert S. Hull | 38. Don A. Baxter | 62. Maurice L. Furnivall |
| 15. Hiram O. Van Tuyl | 39. Robert V. Sinnott | 63. Louis Buffler |
| 16. Arnette Roy Lawrence | 40. John W. Ainley | 64. Mark Kormes |
| 17. William Breiby | 41. Alan W. Waite | 65. Nels M. Valerius |
| 18. Clarence W. Hobbs | 42. Joseph Linder | 66. James F. Gildea |
| 19. Charles J. Haugh | 43. Frank Mullaney | 67. William H. Burling |
| 20. Arthur N. Matthews | 44. Harold J. Ginsburgh | 68. Russell P. Goddard |
| 21. Charles M. Graham | 45. Gardner V. Fuller | 69. William F. Roeber |
| 22. Charles Gordon Smith | 46. Harmon T. Barber | 70. Milton Acker |
| 23. George D. Moore | 47. Richard M. Pennock | 71. Ralph M. Marshall |
| 24. Gustav F. Michelbacher | 48. Arthur G. Smith | 72. Albert Z. Skelding |



Members and guests of the CAS attend a surprise testimonial dinner honoring Richard Fondiller, held November 19, 1953, at the Biltmore Hotel in New York City.



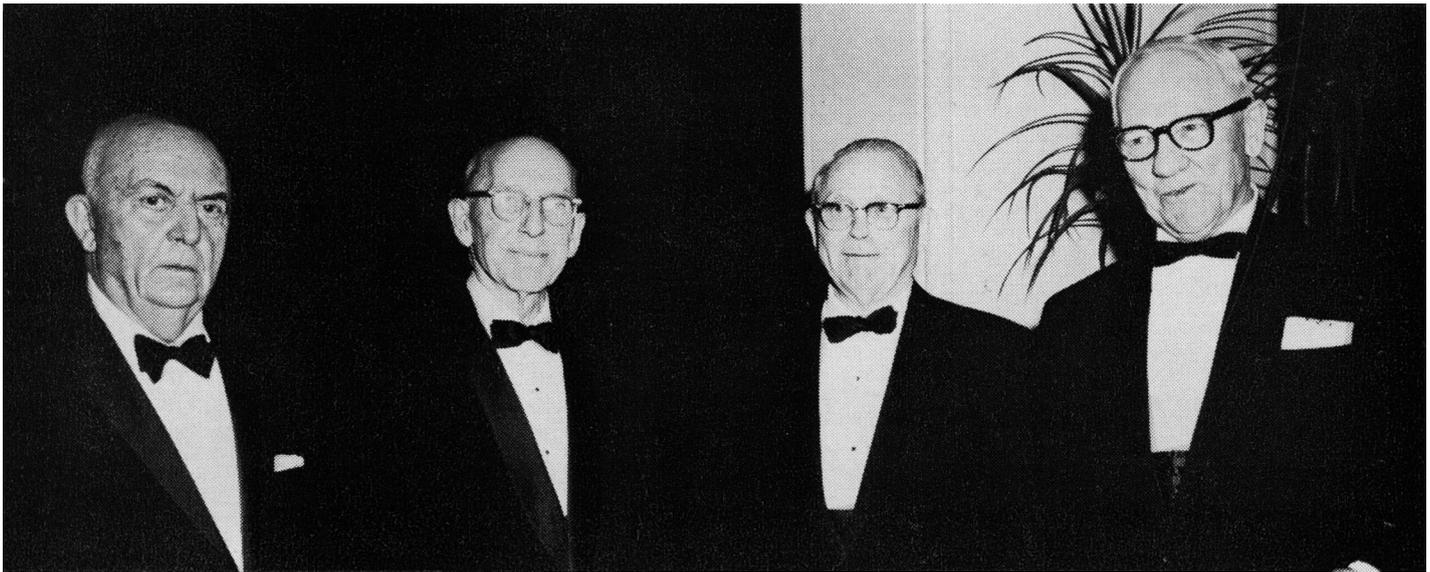
CAS President Thomas O. Carlson (left) presents an embossed scroll to Richard Fondiller, who had completed 35 years of voluntary service as CAS secretary-treasurer. Earlier in 1953, Mr. Fondiller had announced that he would not be a candidate for reelection.



The CAS Fiftieth Anniversary Banquet, November 19, 1964, Plaza Hotel, New York City. Photo by D'Arlene Studio.



Norton E. "Doc" Masterson (far right) stands with special guests at the CAS Fiftieth Anniversary Dinner. Left to right: Karl H. Borch, Norwegian Society of Actuaries; Hans Ammeter, ASTIN and the Swiss Actuarial Society; B. Christoffersen, Danish Association of Actuaries; Mrs. Robert E. Beard; Robert E. Beard, Institute of Actuaries, England; Edward Franckx, Royal Association of Belgian Actuaries; Masterson. Photo by D'Arlene Studio.



Four of the ten CAS Charter members alive in 1964 attended the CAS Fiftieth Anniversary Dinner. Left to right: Winfield W. Greene (CAS President 1934-35), John S. Thompson (Society of Actuaries Past President), S. Bruce Black, William Breiby. Photo by D'Arlene Studio. See below for pictures of their younger selves.



Winfield W. Greene in 1914.



S. Bruce Black in 1916.



William Breiby in 1914.



CAS Fiftieth Anniversary Dinner attendees, front, left to right: Norton E. "Doc" Masterson, Mrs. Robert E. Beard, Karl Borch, Laurence H. Longley-Cook. Rear, left to right: Edward Franckx, Robert E. Beard, Mrs. Thomas Murrin, CAS Vice President William J. Hazam. Photo by D'Arlene Studio.



Elected in November 1978, Ruth E. Salzmnn was the first female to serve as CAS president. She developed the Salzmnn curves, mathematical tables that were a primary basis for pricing property insurance for 40 years. Her 1963 Proceedings paper, "Rating by Layer of Insurance," was required reading for actuarial students.



CAS President Ruth Salzmnn (center) stands with 33 of 38 new Associates admitted in May 1979 at the CAS Spring Meeting in Colorado Springs, Colorado. The May 1979 class is as follows: J. Paul Austin, William H. Belvin, James E. Biller, James K. Christie, Richard M. Cundy, Susan T. DiBattista, Eric T. Drummond-Hay, Thomas J. Duffy, Claude Dussault, Glenn A. Evans, James M. Foote, Patricia A. Furst, Thomas L. Ghezzi, Eugene E. Harrison, Philip E. Heckman, Barbara J. Higgins, Stephen Jameson, John J. Javaruski, Thomas S. Johnston, Joel M. Kleinman, Gaetane LaFontaine, Richard W. Lo, Edward P. Lotkowski, Howard C. Mahler, Stuart B. Mathewson, Charles W. McConnell II, William G. McGovern, Evelyn T. Mulder, Francis X. Murphy Jr., Curtis M. Parker, Nancy R. Myers, Gary V. Nickerson, Ray E. Niswander Jr., John P. Robertson, William J. Rowland, Allan L. Schwartz, Randall J. Wilson, John D. Zicarelli.



Edee Morabito and Albert Z. Skelding, CAS Secretary-Treasurer from 1953 to 1968. Ms. Morabito worked for the CAS for 33 years.



CAS Executive Director James H. "Tim" Tinsley, standing, right, and members of the 1992 CAS Executive Council, sitting, left to right: Irene K. Bass, Vice President-Continuing Education; Michael L. Toothman, President; David Flynn, President-Elect. Standing, left to right: John Purple, Vice President-Administration; Allan Kaufman, Vice President-Research and Development; Steven G. Lehmann, Vice President-Admissions; Tinsley.



Dave Skurnick (seated, right) takes over from the paid pianist (seated, left) in the Presidential Suite at the 1991 CAS Spring Meeting in Palm Desert, California. Lending their voices are, left to right, Warren "Ben" Tucker, Michael Toothman, Mavis Walters, and Chuck Bryan.



Attendees chat at the 1992 Spring Meeting at the Palmer House Hilton in Chicago.



Meeting attendees peruse a session handout.

Left to right: Barbara MacGinnitie, Jim MacGinnitie (CAS President 1979-1980), and Michael Fusco (CAS 1989-1990) at the 1994 Past President's Dinner.





Paul M. Otteson (left) receives the 1997 Matthew Rodermund Service Award from CAS President Bob Anker.



New CAS Fellows Arlie J. Proctor (foreground, right) and Bradley H. Rowe (foreground, left) at the CAS Annual Meeting, which was held at the Hotel del Coronado, in Coronado, California in November 1995.



New Associates write down their names on cards to identify themselves in the class group photos.



Members of the CAS Executive Council in 1997, left to right: Paul Braithwaite, Vice President-Administration; Patrick J. Grannan, Vice President-Programs and Communications; Mavis A. Walters, President-Elect; Robert A. Anker, President; Kevin B. Thompson, Vice President-Admissions; Robert S. Miccolis, Vice President-Research and Development.



"We always engage in a give-and-take with our claims department. They take down the reserves and we give them back in bulk."



Stephan Christiansen (right) was a frequent cartoon contributor to the *Actuarial Review*.



New FCAS Marie-Josée Huard receives her diploma from CAS President Mavis A. Walters at the 1998 CAS Spring Meeting in Marco Island, Florida.



CAS Board Director Regina M. Berens and new CAS Associate Dean A. Westphal at the 1998 Spring Meeting in Marco Island, Florida.



New Fellows admitted in May 1999. First row, left to right: Betsy A. Branagan, Alana C. Farrell, CAS President Steven G. Lehmann, Deborah M. King, Michael Shane. Second row, from left: Eleni Kourou, Elliot Ross Burn, Dawn M. Lawson, Claudine Helene Kazanecki, Christopher C. Swetonic. Third row, from left: Brian Harris Deephouse, Richard Borge Lord, Bruce Daniel Fell. Not pictured: Mustafa Bin Ahmad.



Some of the new Associates admitted in May 2000. Row 1, from left: CAS President Alice H. Gannon. Row 2 (bottom to top): Donia Burris Freese, Rebecca E. Miller, Jennifer A. McGrath, Juan de la Cruz Espadas, William Scott Lennox, Thomas L. Boyer II, and Peter H. Latshaw. Row 3 (bottom to top): Mary Jane Spurduto, Laura Anne Esboldt, Michael Stanley Jarmusik, Mary Denise Boarman, Mary Elizabeth Frances Cunningham, David C. Brueckman, and Ronald Taylor Nelson. Row 4 (bottom to top): Charles Biao Jin, Matthew L. Uhoda, Jason Carl Head, Hans Heldner, and Matthew Kevin Moran. Row 5 (bottom to top): Richard Jason Cook, Farzad Farzan, Christopher John Westermeyer, Richard Alan Van Dyke, Vadim Y. Mezhebovsky, and Wade T. Warriner. The 2000 CAS Spring Meeting was held at the Bellagio Hotel in Las Vegas.



Gail M. Ross served as CAS president from 2002 to 2003.



The 2000 CAS Executive Council, seated left to right: Abbe S. Benimon, Vice President-Continuing Education; Alice Gannon, President; Pat Grannan, President-Elect. Standing, left to right: Curtis Gary Dean, Vice President-Administration; Gary Josephson, Vice President-Research and Development; David Chernick, Vice President-Programs and Communications; Mary Frances Miller, Vice President-Admissions; and LeRoy Boison, Vice President-International.



At the 2002 CAS Annual Meeting in Boston, Todd W. Lehmann (right) receives his FCAS diploma from his father Steven G. Lehmann, CAS President 1998-1999.



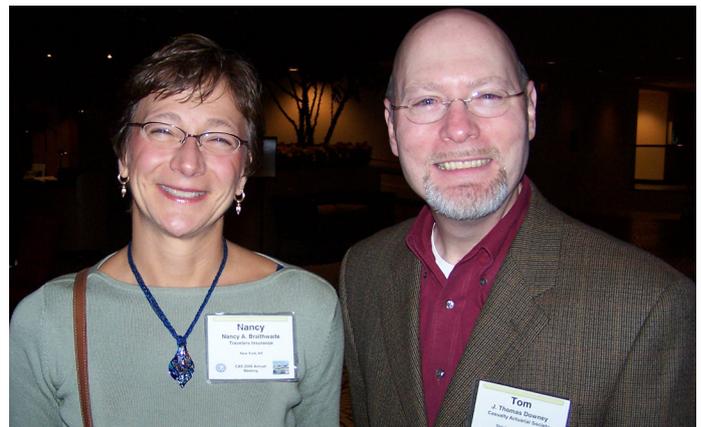
CAS Dorweiler Prize winners for 2006 Richard E. Sherman (left) and Gordon F. Diss won for their paper, "Estimating the Workers Compensation Tail."



James R. Berquist, coauthor with Richard E. Sherman of the paper "Loss Reserve Adequacy Testing: A Comprehensive Systematic Approach."



CAS President Bob Conger (left) chats with CAS Board Director Janet R. Nelson at the 2002 CAS Spring Meeting in Coronado, California.



Nancy Braithwaite (left), a long-standing member of the CAS Examination Committee, and Tom Downey, CAS Director of Admissions, at the 2006 Annual Meeting in San Francisco, California.

Edward Chun Ming Lam stands and is recognized as a new CAS Associate at the 2008 CAS Annual Meeting.



CAS Board Directors Wayne Fisher (left) and Michael Wacek (center) with Morton Lane (Appointed Director) (right) at the 2008 CAS Annual Meeting in Seattle, WA.



President Christopher Carlson (left) presents Dave Hartman with the CAS Above and Beyond Achievement Award at the 2008 CAS Annual Meeting, which was held in Seattle, Washington.



CAS Program Planning Chair Annette Goodreau describes the educational content of the 2008 CAS Spring Meeting, which was held in Toronto, Ontario, Canada.



New Fellow Nadege Bernard-Ahrendts (center) and her family pose with CAS President John J. Kollar (right) at the 2009 CAS Annual Meeting in Boston.



Members of the CAS Board and Executive Council enjoy share a laugh at the Business Session of the 2013 Spring Meeting in Vancouver, British Columbia, Canada. Steven Armstrong, G. Chris Nyce, Mary D. Miller, Cynthia R. Ziegler. Second row, left to right: Jim Merz, Virginia Prevosto (partially obscured), and Barry Franklin.



New CAS Fellow Vera E. Afanassieva (right) and CAS President John Kollar (left) lead the procession out of the Annual Business Meeting for the new FCAS and ACAS group photo shoot at the 2009 Annual Meeting in Boston. New Fellow Marcus R. Aikin follows (center, background).



New CAS Fellows await the opening of the 2013 CAS Spring Meeting business session. Left to right: Zachary Ballweg, Adam Bates, Jennifer Lee Beers, and Matthew Robert Belter.



New CAS Associates Apundeep Singh Lamba (left) and Ling Feng Tan (center) celebrate their accomplishments with guest Preamble Kaur (right) at the 2013 CAS Spring Meeting in Vancouver, British Columbia, Canada.

THE CONSULTANTS

By Brian Z. Brown

In examining the early years of casualty consulting, the factors that led to the growth of casualty consulting, and how casualty consulting has changed over the years, I spoke with 30 pioneers of the profession. They began their casualty consulting careers in the 1960s and 1970s graciously agreed to be interviewed for this chapter. The CAS and I thank them for their contributions to this book.

Casualty actuaries came late to consulting. Consulting life actuaries were around well before the 1930s and some were among the founding members of the CAS in 1914. Pension actuaries came on the scene during WWII, when employee benefits grew greatly in response to wartime wage restrictions.

There was little demand from state governments for casualty actuaries in the 1930s through 1950s. Although workers' compensation was introduced in the early 1900s, near the time the CAS was founded and all states had adopted some form of workers' compensation by 1949, it was provided largely by private insurers in most states, who could turn to the National Council on Compensation Insurance or one of its predecessor's organizations for their actuarial needs.

The earliest casualty consultants appear to have been actuaries who retired from property-casualty companies and then periodically offered consultation to their former employers. True casualty consulting, in which casualty actuaries opened their own firms and consulted to a wide variety of clients, was rare before the 1950s. In 1955, only 33 members of the Casualty Actuarial Society identified themselves as "consultants," and many of these were retired insurance company officers. This figure changed little over the next 15 years; the 1970 CAS *Yearbook* indicates about 35 members working as consultants, but most were essentially retired.

By 1975, there were as many as two dozen "true" consulting casualty actuaries working in the country. Most were Fellows of the CAS, and nearly half worked in Southern California. Only three firms had more than two casualty actuaries: Milliman & Robertson (6), Woodward & Fondiller (4), and Booz Allen Hamilton (4).

The percentage of CAS members who identified themselves as consultants grew dramatically from 1975 to 1985, however, more than doubling from 8.1% to 17.0%. That percentage has remained fairly constant since then.

FIGURE 6.1 CAS MEMBERSHIP (FELLOWS AND ASSOCIATES)

Year	Consultants	Total Members	Percentage Consultants
1955	33	312	10.6
1965	36	408	8.8
1975	55	676	8.1
1985	201	1,182	17.0
1995	546	2,490	21.9
2005	754	4,150	18.2
2008	940	4,844	19.4

THE EARLY YEARS

It appears that Woodward and Fondiller was the first true casualty actuarial consulting firm in the United States. Richard Fondiller (FCAS 1915) and Joseph Woodward (FCAS 1914) founded the firm in 1922. The firm specialized in providing workers' compensation consulting services to the state workers' compensation funds. Bill White (FCAS 1970) of Woodward and Fondiller remembers the firm performing work for at least six state funds and Puerto Rico. (Fondiller was very dedicated to the CAS and served as CAS secretary-treasurer for 35 years. Woodward was elected as the third president of the CAS in 1918. The well-known "Woodward-Fondiller Prize" CAS award is named after these gentlemen.)

No discussion of early casualty consulting would be complete without mentioning Lew Roberts (FCAS 1958), who passed away in 2001. Lew worked at Woodward and Fondiller from 1963 to 1988 and became president of the firm in 1979. Many actuaries interviewed for this chapter spoke very highly of Roberts. Bill White praised Lew for growing the firm and pleasing his clients and E. James "Jim" Stergiou (FCAS 1979) said Roberts was a brilliant actuary.

Richard Fein, Ph.D. (FCAS 1978), who joined Woodward and Fondiller in 1975, praised Roberts' vision, which included the need to develop models to do actuarial work better and faster, most notably Roberts' development of loss triangle projection software. Lew Roberts possessed top-notch marketing skills and had a great

respect for clients, according to Fein. "Lew was one of the finest, most creative actuaries I ever worked with," said Fein.

Woodward and Fondiller acted as a seed firm, introducing consulting to actuaries who later formed their own firms. As an example, Joseph Linder (FCAS 1924) became a consultant with Woodward, Fondiller and Ryan in 1924 after completing his Fellowship. He then went to work for a firm that eventually became Walter, Corcoran and Linder. He worked there until 1965, when he became affiliated with A.S. Hansen, Inc.

Some of the earliest casualty consulting occurred outside the United States. Charles "Charlie" Hewitt (FCAS 1951), who later served as the CAS president, remembers traveling to Saudi Arabia in 1959 when he was working for Bowles, Andrews and Towne. His client was the Contractor's Workers' Compensation Fund of Saudi Arabia, which was somewhat similar to a U.S. state's workers' compensation fund. Consultants who complain about modern airplane travel may be sobered by Charlie's account of the trip: His flight from the United States to Saudi Arabia took three days, with stops in Newfoundland, Austria, Rome, and Beirut.

Hewitt spent four weeks in Saudi Arabia collecting data in meetings, then helped the fund set rates and opined on the reserves and the surplus position of the fund. He also performed a capital adequacy analysis through incorporating various risk margins or contingencies. He wasn't able to take his clients out for a celebratory drink at the project's end, since alcohol was banned in Saudi Arabia. He later worked on a similar project for the workers' compensation fund in Puerto Rico.

Many of the early casualty consultants started at insurance companies, then joined nationally recognized life consulting firms. Milliman & Robertson (Milliman) and Tillinghast began to hire property-casualty actuaries in the early 1970s. In both firms, the casualty actuaries received assistance from life consultants, who had existing and more advanced practices.

Double Fellow (FCAS and FSA) Fred Kilbourne has had a long and varied consulting career. As of 2010, he was the longest-working, active casualty consultant in the U.S., heading his own firm, The Kilbourne Company. Kilbourne joined Milliman in 1965 as a life consultant and FSA. He obtained his ACAS in 1966 and performed a few small casualty consulting jobs. Kilbourne

started the Milliman casualty consulting practice in 1968, later leaving Milliman and starting the Booz-Allen actuarial division in 1974. In 1968, he was retained by the California State Workers' Compensation Fund to perform a major assignment, and he decided to obtain his Fellowship in the CAS. At the time, he says, there was little work for casualty consultants and Wendell Milliman, one of Milliman's founders, was just about the only person who encouraged him to make a future in casualty consulting.

Kilbourne asked a casualty actuarial student, Janet Graves Lockwood, to transfer from Milliman's Seattle office to his Pasadena office as his assistant. He continued to obtain more casualty assignments and attempted to hire several fully credentialed casualty actuaries (including Kevin Ryan (FCAS 1968) and Woody Beckman (FCAS 1970)). Those actuaries turned him down, however. They thought Kilbourne was safe since he could fall back on life consulting, but they decided it would be too risky for them to try to maintain a purely casualty consulting practice.

Kilbourne hired a life actuary to take over his life practice (Howard Kayton (FCAS 1976)) and devoted more time to casualty consulting. Finally, in 1971, he convinced a CAS Fellow, Jim Berquist, to join Milliman's casualty consulting practice.

Milliman's consulting practice grew dramatically under Jim Berquist (FCAS 1957). Berquist felt Milliman's growth was due at least in part to the peer-review process, as Milliman instituted a policy of having a second set of eyes assure the quality of the work and make it more readable and user-friendly to third-party users who were not actuaries. Milliman hired Jim MacGinnitie (FCAS 1963) and Kevin Ryan. Ryan was Milliman's first CAS member on the East Coast and was located in Philadelphia. Kevin Ryan remembers that he looked to Milton Chauner, a life consultant at Milliman, for advice on matters such as how to communicate with clients and what was a "billable" hour.

Richard Sherman (FCAS 1978) joined Milliman out of graduate school in 1973. He worked on a number of projects including rate studies for state funds and pricing no-fault auto insurance for the U.S. House of Representatives and the U.S. Senate. He

BY CHARLES C. HEWITT

When I was consulting for the firm of Bowles, Andrews & Towne, a predecessor of Tillinghast, I was approached by the Arabian American Oil Company (Aramco). Aramco, at that time, was dominant in the Saudi area, and, in certain matters, the Saudi government looked to Aramco for guidance. A condition of my being retained was that I not be Jewish. This was true in 1958 and is still true.

I was flown from New York to Dhahran in August of 1958. Aramco had its own fleet of planes, DC6Bs. It took about three days going, three days coming back, and I spent three weeks in Dhahran. Dhahran was the principal location of Aramco and the location of the Contractor's Workmen's Compensation Fund for whom we would work. At that time, the airlines themselves were starting to switch over to jets. But we actually flew in prop planes, and of course, the distance they could travel in one hop was much less than a jet could travel. We had to stop on the way over at Gander in Newfoundland, and at Amsterdam, where we spent overnight—a very nice bonus. Then we went on to Rome and had a stop in Beirut. I remember as we were landing in Beirut, seeing American warships in the harbor. This was during the Eisenhower administration. There was then some problem that caused American warships to be in the harbor at Beirut.¹ Finally, we went on to Dhahran.

On the return, instead of stopping at Gander in Newfoundland, we stopped in Shannon, Ireland.

I was quartered in what were bachelor's quarters in Aramco. We had good food there. I played bridge and even won a contract bridge point in duplicate one night. I played tennis over there, but I have to tell you that the temperatures got up to 117 in the middle of the day, and I couldn't finish a set in tennis. It was that hot.

They had a lot of ways to entertain the Americans over there. I remember hearing a concert by the pianist John Browning. It was Van Cliburn's time; Browning was not quite as famous. Church services were not permitted by the Saudis. But the people over there had services anyhow by disguising what they were doing. Also, no alcohol was permitted in Saudi Arabia. People there, however, were able to get the makings and made their own liquor.

When your baggage was inspected going through Saudi customs, they were looking for either alcohol or copies of *Playboy*-type magazines.

¹ The incident was the 1958 Lebanon crisis concerning political and religious tensions in the country. The U.S. military intervened in the crisis.

If you had any alcohol or such magazines, you were sent back; you couldn't enter Saudi Arabia.

The instructions for my assignment were as follows:

- To study the Founding Plan (for the Contractors Workmen's Compensation Fund) and to make recommendations for strengthening the Founding Plan.
- To determine a suitable base (or bases) for the admission of, and collection of contributions from employers other than contractors.
- To make recommendations for minimum and maximum reserves for the Fund.
- To make recommendations for expanded benefits to be covered by the Fund.
- To make suggestions for improving the investigation of cases.
- To study the bylaws governing the employees of the Fund.
- To study the forms used by the Fund.
- To study the most recent auditor's report.
- To study the possibility of the Fund obtaining increased income from the purchase of land or buildings and rental of same.
- To study the competitive position of the Fund with respect to private insurance companies.
- To make any other suggestions that would be helpful to the Fund.

To carry out these instructions to the fullest extent possible, it was necessary to gather considerable statistics, not only with respect to past operations of the Fund itself, but also with respect to those areas into which the Fund might venture after receiving and acting upon this report. The principal sources of statistics gathered were of course, in Arabic, but because Aramco was such a big factor those days, it had been translated into English before I got hold of it.

Now, the principal sources of the statistics gathered were: (1) the Contractor's Workman's Compensation Fund records at the offices of the Fund and also found in the files on the Arab Development Department of Aramco, acting in its capacity or as an advisory member of the administrative committee; and (2) the Labor Office at Damman (a city near Dhahran) and from Aramco.

The Worker's Compensation Law of Saudi Arabia was issued by fiat sometime around 1945–46, so Saudi Arabia had a worker's compensation law before the state of Mississippi did.

The purpose of the Saudi law establishing the Fund was to guarantee payment of compensation. The very first words of the Founding Plan itself are, "The purpose in setting up a Fund is to guarantee the

traveled a lot as many of the clients were large insurers on the East Coast.

Jim MacGinnitie left Milliman to start Tillinghast's casualty practice in 1975. According to Kevin Ryan, MacGinnitie became his major competitor when he started consulting, as the accounting firms had not yet staffed up.

When MacGinnitie joined Tillinghast in 1975, he was the firm's first property-casualty actuary. He was also an FSA, so he thought the gamble he was taking was not that great. If casualty

consulting did not work out, he could move to Tillinghast's life practice. It obviously did work out as Tillinghast grew into a mega-casualty consulting firm. Jim felt that Tillinghast successfully grew for several reasons, two of which were that the entire staff worked as a team and got the best people involved for the particular project and that the firm was willing to invest in intellectual property.

Some of MacGinnitie's early hires at Tillinghast were Jim Wood (FCAS 1975), Niel Bethel (FCAS 1975), Don Hansen, and Bob Sturgis (FCAS 1968). He also hired Greg Leonard (FCAS 1975),

obtaining of their rights of compensation by workmen, employees and their heirs.”

The concern of the Saudi Arab government for guaranteeing the rights of injured workmen is evidenced by Article 42 of the Labor and Workmen Regulations, which reads, “The Ministry of Finance may request any employer to prove its financial capability of carrying out the obligations set forth in these Regulations, and it may request the employer to submit guarantees adequate for the purpose.”

Immediately prior to the creation of the Contractor’s Workers’ Compensation Fund, the Damman office of the Ministry of Finance, in a letter dated August 16, 1949, indicated that in compliance with Article 42 of the Labor and Workmen Regulations, contractors were required to meet the following conditions before a license would be granted to them:

- (1) Pay two percent of the gross contract price into the Fund;
- (2) Pay to the Ministry of Finance 10 percent of the gross contract price in cash as a bond against possible industrial injury and (3) provide an additional guarantee backed by a responsible party covering 15 percent of the gross amount of the contract price against possible industrial injury.

I should point out Aramco was actually quite progressive in dealing with the Saudi government. Aramco promoted the idea of having individual Arab contractors do the work; that’s a rather enlightened approach.

GAME SHOW CONTESTANT

As a side note to my story, I was on a television quiz show called *Twenty One* prior to going to Saudi Arabia. As it turned out, there was a scandal involving the show’s producers providing the answers in advance to contestants to hype interest in the show. When the newspapers got wind of the story they called the contestants to ask them if they were given the answers in advance. Since I had lost, you can be sure I had not gotten any answers. However, when the tabloid called my wife and asked to talk to me, she told them I had already gone to Saudi Arabia. So the next day the headline read “One contestant has already left the country!!”

who established Tillinghast’s Bermuda office in 1977. Shortly after MacGinnitie joined Tillinghast, the firm merged with Nelson & Warren to become Tillinghast, Nelson and Warren. At the time of the merger, Bob Lowe (FCAS 1969) was the lead casualty actuary for Nelson & Warren.

Some CAS members took interesting nontraditional approaches to consulting. In 1971, after 10 years in the private sector, J. Robert “Bob” Hunter (FCAS 1971) became chief actuary and later administrator of the Federal Insurance Administration (which was involved in flood insurance, fair access to insurance

AN ASSOCIATION FOR CONSULTANTS

The Conference of Actuaries in Public Practice (CAPP), which later became the Conference of Consulting Actuaries (CCA), was founded in 1950. The Conference’s mission was to advance the practice of actuarial consulting by serving the professional needs of consulting actuaries and by promoting members’ views within the profession. The roots of the CCA can be traced to the fall of 1949, when a handful of consulting actuaries met for lunch in Chicago to discuss the need for an organization to set standards and exchange information among consulting actuaries. By January 1950, these actuaries had obtained a certificate of incorporation for CAPP and established the CAPP’s bylaws. Later, the “Guides to Professional Conduct and Interpretive Opinions” were added. The Conference held its first membership meeting at the Edgewater Beach Hotel in Chicago on October 3, 1950. Thirty-five Conference members attended.

(FAIR) plans.). He left the federal government in 1980 to create the National Insurance Consumers Association (NICA) on a pro bono basis and began consulting as an actuary to state governments, the Environmental Protection Agency, and insurance companies. Hunter felt there was a need to serve people in a public interest venue and contacted Ralph Nader to form the NICA. He was involved as a consultant on behalf of insurance departments to review the reasonability of rate filings, provide an opinion on policy language/insurance coverage issues, and review excess profit statutes. Bob Hunter later became the Texas insurance commissioner.

Other independent consultants who were active in the 1970s included Ed Faust (FCAS 1960), Jim Haley (FCAS 1953), Frank Harwayne (FCAS 1950), Norton E. “Doc” Masterson (FCAS 1927), and Jack McGuinness (FCAS 1960).

THE RISE OF CASUALTY CONSULTING IN THE MID-1970S

Many factors contributed to the rise in casualty consulting, which grew dramatically in the late 1970s.

The first and one of the most significant factors was the medical malpractice crisis that the United States faced in the 1970s. Rates were increasing radically, coverage was being reduced and changed from an occurrence to a claims-made form, and carriers were leaving the market. This resulted in an availability crisis and strikes by doctors.

Due to these events, many states’ medical and hospital societies created state-specific insurance entities, typically referred to as “bedpan mutuals.” These companies were owned and funded by doctors or hospitals. All of these companies needed actuarial assistance with rates and reserves. Very few, if any, of these companies initially had actuaries on staff, so they needed to outsource the work to consultants. Additionally, many hospitals began to self-insure, and likewise required actuarial assistance.

This medical malpractice consulting work was natural for many actuaries. For example, Jim Wood (FCAS 1975) joined Tillinghast in 1976 but had previously worked at Aetna Life and Casualty. Aetna wrote malpractice coverage for a number of physicians, and Wood interacted at Aetna with some of the state medical societies that later formed bedpan mutuals. The clients knew and trusted him, so it was natural for him to consult to these newly formed entities. Many of his clients spoke to their peers at other entities and recommended Jim Wood. This allowed him to substantially grow Tillinghast's medical malpractice client base.

As medical malpractice rates rose and coverage was reduced, hospitals and medical schools retained more risk and their deductibles or self-insured retentions increased considerably. Therefore, these entities needed actuaries to assist them in establishing reserves and funding levels for their self-insured layer. Daniel "Dan" J. Flaherty (FCAS 1966), who started consulting with Milliman & Robertson in 1977, was fearful at first that he had "missed" the medical malpractice crisis. His worries proved to be unfounded; the market for hospital insurance carriers and self-insured hospitals requiring actuarial consulting services continued to grow over the next several years.

These new companies realized they needed help from actuaries in pricing and setting reserves, but they had never worked with actuaries before. From an actuary's standpoint, working with these new companies and their medical administrators proved to be a stimulating challenge. Allan Kaufman (FCAS 1974) said he enjoyed working with doctors because they were bright people who quickly learned what he had to teach them about insurance.

A second factor leading to a growth in casualty consulting was smart marketing and education. Some casualty firms established multiple-day educational seminars for clients, which allowed the consultants to educate clients, get new ideas by bringing many people together, and discuss and share their expertise. According to Jim Berquist, professional organizations such as the CAS, in particular through its Casualty Loss Reserve Seminars, educated various third parties on the importance of actuarial work. As insurance carriers recognized the need for actuaries to analyze reserves or provide second opinions on loss reserves, more consulting work was generated. Eventually, virtually every property-casualty company was required to obtain an opinion by a qualified actuary on their reserves, which is a significant change from 1970 when relatively few casualty actuaries, consulting or otherwise, worked in loss reserving.

Primary insurers were not the only organizations learning about the value of actuaries. Bob Sturgis of Tillinghast discovered a new market for consulting with reinsurers and used his contacts to build a base of reinsurance company clients. In the early 1970s, there were few actuaries employed by reinsurers and few industry data sources. The Reinsurance Association of America (RAA), a trade association for property-casualty reinsurers doing business in the U.S., hired Tillinghast to collect data on behalf of the reinsurance industry. This also gave Tillinghast access to many potential clients.

A third factor leading to an increased demand for actuarial consulting services was the addition of many actuaries to the senior management of insurance companies. Actuaries began serving as CEOs and CFOs, and these executives recognized

the importance of actuaries and were more likely to hire consulting actuaries.

Actuarial consulting opportunities in the mid-1970s were not just limited to medical malpractice projects, however. One of Jim MacGinnitie's first projects was helping build a no-fault cost model, which was a project funded and sponsored by the Ford Foundation and the U.S. Department of Transportation. In 1975 while he was with Woodward and Fondiller, Rich Fein worked for a broker on estimating aircraft liabilities. He studied airline industry major crash reports and articles on how airline accidents occur. He also reviewed the liability and exposure and then built a model to simulate various outcomes. The model building was difficult, since he sat at a terminal and typed in one line at a time without a screen.

Dan Flaherty had an atypical consulting job serving as an advisor to a professional liability trust for veterinarians. He helped this group analyze different insurance programs, prepared a second opinion on insurance company pricing, developed bid specifications for the insurance carriers and provided overall consulting services to the board all of whose members were veterinarians. Flaherty enjoyed educating these individuals on insurance concepts.

Kevin Ryan also had an unusual experience working for a Canadian provincial government. At the time, there were no formal rate regulations for taxis in Newfoundland, and he was hired by the province to review taxi cab rates. While speaking at a hearing in St. Johns, he was yelled at by a dozen angry taxi cab drivers!

GROWTH OF CASUALTY CONSULTANTS AT LARGE ACCOUNTING FIRMS

By the mid 1970s, most of the large accounting firms such as KPMG, Deloitte, Ernst & Young, and PricewaterhouseCoopers already employed life and pension actuaries. In the late 1970s and early 1980s, they all began to hire casualty actuaries as well. After a short period of time, most of the accounting firms developed significant casualty actuarial practices. The initial work for casualty actuaries at the accounting firms was largely audit support. Over the years, however, these actuaries developed their skills and provided virtually every type of actuarial consulting. The growth in business was due, in part, to the name recognition of accounting firms. Potential clients who would not necessarily know what actuaries do were, however, very familiar with the large accounting firms. The accounting firms also were involved in state insurance department financial exams, oftentimes assigning actuaries to such work. In this way actuaries were able to showcase their value.

Jim Faber (FCAS 1969) was either the first or one of the first property-casualty actuaries working for an accounting firm. He joined Peat Marwick Mitchell & Co. (now KPMG) in February 1974. He remembers some of the oddities that came with being a pioneer and having clients who were not used to working with actuaries. "I designed a loss statistical report for a client, and I later learned the CFO dubbed it 'the Faber Report,'" said Faber. "Jim Berquist, who also worked with the company, would tease me about having to get his data from 'The Faber Report.'"

Jim Faber found a great need for actuarial consulting services among his early clients. One of his clients confessed that

the level of IBNR reserve had been established in a rather unorthodox manner: The number came to him as he was taking his morning shower!

Faber also remembers being puzzled during an initial loss reserve analysis that indicated a significant increase in the IBNR reserve driven by high levels of incurred losses. "Both the claims VP and the president stated that there had been no changes in claims handling procedures. Upon further review we learned that the president had made a mid-year swing through all the claims offices and had indicated his desire that the case reserves not be understated. Through statistical reports we were able to track his itinerary by the large increases in case reserves that flowed into the system immediately following his visits. Needless to say, we revisited and adjusted our projections."

Jim Faber said part of the success of KPMG was due to the integrated approach it took with many of its clients. In addition to providing actuarial support, the firm also provided claim reviews by claim professionals and underwriting reviews by underwriting professionals. This more holistic approach provided the actuary with important information to estimate more accurate reserve levels, and this approach is still common today among many of the large actuarial consulting firms.

The accountants who were audit partners had a learning curve in understanding what property-casualty actuaries did and the value of their work. However, once the audit partners understood the value brought by property-casualty actuaries, they were great fans of actuaries and would bring them in on many assignments. The early actuaries at accounting firms then spent a lot of time traveling. This was necessary as actuaries were only in one or a few locations. However, the firms had clients across the United States and overseas.

The number of property-casualty actuaries at accounting firms grew rapidly in the 1980s when it became apparent that actuaries were needed to opine on insurance company reserves. Fred Kist (FCAS 1979) said he went into consulting in 1980 with Tillinghast and later joined Coopers in 1984 because he saw the future need for reserve opinions. Merger and acquisition (M&A) activity also started to take off in the 1980s and many investment bankers began to approach the accounting firms for actuarial due diligence. Allen Kaufman remembers that during his first M&A assignment as a consultant, the investment bankers knew they needed an actuary but were not sure what an actuary could do.

James "Jim" A. Hall III (FCAS 1973) became Coopers' first CAS Fellow in 1979 and ran the casualty practice out of New York (Coopers subsequently became Coopers & Lybrand and is now PwC). He was able to grow the practice quickly across the U.S. because of insurance company audits, where he reviewed the reasonability of the reserve accrual established and reported by the clients. Only about 50% of his work was audit support, however. Other early actuaries at Coopers included Terry O'Brien (FCAS 1978) and Orin M. Linden (FCAS 1981). Linden believes a factor contributing to the rapid growing numbers of casualty actuaries in accounting firms was that accounting firms became aware that actuaries were needed to be involved in reviewing large firms' self-insured programs. The hard insurance market in 1984 had led to an increase in self-insured exposure, and this led to captives, formal self-insurance

programs, and so on. Some Fortune 500 firm's self-insurance reserve accruals were greater than many large insurance company's reserves for unpaid claim liabilities! Also, there was great growth in work for captive insurance companies. Actuaries were the right people to help them establish appropriate reserves, determine adequate pricing, and perform strategic consulting.

Terry O'Brien (FCAS 1978) joined Coopers & Lybrand in 1981 after eight years with CNA. He was one of the first consulting actuaries for Coopers in the Midwest. O'Brien felt he was able to grow the actuarial practice because Coopers had a very big insurance auditing practice and therefore, had a natural client base to approach. Also, one of the senior audit partners wanted to get actuaries involved in all assignments. When Coopers added a claims and risk management practice to augment the actuarial practice, this led to productive joint marketing. O'Brien also felt Chicago was a great location, being centrally located in the U.S. with great airport facilities.

Richard Sherman (FCAS 1978) joined Coopers & Lybrand in the late 1970s to set up its first West Coast office. He felt he was able to significantly grow his practice due to Coopers' reputation, the famous paper he wrote with Jim Berquist describing the Berquist-Sherman reserving method, the explosion of self-insurance in California, especially among municipalities, and the hard insurance market in the late 1970s. Sherman also was very active in the Public Risk Management Association (PRIMA), the risk management organization for public entities. He would speak at PRIMA meetings and explain the importance of actuaries and how actuaries could help public entities by reserving, pricing, and evaluating different excess insurance programs.

Lee M. Smith (FCAS 1972) joined Ernst & Young (now EY) in 1981 as that accounting firm's first FCAS, after spending some time consulting with the firm of Midwest Casualty Actuaries. He set up Ernst & Young's casualty practice. When he would visit the audit clients with the audit partners, he saw an opportunity to grow the actuarial practice because of the strong contacts that the auditors had with their clients. Lee Smith also felt he was able to provide more strategic consulting than what clients were used to or that others could provide.

Jan A. Lommele (FCAS 1981) was hired by Touche Ross (predecessor to Deloitte) as its second actuary in 1985, following Mark Sobel, the firm's first actuary. In the beginning, Lommele had to do everything: get the clients, do the numbers and calculations, etc. Similar to the other accounting firms, the auditors knew what actuaries were and got them involved in many projects and introduced them to existing audit clients. Mark Sobel had also developed a big base of municipal clients. Lommele was active in the risk management organizations (PRIMA and RIMS), and he felt that helped him get clients.

The accounting firms pioneered certain advances in technology. Terry O'Brien felt that Coopers had an advantage because the company was using one software tool among all the offices. In 1981-1982, Coopers developed Exhibit-Maker and first used it internally. Coopers made it user-friendly and started selling the software to clients approximately three years later. Exhibit-Maker was quite possibly the first casualty triangle software sold to clients. Rebecca C. Amoroso (FCAS 1991), who began

consulting for Deloitte in 1986, felt that Deloitte was a leader in developing predictive modeling tools in the 1990s.

OTHER ROUTES INTO CONSULTING

Many CAS members took other routes to consulting. Stan Khury (FCAS 1973), for example, was an insurance executive at a major insurer and wanted to practice his craft instead of managing a group of people. He started at William M. Mercer, Inc. (Mercer) in the firm's casualty practice in 1987 (Fred Kilbourne hired him). He then grew the practice due to his personal reputation and that of Mercer's. Irene Bass (FCAS 1980) also started consulting in 1987 at Mercer and developed a large consulting practice with clients countrywide.

In 1987, Khury said many insurance companies had existing relationships with consulting firms, so he marketed to self-insureds, regulators, and law firms for expert witness assignments. Stan recalled an interesting project early in his career as a consultant where he analyzed the pros and cons of no-fault insurance in Ontario. After several expert witness assignments, Khury became well known in the legal community and got a lot of work via word-of-mouth.

Walt Wright (FCAS 1978) joined a major insurance company after he got out of the service. Several years later he joined PwC as a consultant in 1986 because he wanted a change. Wright then left PwC and went to work at Mercer. In 1992 he was transferred to London and was one of a few CAS Fellows in London at that time. He spent two years in London working with several U.K. actuaries (FIAs) evaluating Lloyd's Syndicates for several U.S. companies that were considering being capital providers.

Jim Stergiou saw a huge potential growth market with self-insureds and captives in the late 1970s and early 1980s. He left Martin Segal and started his own firm to concentrate on the self-insured market, doing a lot of public speaking to grow his practice in this area.

THE GROWTH OF CAS CONSULTANTS IN CANADA

Like their U.S. counterparts, Canadian actuaries working in insurance companies gained useful experience and networked with potential clients. Canada was also making changes in its regulatory practices and its insurance market. These changes, coupled with the experience and exposure gained working in insurance companies, opened up new opportunities and would spur entrepreneurial actuaries to establish their own consulting firms and new products.

JBM Murray Limited (JBM) was one of the first casualty consulting firms in Canada run by a CAS member. Jim Murray (ACAS 1966), founder and president of the firm, was well known from his experience at insurance companies, including Prudential England, and had a vast network of contacts. Brian Pelly (FCAS 1991), who joined the firm in 1977, said that Murray also had the idea to consolidate and analyze industry data and send it to clients for a fee. This allowed Murray to keep in front of clients and obtain more consulting assignments.

These casualty consulting firms provided actuaries with new and varied work experiences. William (Bill) T. Weiland (FCAS 1982), who joined JBM in 1986, reported that his first consulting

job was preparing a rate review and an associated regulatory filing for private passenger vehicles. The vehicles were insured in Ontario by the residual market mechanism (known as the Facility Association).

Brian Pelly noted that the consulting field in Canada grew substantially in 1992 because of new Canadian regulatory requirements. These regulations required an appointed actuary to opine on reserve levels and certain Whittle Browning requirements to federal regulators. At about the same time, some of the Canadian provinces opened up the auto market to private insurers.

Joe Cheng was another early casualty consultant in Canada. He joined Eckler in 1986 and left the company in 1992 to start his own firm. Bill Weiland joined Eckler in 1992 and helped grow Eckler into one of the largest casualty consulting firms in Canada. Weiland said Jim Murray introduced him to a lot of contacts and helped him establish a good network of potential clients. Weiland also mentioned that the profession expanded a great deal in the early 1990s because of solvency and capital model requirements and because actuaries had developed credibility with the financial markets. Therefore, actuaries were used more frequently and more heavily in due diligence assignments.

1990s AND BEYOND

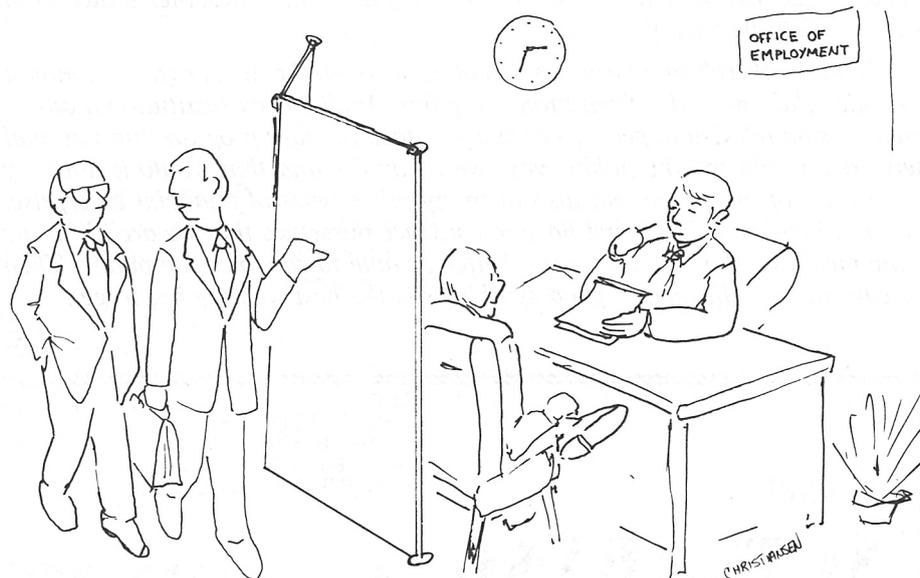
Early on, clients looked to actuaries to establish reserves and rates. Over time, actuaries provided other services including dynamic financial analysis (DFA), strategic consulting (including claims and underwriting advice), and M&A assistance. Actuaries also were hired by state insurance departments to assist in financial exams. Much later in the early 1990s, general linear model (GLM) work began to accelerate.

In October 1991, the membership of the Conference of Actuaries in Public Practice (CAPP) voted to change its name to the Conference of Consulting Actuaries (Conference). This name change inserted into the title of the organization the word that best describes what Conference members provide: *consulting*. By 2010, membership in the Conference, which includes actuaries providing services in the health, casualty, life and pension fields in the United States and Canada, surpassed 1,200.

HOW THE PROFESSION HAS CHANGED

Over the years, the way actuaries conduct business has changed significantly. New technology and tools have improved services and output. Clients' hiring practices have switched favoring firms over individuals; and, increasingly, those firms offer clients specialization. Actuaries have changed their standards of practice to keep up with the industry as it has evolved. Competition, which has always been part of the business world, has increased as actuarial clients have become more and more sophisticated. Subsequently, consultants have been able to garner higher compensation for their specialized services.

One of the biggest changes in consulting today is that actuaries have more tools that allow them to do their work better and quicker. The technology of early casualty actuarial consulting was quite limited, and early consultants had to be creative. Lew Roberts' ingenuity with primitive computing machinery created challenges for Richard Fein. "Lew taught me how to incorporate a used PDP-10 [a mainframe computer] with a printer disguised



"He wants to quit consulting. He worries about the current financial implications of future contingent events."

Comic by Stephan Christiansen, *Actuarial Review*, May 1987.

as a used Teletype machine," said Rich. "This required all the skills I could muster as a one-time engineering student, including how to silence the noisy beast since it operated in an office we shared with others."

Fein had to boot up the six-foot tall system by throwing a sequence of eight switches, which fed binary code into the system to "wake it up." He used the PDP-10 to build regression models of loss reserves and to develop mortality tables for workers' compensation lifetime cases. "I had some help from assembly language and Fortran, of course," said Fein, "and in retrospect it was very primitive, but it worked." Eventually the PDP-10 was replaced with a 'portable' computer that weighed 40 pounds. "It was a teletype set up, but quieter since it used a printer-head like output, no screen, just paper rolls," said Fein. "Yes, we lugged it across the country. We've come a long, long way."

Tillinghast developed a system in the early 1970s that could be considered a precursor to email-type of communication. It was a voice mail system where consultants could leave a message for the entire staff or a group of the staff asking for assistance or expertise in a particular area. Consultants could leave a message before leaving the office for the day and by the next morning, there would be several responses. Jim MacGinnitie said it worked very well and helped Tillinghast to better serve their clients.

Today there are many computer tools used to project unpaid claim liabilities or estimate future rate level needs. Early on these tools did not exist, and computers were not as efficient as they are today. Therefore, actuaries needed to build models on the fly in various languages (APL, Fortran, COBOL) or use pencil and paper.

Jim Stergiou reported that, early on, there was a lack of external data sources. This has greatly changed with electronic access to annual statements and the formation of the RAA, the reinsurance trade association that initially hired Tillinghast

to compile reinsurance data. Today, companies capture much more data, actuaries better document their work products, and auditors are very active and ask a lot of questions. Finally, Stergiou thinks that consulting is much more competitive now with many more firms.

Pat Grannan (FCAS 1978), who began his consulting career at Milliman & Robertson in 1978 and has been a consultant for 30 years, said he believes companies now tend to hire consulting firms rather than individuals. Many large companies need specialized skills worldwide. Since many people will be working on the project, buyers of consulting services want a robust team, not just a skilled individual to lead the project. Pat's perspective on how the profession changed was shared by many others. Many consultants noted that in the early days, clients wanted to hire just any old consulting actuary, because they thought all consultants could do the job equally well. Later on, clients wanted to hire an expert in the field.

Pat Teufel (FCAS 1979) noted some of the other things that have changed, such as the Actuarial Standards of Practice (ASOPs). There are many more ASOPs today, and those ASOPs have raised the bar and changed the way consultants perform and document actuarial work. Richard Sherman agreed and noted that Actuarial Opinion requirements are more extensive and more complex.

Jan Lommele felt that today consulting is much more competitive, since there are so many more players, and that the buyers of consulting services are more sophisticated. Walt Wright said that one of the biggest changes he had seen in his years was the use of DFA in everyday work to make decisions.

The price of actuarial consulting has also changed significantly. In 1964, Fred Kilbourne's billing rate was \$19 per hour. Jim MacGinnitie had a client say to him in the late 1970s, "Let's not waste time, this is costing me \$1 a minute." In the late 1970s

some consultants were worried about charging \$100 per hour and whether clients would be willing to pay that amount. By 2010, with the exchange rate, some British consulting actuaries were charging over \$1,000 per hour.

THE FUNDAMENTALS REMAIN CONSTANT

The early actuaries became consultants for reasons that still attract actuaries to consulting today. Many of the early consultants felt a desire to get into consulting to obtain a broader view of the insurance market. Early in his career at Wausau, Jim Berquist met a consultant named Joe Linder (FCAS 1924). "Joe had his own firm and would come into the company and meet with the top guys," said Jim. "He had such a broad knowledge of the industry." Jim wanted to obtain that wider knowledge and wanted to work on a number of different insurance products. Jim also represented Wausau on a number of industry committees, which, for him, served as a sort of stepping-stone to consulting. He found that he enjoyed that work with the varied committees and thought that consulting work would mirror the activities on committees.

Autonomy also played a big part in the decision for some actuaries to become consultants. One of the early consultants had a unique reason for entering consulting. He felt that upper management in the company he worked for did not listen to actuaries when making decisions. He went into consulting with the thought that if someone was paying him for his time by the hour, they would only hire him in situations where they would

listen and use his advice. The appeal of independence was very strong for many consulting actuaries. "My first consulting experience convinced me that I needed the independence of not being owned by an insurer," said Jim Hall III. Jim "jumped at the chance" to start the casualty actuarial practice for Coopers in 1979. He applied for membership in the Conference as soon as he was eligible. Kevin Ryan summed up this desire for autonomy simply stating that he went into consulting because he wanted to be his own boss.

Travel hassles and clear communication are some things that will always challenge the consulting actuary. In addition to his "fond" memory of spending the night in the East Lansing airport, Jim Stergiou amusingly recalled an early expert witness assignment he had in New England, which illustrates some of the difficulties that attorneys and actuaries have in understanding each other. His client kept asking him questions about the "pyoot paaatin." "It took me a full minute to determine that he was asking about the 'payout pattern!' Jim said. "And I thought I had a heavy [New York City] accent!"

Despite all the changes, Pat Teufel notes that the fundamentals have not changed: A good consultant must meet the needs of the clients, listen well, and understand what the client wants. Jan Lommele perhaps summed up the essence of consulting best: "In a few words, doing technically good work is very important, but just as important is excellent communication of the results of the work, and documentation so that others can follow it later."



Chapter 7

FRESH AIR—ACTUARIES IN REGULATION

By Anne E. Kelly

U.S. President Franklin Delano Roosevelt, seated, shares a light moment with Rep. Henry Steagall (D-AL) (right) at the signing of the Glass-Steagall Act of 1933. Standing left to right are Sen. Carter Glass (D-VA); U.S. Comptroller of Currency J.F.T. O'Connor; Sen. Duncan U. Fletcher (D-FL); U.S. Secretary of the Treasury Henry Morgenthau; Reconstruction Finance Corporation Chairman Jesse Jones; and Rep. Steagall. Photo by Harris & Ewing, 1935. Courtesy of the Library of Congress, Washington, D.C.

Some regulators were doing actuarial work before the CAS was founded in 1914. The development and passage of workers' compensation statutes around the country relied on the work of these people and others who knew that the success of these laws would depend on reliable data, fair and equitable rates, and adequate reserving. Isaac Rubinow appears often in this book, as he should, for his pivotal role in founding our Society. This chapter on regulators begins with Rubinow and his lifelong friend, Leon Senior.

THE BEGINNINGS OF A FRIENDSHIP AND IMPLEMENTING THE FIRST WORKMEN'S COMPENSATION STATUTES

The pre-1914 years were busy for workers' compensation lawmakers. In May 1911, Wisconsin was the first state to adopt such a statute. New Jersey was the first to establish rates based on "workmen's collective experience" modified by underwriting judgment. Massachusetts mandated prior approval for compensation rates and in 1914 based these rates on actual American compensation experience. In New York, two men who would become lifelong friends would bring their diverse backgrounds and passions to develop and set in motion workers' compensation laws.

Born in Russia in 1873, Leon Senior grew up on the Lower East Side of Manhattan, where he met Isaac Rubinow. Neither man planned a business career—it was in their "circle of young intellectuals that social reforms for the betterment of the world were discussed." Luckily for us, these visionaries chose industrial accident (later workmen's compensation¹) insurance as their first social reform.

Isaac Rubinow was a scholar of social insurance. His wide-ranging career—medical doctor, chief statistician of a property-casualty insurer, and several humanitarian roles—touched the regulatory world as well. At the U.S. Department of Commerce and Labor, he was a contributor to "Workmen's Insurance and Compensation Systems in Europe," a major study that was published just before the U.S. began to adopt such legislation. Dudley Pruitt CAS president from 1957–58, noted in his 50-year CAS history published in the 1964² that "Dr Rubinow belonged

in the social sciences, not in business, and he was in business really just long enough to found our Society." Rubinow had ambitious plans for the new organization. He believed that the success of the new workmen's compensation legislation depended on a fair and statistically sound basis for ratemaking and reserving.

Leon Senior, a lawyer, joined the New York State Insurance Department (NYSID) in 1909. His obituary published in the 1939 *Proceedings of the Casualty Actuarial Society* notes that, "His work soon attracted attention and led to important reforms in the field of industrial accident and health insurance. Thereafter he made special studies of workmen's compensation and assisted in drafting the early legislation on the subject introduced in New York State in 1913."

In 1914, when New York's legislation was enacted, Senior resigned from NYSID to become the first president of the New York Compensation Rating Board. *The New York Times* noted in a July 11, 1914, article headlined "Leon Senior Made Manager of Workmen's Compensation Board:

The Rating Board will inspect and rate all of the manufacturing, contracting and other risks of employers, who are subject to the compensation law. In this work it will have the moral support of the State Insurance Department. Through inspection and rating the employers in the State may obtain reductions in premiums by satisfactory physical conditions in their plants and favorable accident experience.

Today's rating boards are not, nor should they be, considered extensions of insurance departments, but in 1914, the functions of inspection, rating, and data collection were seen as quasi-regulatory duties that should be delegated to an organization whose mission was to do it well. When Leon Senior took the department's moral support with him to the newly formed New York Compensation Inspection Rating Board, he was continuing his regulatory responsibilities in a different role.

Senior was a charter member of the CAS and served two years as president. His obituary further notes:

Those who had the privilege of seeing him unravel the tangled threads of many a controversial issue, by tireless

¹ For the purposes of this book, we will use the term "workers' compensation."

² *Proceedings of the Casualty Actuarial Society* 1964

efforts of oral and written exposition, by patient bringing together of various conflicting views, by masterly presiding at the council or committee table—always striving, and nearly always successfully, to ascertain the right thing to do and usually securing this by the force of his strong and uncompromising yet conciliatory personality—those who saw this, and they are many, know that the insurance business, the State and the people have lost a good friend and a worthy member.

THE EARLY DAYS OF THE CAS— AN ECLECTIC MIX OF MEMBERS

In the early years, the CAS Council (forerunner of the board of directors) could grant CAS membership to distinguished insurance professionals with interests in common with the CAS. These elected members included regulators, insurance executives, educators, and lawyers. In those early days, the percentage of members who were regulators (both appointed commissioners and insurance department staff) was much greater than in any subsequent time period.

Jesse Snyder Phillips was one such elected member. According to his obituary in the 1954 *Proceedings*, he was elected to Fellowship in 1926 “by virtue of his eminent position in the insurance world, rather than his technical attainments in actuarial, accounting, or statistical work.” He had an impressive record, serving as New York superintendent of insurance from 1915 to 1921 and as National Council of Casualty and Surety Underwriters general manager and counsel from 1921 to 1926. Phillips later became an executive for Great American Companies. His obituary further notes that,

He was constantly appreciative of the achievements of our members, many of whom served under his leadership, and that he faithfully supported every movement to apply scientific principles to our business.

Another CAS charter member, Elmer Dearth was a newspaper man who moved from Maine to Minnesota and published two newspapers there until the age of 31 (in 1891) when his duties as deputy insurance commissioner of Minnesota demanded more of his time. He served as insurance commissioner until 1905. The rest of his career was spent in the private sector as an executive in several workers’ compensation carriers. At his death at age 87, the official CAS obituary noted that, although Dearth had not attended meetings in quite a while, he was recalled as a friendly and insightful person who provided “helpful counsel arising out of an unusually broad experience as an insurance commissioner and as an insurance executive.”

The CAS was also richer in those early years because Clarence Hobbs was elected to Fellowship. Hobbs was a lifelong regulator, a nationally recognized expert in workers’ compensation, and a wonderful writer. He was a Harvard graduate and a lawyer and held elective office in Massachusetts for 10 years before becoming insurance commissioner. In 1923 the National Association of Insurance Commissioners (NAIC) appointed him to the position of special representative at the National Council on Compensation Insurance (NCCI), and he held this position until his death in 1944. It’s a testament to Hobbs and to the mutual trust between the NAIC and the NCCI that he was much more than a witness to the NCCI’s deliberations:

As Special Representative of the National Association of Insurance Commissioners, he filled a difficult and exacting role. He acted as chairman of most of the National Council’s committees and as such was charged with the duty of resolving questions that had come to an impasse as the result of tie votes. In such cases, his decisions were made only after exhaustive investigation and study of the facts and no one could ever doubt the honesty or conviction behind his opinions. He was in a position to watch over all the National Council’s activities and his periodic reports to the Insurance Commissioners provided them—and all others interested—with exhaustive and easily understood factual information on the activities of the National Council and the pertinent problems of the Workmen’s Compensation business.

Perhaps his greatest contribution to the CAS was as editor, which was a CAS officer position. He held the post for 10 years working to improve *Proceedings* submissions and maintaining high literary standards for all CAS publications. Hobbs was highly praised for his work: not only was he an excellent writer but he truly enjoyed writing. His obituary notes that, “He had the faculty of putting the most complex and confusing technical subjects into writing in such simple and logical fashion that his works are masterpieces in their field.”

For all of his contributions to the CAS, Clarence Hobbs knew that mathematical expertise was not his forte. In his poem “The Lady Casualty and her Servitors,” prepared for the CAS’s 25th anniversary, Hobbs writes (as the Lady addresses the author):

Now what do you think is the place for you, who have
wasted your golden hours
With trifles like law and politics and commissarial
powers?
Your mathematics you have forgot, which is quite O.K.
with me.
Believe it or not, an Actuary is what you’re going to be.

Now this is no mock at the learned crew, nor merely a
light-heart jest;
For of all my many-named servitors, I love Actuaries
best,
Like Dorweiler, who has an index number for each of my
manifold frolics,
And Perryman, who would conquer my curves with
cubical parabolics.

Most serious-minded men are they, yet not without
sense and wit.
They believe in truth, and they tell it, too—whenever
their bosses permit.
They believe in reason, that golden dream, and close-
knit logic true.
They even believe in their formulas—so they may
believe in you.

Graphs and factors of many kinds, statistics and
tabulations,
Loss-ratios, rate-levels, manual rules and oodles of
classifications,
Differential equations, and interpolations, and Charlier’s
curves, indeed,

These shall be to you as an open book that will put you
asleep to read.

You shall sit and list to the tense debate on problems
recondite;
You shall edit the screeds of the master-minds, more
skilled to think than to write
You shall sit at the feet of Winfield Greene, that slug-horn
tooter tough,
Or become a second Michelbacher—though one is
quite enough!

Now, therefore, be free of the company that toys with
the laws of chance,
And bend to receive my accolade—a kick in the seat of
the pants;
And ere you know it, you shall become an F. C. A. S.
indeed,
With those other sterling actuaries, Jess Phillips and
Duncan Reid.

The world of workers' compensation enthusiasts was a small one. During that first year in May 1915, the CAS membership included several regulators who added much to the eclectic mix of membership. They came from insurance departments, state industrial commissions, and state insurance funds. Managers (CEOs) of four state insurance funds (New York, California, Colorado, and Michigan) claimed CAS membership. Winfield Greene had already had several regulatory jobs in New York (insurance department examiner and workers' compensation board actuary) when he left for Colorado to become the first manager of the state fund there. He must have persuaded the insurance commissioner, Mrs. Dorothy Rolph, that the CAS was an important group to belong to, because she is listed as a member for several years. Greene, who later served as manager of the New Jersey Compensation Insurance Rating Board, is known for his pioneering work in setting up workers' compensation ratemaking and statistical data gathering.

RATE REGULATION—SUPREME COURT RULES ON THE SOUTHEASTERN UNDERWRITERS CASE AND THE MCCARRAN-FERGUSON ACT PASSES

There is something uniquely American about rate regulation. The degree of interest that our state legislatures, consumer groups, media, and insurance regulators have demonstrated in this topic is unequalled in the rest of the world.

In 1914 the challenge was to assemble enough data to establish credible rates for workers' compensation. The job was big enough that regulators, bureau actuaries, state funds, and industrial accident boards worked together to solve what they saw as common problems. As compulsory automobile insurance laws were passed, interested parties outside the insurance system took interest in the rates charged and the significant cost to the ordinary citizen of paying for this coverage.

In 1936, New York City's Mayor Fiorello LaGuardia was busy rooting out Tammany Hall corruption and pulling the city out of the Great Depression, but he found time to speak with New York's Superintendent of Insurance Louis Pink. Pink sent a memo to his lieutenant in charge of automobile insurance, noting,

Mayor LaGuardia talked with me today. He wants to hold a conference on reduction of accidents and insurance premiums. I am not sure he is on the right track. Anyway it can do no harm and something might come of it.

I think we ought to have a short report prepared showing the past history of automobile rating in the Metropolitan area, just what reductions have been made, etc., and just what is being done at the present time so it will be ready for the conference.

He also has in mind merit rating.

Some things never change!

Enough has been said elsewhere in this book about the Supreme Court's 1944 ruling in the *U.S. vs. Southeastern Underwriters Association* case, which found that insurance was interstate commerce and subject to the commerce clause of the U.S. Constitution, including the Sherman Anti-Trust Act. Robert Bailey recalls his father, Arthur Bailey, calling his family together on June 7, 1944, not to tell them that the D-Day invasion of Europe had begun but to announce that the Supreme Court had found his employer unconstitutional! The elder Bailey was then employed by the American Mutual Alliance.

Regarded as a legend for his scholarship and integrity, Arthur Bailey began an illustrious four-year career at the New York Insurance Department in 1947. During his tenure as chief actuary, Arthur Bailey presented the paper "Credibility Procedures—LaPlace's Generalization of Bayes' Rule and the Combination of Collateral Knowledge with Observed Data" at the May 1950 CAS meeting. In a foreword to the paper, Superintendent of Insurance Robert Dineen states:

Over the past few years it has become more and more important for insurance regulatory officials to be able to explain as well as to understand credibility formulas used in ratemaking and in experience rating plans. We in the New York Insurance Department have long felt that credibility procedures could and should be explained in terms that everyone can comprehend.

It has often been suggested to Mr. Arthur L. Bailey that he prepare such an explanation. Mr. Bailey's inevitable rejoinder has been that it would be extremely difficult and possibly unwise to attempt to explain the whys and wherefores of credibility procedures to the public until an explanation had been offered to and generally accepted by those trained in mathematical statistics.

In the following pages, Mr. Bailey offers in technical terms certain fundamental concepts on which credibility procedures appear to him to be based. Comments on the theories presented will be welcome.

Mr. Bailey may well have ghostwritten Superintendent Dineen's words. Even so, the superintendent's signature on the importance of regulators' understanding of credibility theory is certainly a high point in actuarial regulatory history!

In 1964, ten years after Arthur Bailey's death at the age of 49, Dudley Pruitt remembered him as follows:

Arthur Bailey at the hotel bar, late at night, with a soft drink and an attitude toward life that warmed our hearts. We could and did say all manner of nasty things about Arthur Bailey during those years when he was the keeper of our consciences as the actuary of the New York State Insurance Department Rating Bureau. But we learned to respect his integrity and stature from knowing him in the after-hours.

State regulation of rates was codified following the passage of the McCarran-Ferguson Act in 1945. The NAIC and the All-Industry Committee worked together to draft a model rating statute (similar to the law in effect in New York) that would satisfy the McCarran requirement for active rate regulation by the states to preclude federal action. Thus, ratemaking in concert, as conducted by rating bureaus, was again permissible.

AUTOMOBILE INSURANCE— THE NEXT BIG PROBLEM

The private passenger automobile insurance market grew during the 1930s and 1940s as states enacted financial responsibility and later, compulsory insurance statutes. Following the end of World War II and gasoline rationing, car ownership increased, and by 1954 the market had reached \$1.2 billion. Workers' compensation in that year totaled \$850 million. New York, the largest insurance market in the United States, enacted an automobile financial responsibility law in 1941 that went into effect on January 1, 1942.

The 1958 *Proceedings* tackles several aspects of rating this increasingly important product, and, as in the early days of the CAS, both regulators and "company men" contributed to the dialogue. Martin Bondy (principal actuary for NYSID) wrote on territorial ratemaking; Stanley DuRose (a rater in the Wisconsin Department but later becoming one of the few CAS members to be commissioner) discussed filing procedures and statistical plans; and Frank Harwayne (Martin Bondy's boss and chief actuary at the NYSID) helped us to "estimate ultimate incurred losses in auto liability insurance." Paul Benbrook (not a regulator) wrote a paper on the use of accident year data for auto ratemaking that was also in this volume of the *Proceedings*.

The 1960s saw more groundbreaking work on credibility. Allen Mayerson, both a life and property-casualty actuary, wrote his landmark papers while on the faculty at the University of Michigan. Earlier in his career (1963–1966), he had served as commissioner in Michigan and, even earlier, had been a supervising actuary in the New York Department of Insurance.

Arthur Bailey's son, Bob, set a standard for regulatory actuaries that would be nearly impossible to surpass. The younger Bailey made many thoughtful contributions to the CAS literature and was also instrumental in showing regulators how to use the Annual Statement database to facilitate their work.

Bob Bailey's papers included "Two Studies in Automobile Insurance," cowritten with LeRoy Simon in 1960, which introduced the minimum bias procedure. In a 1963 *Proceedings* paper, "Insurance Rates with Minimum Bias," Bailey summarized the minimum bias theory, outlining the considerations that support the use of the balance principle as the bias function and explaining when loss ratios serve better than loss costs. This 1963 Bailey *Proceedings* paper was on the

CAS examination syllabus for many years, serving as a teaching text for a generation of actuaries.

Bob Bailey was also the first CAS member to be given the American Academy of Actuaries' Myers Public Service Award. As chief casualty actuary of the Michigan Insurance Bureau from 1965 until 1974, and as first deputy commissioner from 1991 until 1997, Bob Bailey developed one of the first computerized audits of property-casualty financial statements. He was instrumental in the development of the NAIC Early Warning System, now called the Insurance Regulatory Information System. In an assessment of Bob Bailey's career for the Myers Public Service Award, the American Academy of Actuaries declared that during his time as director of the NAIC database (January 1974 until February 1981), Bailey helped bring casualty insurance regulation into the computer age.

Bob Bailey did not shy away from controversial topics. In the mid-1960s, regulators in some states were beginning to question the traditional ratemaking methodology that did not directly consider investment return in selecting a provision for profit and contingencies. Insurers, who rarely earned the "target" provision, resisted what many thought to be an unsound attempt to approve inadequate rates. In 1967 Bailey presented his paper "Underwriting Profit from Investments" as an attempt to find some common ground between the regulators' and the insurers' positions. Six actuaries wrote reviews of the paper and thanked Bailey for his work, but they remained skeptical about his basic premise that reserve funds were "held in trust for the policyholder." In 1968, a landmark study of insurer profitability was published by Arthur D. Little Inc. This report found that insurers earned substandard returns on net worth when compared to other industries. Bailey and others commented extensively on the study, called the Little Report, both on its conclusions and on the fundamental difficulties of evaluating return on net worth. This topic never really went away, but it gradually became less polarizing. During Bailey's tenure at the NAIC, he developed an early version of the report "Profitability by Line by State" based on the NAIC database. The NAIC continues to produce this report annually.

The 1960s also saw considerable debate over the concept of no-fault automobile insurance. Frank Harwayne costed the Keeton-O'Connell "Basic Protection Plan" using New York data and, in a paper published in 1966, found that the plan might save New Yorkers 15% to 25% from their full-tort rates. In a panel discussion on alternatives to the tort system for private passenger auto, Paul Simoneau noted that interest in the subject had begun in 1918. To some in the academic community, it seemed that the workers' compensation model of compensation without regard to fault would also work well for automobile accidents. Unpopular with the insurance industry and the trial bar, the idea did not gain any legislative traction. By 1966, however, the inefficiencies in the tort system became apparent, especially in larger, high-claim frequency, and litigious states. In 1970 the U.S. Department of Transportation published a four-part study of auto insurance and compensation and advocated developing a national no-fault system.

The 1970s saw a reconsideration of the prior approval rating articles in effect in most states in the wake of the McCarran-Ferguson Act. In New York, Superintendent Richard Stewart advocated for competitive rating for most lines of business,

and this was enacted effective January 1, 1970. Stanley Dorf, New York's chief actuary, did much of the analysis underlying this initiative. Dorf also worked with Stewart on New York's automobile no-fault law, enacted in 1973. The NAIC also undertook a study of competition and reached the same conclusions: The market is the primary regulator of rates and scarce regulatory resources are better used for solvency purposes.

At the same time that rate deregulation was gaining strength, there was a debate over the use of long-accepted classification criteria. Massachusetts had found the use of gender and marital status to be unacceptably discriminatory and not especially predictive of future loss potential. A report issued by the Stanford Research Institute appeared to reach a similar conclusion. At the NAIC, the Rates and Rating Procedures Task Force urged the NAIC to "publicly adopt a position that automobile insurance classifications based on sex or marital status are contrary to public policy and should therefore be eliminated." The task force's report, although dealing with a fundamentally actuarial topic, did not formally incorporate actuarial input. It is worth noting, however that the NAIC staff support for the report was Robert Bailey.

THE NAIC—A NEW VOICE FOR REGULATORY ACTUARIES

From its beginnings in 1985, the NAIC Casualty Actuarial Task Force (CATF) dealt primarily with solvency and financial reporting issues. Such issues lend themselves more easily to national approaches (with the occasional state "permitted practice") than do ratemaking and classification issues, where approaches and statutes vary widely from state to state. The Statement of Actuarial Opinion (SAO) (part of the Annual Statement but optional at that time on the part of each commissioner) and Schedule P were the main agenda topics for the new task force. The first major achievement of the group was the adoption of the "new" Schedule P, effective with the 1989 Annual Statement.

In the 1980s, as available investment yields reached double digits, serious reserve deficiencies emerged on some optimistically priced long-tailed business. To this mix was added some fraud and mismanagement, and the result—several large insolvencies—set the stage for the regulatory

reforms of the 1990s. A report issued by Rep. John Dingell was heavily critical of the system of state regulation and asserted that insurer fraud and mismanagement required much more sophisticated controls. Dingell called for some sort of federal regulation to prevent a debacle similar to the savings-and-loan disaster of only a few years before.

Specific criticisms in the Dingell report included lack of resources and coordination among regulators—charges that had been made for many years. New to the Dingell report, however, was a recommendation that regulators adopt a requirement for "certification" of loss reserves by an actuary. The SAO (never actually a certification) had been adopted by several states in the 1980s but it was not widely used beyond those states with actuaries in their departments. For 1986 Annual Statements, only 17 states required at least some insurers to provide opinions on loss reserves. In 1991 the NAIC adopted a change to the Blanks requiring the SAO in all states. The CATF would have a full agenda for the next 20 years and beyond. In addition to maintaining and updating the SAO and Schedule P, the task force issues annual guidance for the completion of the SAO and has participated in several SAO symposia organized by the American Academy of Actuaries. The CATF has also recently achieved adoption of the confidential Actuarial Opinion Summary. Chairs of the CATF include Dick Roth (California), Bob Gossrow (Illinois), Mike Lamb (Oregon), John Purple and Rich Marcks (Connecticut), Rich Piazza (Louisiana), and me.

Whether or not Dingell's idea of federal regulation was a real threat to the status quo, the NAIC was eager to demonstrate that it was up to the task of solvency regulation. In addition to the SAO requirement, the NAIC embarked on a process of accrediting each state to assure that minimum standards were met. An indirect benefit of the accreditation process is that today virtually all states have actuarial input, either from in-house staff or from consultants. In recent years, the NAIC has adopted a risk-focused approach to financial examinations. Ohio's chief actuary, Mary D. Miller, played an integral role in developing risk focused examinations with a strong actuarial role.

The NAIC is currently in the midst of a solvency modernization initiative, which is charged, among other things, with

+ PRIVATE AUTO SAFETY

BY CHARLES A. BRYAN

The actuarial profession played a major role in auto safety through the introduction of surcharges and discounts. State Farm and Allstate and other personal auto insurers were especially prominent through the leadership of the Insurance Institute for Highway Safety (IIHS) and its companion, the Highway Loss Data Institute (HLDI). A timeline covering the 1950s to the 1990s included a number of milestones:

1950s: Surcharges introduced for sports cars
1960s: Surcharges introduced for compact cars
1968: IIHS introduced and funded by auto insurance industry

1972: HLDI, a subsidiary of IIHS, became a statistical agency devoted to collecting safety information
1974: 30% airbag discounts for first party coverages introduced
1980's: Rating by make and model introduced
1980's: Publication of HLDI data becomes widespread
1990s: Vehicle safety research center introduced by IIHS

The actuarial profession can be proud of the part it played in reducing the deaths and injuries from auto accidents and the leadership positions some of its members played in auto safety.

BY FRANK HARWAYNE

My earliest connection with the actuarial profession came through a copy of the actuarial list of the CAS sent by my wife while I was in the United States Signal Corps during World War II on Leyte Island of the Philippines. After the dropping of the atom bomb in August 1945 and the surrender of the Japanese, I was waiting to be shipped back to the United States for civilian life. I was impressed by the membership list of executives (including some chief executives) in the CAS listing. Moreover, although I had no knowledge of financial mathematics, I could readily solve the sample examinations of the CAS through my accumulated learning of more complex mathematics.

While I was waiting to be sent home, I wrote 75 letters to executives asking for interviews upon my return. When I returned, this finally resulted in being hired by Tom Carlson, actuary of the National Bureau of Casualty and Surety Underwriters (formerly NBCSU, now Insurance Services Office, Inc. or ISO). Later, I would find employment with the New York State Insurance Department.

With respect to rate analysis, casualty actuarial insurance members, company actuaries, and insurance department actuaries each have different tasks and different outlooks. Compared to the entire membership, I was one of the few CAS actuaries whose experience was mostly in insurance regulation. Thus, I regard myself to be a nonconformist.

As a nonconformist actuary, I see the CAS's hundred years of growth stemming from events taking place in the rest of the United States.

MUCKRAKING AND TRUST BUSTING

At the beginning of the twentieth century, muckrakers were finding fault with things as they were—Teddy Roosevelt was trust busting, the automobile was coming into vogue, the American Federation of Labor was being formed, there was a business recession in 1906.

In the New York State Insurance Department, I had access to old reports on examinations. For instance, in 1905 insurance executives lunched at Delmonico's in the Wall Street area and on behalf of the NBCSU developed teams and automobile rates covering four risk rating territories and rates for the entire country designated as large cities, medium-size cities, small cities and rural areas. Also, a treasure trove of superintendent's annual reports disclosed that insurance agents were instructed not to collect the weekly premium from sick clients in order to void the insurance policy.

The muckraking and the resulting resentment of trust activities that acted against the common man resulted in anti-trust legislation in various parts of the country, such as Kansas with anti-compact laws. Just as in the physical realm, every action caused an equal and opposite reaction. Insurance corporations were tied in as financial big business.

WORKERS' COMPENSATION AND WORKPLACE SAFETY

The Merritt investigation of insurance was undertaken in New York in 1910 and by 1911, it was given a boost by the disaster known as the Triangle Fire in Manhattan. The building housing the Triangle Shirtwaist Factory lacked a sufficient number of exits and some of the exits were locked so people could not escape and died as a result of the fire. (Incidentally, my mother and some of her friends had worked there as young girls.) When families tried to find financial redress, they were no match for the insurance companies' use of employers' liability funds. This later resulted in passage of the workman's compensation laws to eliminate liability as a precursor to receiving benefits.

Ultimately, the Merritt investigation led to the establishment of prior approval insurance rating laws in New York. Instead of banning insurance companies acting in concert without justification, it sanctioned action in concert through a legislative requirement of prior approval by the superintendent of insurance. These laws led to the further formation of insurance rating bureaus, which could get combined statistics to use to support rate or classification changes.

Who could better interpret the statistical evidence than actuaries? This need was an impetus for actuaries to be hired both in the insurance companies and in the New York Insurance Department. This, in my opinion, was the beginning foundation of the Casualty Actuarial Society

RATING AGENCIES AND MUTUAL INSURANCE COMPANIES

New York had a large labor pool, partly composed of new immigrants. The 1906 recession was a factor in the drive for workers' compensation laws and this increased after 1910. Workers' compensation laws were passed shortly thereafter, and a competitive state insurance fund sparked the need for actuaries. Maximum benefits were \$10 or \$15 per week. Mutual companies were formed or expanded and this was also a factor leading to the creation of the Casualty Actuarial Society. The New York Compensation Insurance Rating Bureau was formed to develop workers compensation insurance rates for the industry. The existence of a competitive state insurance fund may have been a factor in the presence of the insurance department actuary at the rates committee meetings of the New York Compensation Insurance Rating Bureau.

The enforcement of insurance laws presented few problems for many years between the insurance industry and the insurance department. William Leslie Sr. served as insurance department actuary and later became NBCSU general manager.

The rating organizations went through the rate approval process and promulgated rates on behalf of the industry; the mutual insurance companies carved out their own niche by paying dividends. When I became a Fellow in 1950, the CAS membership was 278. Between 1946 and early 1952, I went from actuarial trainee to assistant actuary of the NBCSU attending and advising the rates committee under my mentor at NBCSU, the actuary Tom Carlson. The experience

enlightened me to no end as I learned from the company members who were mostly CAS members.

MCCARRAN-FERGUSON AND INCREASED REGULATION

Now back to the CAS. The McCarran-Ferguson Act, one of the last laws signed by President Franklin Roosevelt, required the federal government to regulate insurance to the extent it was not regulated by the individual states by 1950. The NAIC recommended model laws for states to consider; some followed New York's system of "prior approval" and others used "file and use" systems. All this additional regulation generated more growth for the CAS at the company level as well as at the state level.

As for myself, in civil service I could give my honest advice regardless of differences with the head of the agency. Sometimes I believe I paid a bit of a price for disagreeing with an elected governor's appointed superintendent and standing up for my principles. Most of the time, the superintendent followed my recommendation, consistent with my analysis. At rare times, he exercised his authority and acted otherwise.

The CAS was a place I could advance my ideas and challenge others. I received the Dorweiler Prize in 1975 for a paper on the method of eliminating some duplication of charges in retrospective rating. Also, I found other published avenues to advance my opinions concerning the consideration in ratemaking of investment income earned on policyholder supplied funds—a controversial topic at the time

Being a government employee, I could not do any work that might conflict with my job. With that in mind, I was able to do nonconflicting consulting. One such project, with Harvard University, was a challenge I welcomed. This work ultimately led to no-fault automobile insurance, but different from what Professors Keeton and O'Connell envisioned. They had conceived auto no-fault insurance to be very similar to the original concept of workers' compensation, namely payment for medical costs and loss of income. However, the no-fault insurance passed by many legislatures could make allowances for compensation related to pain and suffering.

In 1974, I became vice president of the National Council on Compensation Insurance (NCCI) in charge of research. That decade was a time when some policyholders left the system to become self-insured, purchasing coverage only for excess insurance and with reinsurance headquartered in tax-free havens. All this created an increasing need for actuaries and brought growing membership to the CAS.

recommending revisions to the risk-based capital (RBC) formulas. Alan Seeley, New Mexico's chief actuary, is leading that project.

As of this writing in 2012, it is too soon to know if recent federal financial regulation will supercede any areas of state insurance regulation. Other forces are at work, however, that may well change the format of our regulatory system. The International Association of Insurance Supervisors (IAIS) has been working for some time on a global framework of insurance regulation, which itself must be compatible with the directives of the International Accounting Standards Board (IASB). The U.S. is fortunate to be represented, through the NAIC, by CAS Fellows Elise Liebers and Kris DeFrain. Liebers is the first FCAS to serve at the Federal Reserve Bank (FRB) of New York. Prior to her FRB job, Liebers served in the New York Insurance Department, where she had done much of the groundbreaking work in establishing an RBC formula. Also active on the international regulatory-actuary front is Kris DeFrain, casualty actuary for the NAIC and former CAS vice president-international.

It's fitting to conclude a chapter on regulatory actuaries with a word about Terri Vaughan, who, in 1995, became commissioner of insurance in Iowa. She is a member of both the CAS and the SOA, and also holds a PhD. in risk and insurance. Vaughan quickly became active in the NAIC leadership, serving as president in 2002. In 2012, Vaughan concluded her term as executive director of the NAIC, where she had brought her wealth of knowledge concerning the quantification of risk and the practicalities of solvency regulation to the international forums of the IAIS and the IASB.

AND A FINAL WORD FROM DUDLEY PRUITT

Dudley Pruitt could be speaking for us fifty years later as he noted in his 50-year CAS history:

It is a little difficult for us in this disillusioned and unsettled day to recapture the enthusiasm for progress and social reform that went along with the Ford five dollar day and the bright new workmen's compensation acts . . . Our society was born out of the needs of the first great wave of social insurance legislation and many of our [C]harter members had the commitment of their profession to seeing that the new ideas were successful.



Chapter 8

THE CASUALTY ACTUARIAL PROFESSION IN CANADA

By David J. Oakden

I regard 1975 as the year in which the Canadian casualty actuarial profession was born. If I had to pick a day it would be November 18, 1975, during the CAS Annual Meeting in Montréal. One of the sessions that day was titled “Canadian Insurance Today and Tomorrow.” The four panelists represented every CAS Fellow then working in casualty insurance in Canada.¹ The actuaries on that panel were Carl Wilcken, who was general manager of the Insurance Bureau of Canada (IBC); Veljo Taht who worked for Carl; Hugh White who worked at the Travelers; and Yves Brouillette who worked at Groupe Commerce. In fact, Taht and Brouillette were brand new Fellows, so a day earlier there were only two Fellows.

Another significant event around that time was the breakup of the Canadian Underwriters’ Association (CUA). The CUA was a compulsory rating bureau whose companies represented about half of the Canadian market; it was also the statistical agent for automobile insurance for all Canadian companies.

The CUA was split for two reasons: First, non-members did not like sending their statistics to what was, in effect, their competitor (an understandable situation) and second, the CUA members wanted the flexibility to modify their rates to respond to the increasing competition from the nonmembers. From today’s perspective it is hard to imagine how the CUA survived as long as it did. The two new organizations formed were the IBC, the statistical agency, and the Insurers Advisory Organization (IAO), which then began publishing advisory rates rather than compulsory rates. It is interesting to note that both Carl Wilcken and Veljo Taht ended up working for the statistical agency and not the rating bureau.

My employer at that time was not a member of the CUA but joined the IAO upon its creation. New IAO members were invited to send a representative to any committee meeting, and since the Automobile Committee was responsible for setting auto rates, I was asked to attend the meeting. It was quite an experience to see how the rates were set. The IBC actuaries prepared illustrative price increases by territory and product. The Automobile Committee considered these increases one by one and, for the most part, adopted them, but they did make a few manual adjustments along the way to justify their existence.

They also did not like actuaries observing this process, and, during the first coffee break, when I mentioned that I was an actuary, I was politely (but firmly) asked to leave. Several years later I recounted this story to an older CAS member in the U.S. He mentioned that he had had a similar experience when the CAS got involved in property insurance.

About a year after this incident, the IAO hired Herb Phillips, an experienced FCAS from Boston who brought actuarial discipline to the rating process. Shortly after joining the IAO, Herb formed an actuarial committee and hired a few students. As a member of that committee, I had a chance to work with Herb and see how an experienced actuary set rates. Herb quickly gained the respect of Ted Belton, the CEO of IAO, and for many years Belton would accompany Phillips to CAS meetings. The respect that Ted Belton showed for the CAS combined with Herb Phillips’s experience helped convince many other CEOs to hire casualty actuaries.

The Canadian Institute of Actuaries (CIA) was formed in 1965 and it is interesting that they had the foresight to include the CAS Fellow designation as satisfying the education requirement. At the time there were no other significant requirements to become a Fellow of the CIA, therefore, any FCAS could join the CIA and many actuaries working in the U.S. did. As a result, the growing Canadian casualty actuarial profession became part of the CIA.

An actuary holding prominent positions at Zurich and later Eckler, Hugh White took the lead in integrating the casualty actuaries into the CIA. This involved educating the life actuaries, making sure that meetings had relevant content for CAS members and eventually developing standards. Since it would have been difficult to elect a casualty actuary to the CIA Council, White was appointed as editor, which made him a permanent member. Before accepting this position, Hugh asked the previous editor how much work was involved and was told that it was basically nothing. Shortly after accepting the position, however, he discovered that he was responsible for publishing the proceedings of the organization. He also discovered that there was a backlog for several years as the previous editor had literally done nothing. To his credit, White cleared the logjam and kept the proceedings up to date.

¹ There were also two CAS Fellows working for life insurance companies and 12 CAS Associates.

Hugh White was a strong voice on the CIA Council for the casualty actuaries and served as the first chair of the Property & Casualty (P&C) Committee of the CIA.

He was also a very active volunteer in the actuarial community, helping set up the Actuarial Foundation in Canada (AFC) and later serving as AFC's director emeritus. In 2011, family and friends honored him establishing the Hugh G. White Memorial Scholarship, an endowment fund with the AFC.

TWO INFLUENTIAL INSTITUTIONS

No history of the casualty actuarial profession in Canada would be complete without a mention of Canada's two great actuarial universities: Laval in Québec City and Waterloo in Ontario.

Laval started its program in the early 1970s and the Québec government actually paid scholarships to encourage students to take the CAS exams. A major factor in Laval's success was the large number of graduates who took time away from the office to go back to Laval and teach courses on a part-time basis. This was not an easy task, as Québec City is a couple of hours drive north of Montréal where most of the actuaries worked at the time.

Daniel Demers, Yves Brouillette, Guy Cloutier and Bernard Dorval² all made significant contributions and inspired a lot of students to take the more challenging CAS track. One of the early Laval graduates recalled being told on the first day of class that "If you go on the life side we have a lot of material and cover a lot of the exam topics in classes; if you take the casualty exams it will be difficult to obtain the study material." Having experienced actuaries like Demers, Brouillette, Cloutier and Dorval helped convince many students that the CAS route was worth the effort. These actuaries were also able to help the students obtain the study material. I hired a number of Laval graduates over the years, and I remember one of them showing me his course notes. I was quite surprised to find detailed notes from the Part 9 Syllabus. Most actuarial programs today only cover material from the first four exams.

While I have not done a detailed analysis, I believe that today there are more CAS members who graduated from Laval than any other university in the world.

In the late 1970s, Waterloo decided to add some casualty courses. Rob Brown,³ who was the junior member on the faculty, was nominated to teach the courses and write the CAS exams. Brown got his ACAS in 1980 and immediately started consulting for casualty companies in the Waterloo area. This worked out well because he was able to use his contacts to get co-op placements (called internships in the U.S.) and full-time positions for his students. When Brown was starting out, Waterloo was graduating about 20 students each year—all life. Towards the end of his tenure, Brown would have upwards of 120 students in his casualty course. While Brown is no longer teaching the casualty courses, he tells me that his textbook is still in use.

One story that Brown tells his class is about Karl M., the owner of a very large bar near the university. Karl bought a very small insurance company and asked a few local insurance experts he knew to join him at the bar to discuss strategy. He also invited

some of the company's managers and an actuary who lived in Toronto. When Brown arrived, he noticed a limousine in front of the bar and assumed it was for Del Shannon, who was the entertainment that night. Later that night, Brown noticed that the actuary had had a lot to drink and asked if he would be okay driving back to Toronto, which was more than an hour's drive from Waterloo. The actuary said it would not be a problem as Karl had hired a limo for his use that evening. Rob would conclude the story by saying, "So if you want to ride in a limo as your lifestyle, don't become a rock star, become a P&C actuary." I imagine that this story caused quite a few students to switch to the CAS exams.

SOUTHERN ALLIES

The casualty actuarial profession in Canada owes a great deal to a number of U.S. actuaries who left their stable positions in the U.S. for the uncertainty of the Canadian market. I have already mentioned Carl Wilcken and Herb Phillips who came to Canada later in their careers. There were also a number of younger actuaries. Ed Shoop was one of these young actuaries who moved to Canada prior to Fellowship to become chief actuary of Royal Insurance, then the largest company in Canada. On his first day at work, he called all of the casualty actuaries in Toronto and arranged to have lunch. It was a very short list and Shoop managed to have lunch with everyone by the end of the second week.

Royal's president at the time was always in the news and always (in Ed Shoop's opinion) on the wrong side of every casualty issue in Canada. Fortunately for Shoop, the president soon returned to the U.K. and the new president, Jean Robitaille took over. Robitaille was on the right side of every casualty issue and became a great supporter of Ed Shoop and his actuarial team. He even attended a few CAS meetings to improve his actuarial knowledge.

In the summer of 1978, Robitaille called Laval University to inquire about a promising actuarial student who could do some work that summer for Royal's actuarial team (one of the largest in Canada at that time) in exchange for work experience. Thus, Robitaille hired the first actuarial student intern in Canada. That certainly shows his support to the profession!

GROWTH OF THE PROFESSION

No-fault automobile insurance was another major development that put actuaries front and center. Québec was the first province to introduce no-fault in 1978. While the study that introduced no-fault was headed by a life actuary, Jean-Louis Gauvin, he was assisted by a team of recent Laval CAS graduates including Guy Cloutier. It is a credit to their work that the no-fault system is still in place with very few changes. Ontario also introduced no-fault automobile insurance in 1991. This was preceded by several years of hearings in which actuaries played a key role. Unlike Québec, the Ontario plan has had a series of changes over the years and CAS members have continued to play a key role in these changes.

With the assistance of the CAS and the CIA, the casualty actuarial profession continued to grow in Canada. In 1987, the Canadian government updated the Insurance Companies Act, which governs all federally incorporated or registered insurance companies in Canada. When drafting the requirements,

² I hesitate to mention names because I am sure to leave someone out.

³ Rob Brown would later serve as president for the CIA and SOA.

the superintendent of insurance asked the CIA whether the requirement for actuarial certification of reserves should be extended to casualty companies as well as life companies. After analyzing the situation, CIA leaders felt that 100 casualty actuaries would be needed and that this goal could be achieved in about five years. CIA leaders, therefore, replied that casualty companies should be included with a five-year phase-in period. The law was passed, and while we did not quite make our objective, we were close, and all Canadian casualty insurers were able to comply with the requirement for the 1991 year end. At the time I had a bet with Ed Shoop, who felt that our projections were too optimistic. I lost the bet by a few actuaries but was happy to pay because I knew that the casualty actuarial profession had arrived in Canada.

Today, there are more than 230 CAS members in Canada; this represents about 7% of total CIA membership as compared to less than 0.5% in 1978. Many more Canadians work in the U.S., Bermuda, and many other countries around the world.



Chapter 9

GLOBAL CONNECTIONS

By John C. Narvell, Amy S. Bouska, Kendra M. Felisky, and Christopher S. Carlson

THE CAS—AN INTERNATIONAL SOCIETY

From its very first year, the CAS has always been an international society. Members from Canada, Australia, and the United Kingdom joined in 1915 and there has been representation from these countries through the first century of the CAS. While early members also joined from Italy, Germany and Brazil, Canada has always been the most significant component of the non-U.S. membership. The history of Canadian members in the CAS is so significant so as to merit a separate chapter in this book and will not be detailed here except to highlight the international nature of the CAS since its earliest days. This chapter will focus on the international activities beyond the U.S. and Canada.

It is notable that a very large proportion of early CAS members were occupied in the challenges of workers compensation (WC) insurance. Indeed, it was this line of business that spawned the CAS in 1914, as actuarial practitioners realized that different types of insurance companies, methods, tools, and statistical data (as contrasted with life insurance) would be required in order to manage the innovative benefit structure. Some European countries had enacted WC laws earlier than the U.S. and subsequently faced similar statistical challenges. Nonetheless the CAS was the first (and only) professional body which credentials actuaries to concentrate on the science of casualty actuarial issues.

Francis Perryman had the unenviable challenge of sounding an optimistic tone in his chronicle “The First 25 Years” of the CAS, a period of history that was bookended by the outbreaks of two horrible world wars. Fortunately, the period since the World War II has been generally marked by an explosion of global trade and increasing peaceful interdependence. This broad global trend has been mirrored by the expansion of international exchanges in casualty actuarial practice. Perryman noted in 1939 that “the practical side of . . . casualty actuarial work in . . . foreign countries is still very primitive as compared with the work done in this country.” Certainly the same cannot be said today! In the past quarter century some of the most notable advancements in practical property-casualty actuarial applications have arisen from overseas. These include linear modeling in ratemaking, probabilistic reserve ranges, and extreme value theory.

The progression of “international” members of the CAS was quite slow for the first half century. In 1964 the CAS had only three members from outside the U.S. and Canada, comprising less than 1 percent of the total CAS membership. In 1989, members outside U.S. and Canada still numbered only 16, but the movement has accelerated quite dramatically in the fourth quarter century of our existence. In 2014, more than 6 percent of CAS members resided in 33 countries other than the U.S. and Canada. The attached Exhibit shows CAS membership counts by country at each quarter century milestone.

Connected with this rise in international members is an increase in the number of international students. Now, the CAS routinely gives exams in more than 20 countries.

Nonetheless, the membership, leadership, and orientation of the CAS were distinctly U.S.-centric throughout the 20th century; only in the early years of the new millennium did the Society begin to recognize the opportunities of international involvement. In the 1900s, “international” meant having an occasional Canadian vice president or board member. Except for a very small subset of members active in Actuarial Studies in Non-Life Insurance (ASTIN) or the International Association of Actuaries (IAA), there was essentially no international involvement on an official level. The professional lives of the vast majority of CAS members were, and remain, almost completely U.S.-oriented, especially those members working in smaller primary companies. Even as Lloyd’s (see below) imploded in the early 1990s, due primarily to U.S. casualty losses, only a few U.S.-based reinsurance practitioners and consultants and the growing Bermuda contingent (discussed later in the chapter) had any non-U.S./Canadian involvement.

This insular situation began to change slowly in 2000 when the CAS created the new position of vice president–international, an office held by (successively) LeRoy Boison, John Narvell, Amy Bouska, Ralph Blanchard, Kris DeFrain, Bob Conger, and Jeff Courchene. This position was intended to focus more attention on international issues and opportunities, represent the interests of non-U.S./Canadian members, and coordinate the Society’s international involvements, notably at the IAA and with other actuarial associations. The first non-U.S./Canadian board members (at least technically) were Alan Kaufman, a U.S. citizen living in London, and Ron Kozlowski, a U.S. citizen elected in 2011 while he was working in Hong Kong, following years

of practice in the U.S. More recently, as the CAS governance structure began to include several appointed board members—Katherine Morgan, a member of the Institute of Actuaries in Great Britain, prominently served on the CAS Board from 2009 through 2012. John Narvell served as the first and only non-U.S./Canadian officer, not put off by the frequent travel to the U.S. that some other potential candidates might have viewed as too onerous.

Pushback against the growing recognition of international issues in the activities of the Society came from two perspectives:

(a) Expenses. In 2013, approximately 5 percent of the CAS direct expenditures supported international activities, including reduced exam fees in low-income countries and support of international travel for officers and CAS representatives to IAA committees and overseas general insurance meetings.

(b) Isolationism. Given the typically U.S.-centric nature of most members' work, a noticeable minority ascribe little importance to the Society's international involvements. A widespread belief existed that little worthwhile *practical* property-casualty work is done overseas. In the early years, there was at least some basis of fact to this belief, since there were relatively few general insurance actuaries practicing outside North America, even in hotbeds of property-casualty risk such as Lloyd's. Even as the numbers of property-casualty actuaries grew in Bermuda, the U.K., Australia, and Western Europe, their presence was somewhat invisible to most CAS members because the overseas general insurance publications (particularly in Western Europe) tended to be too theoretical for the practical tastes of many U.S. actuaries. Also because these non-U.S. actuaries were and remain members of "all-practices" professional societies (i.e., including life, pension, etc.), they were not always identifiable as property-casualty actuaries. Together with the university-based credentialing pathway employed by societies in other parts of the world, especially Western Europe, these factors reinforced a belief that the CAS is the only group of "real" property-casualty actuaries. Even terminology is divisive: Is it "general insurance (GI)" or "non-life insurance" or "property-casualty insurance (P&C)"?

Some of this isolationism began to fade away as leaders of both the CAS and the non-U.S. general insurance sections, notably the General Insurance Research Organisation or GIRO in the U.K. and the general insurance section the Actuaries Institute in Australia (formerly the Institute of Actuaries of Australia), have made concerted efforts to establish and maintain relationships. This effort has resulted in liaisons between boards, joint working parties and publications, overseas speakers at meetings, attendance at one another's meetings, and—perhaps most importantly—cross-ocean friendships. The challenge remains to extend these growing high-level exchanges into the grass-roots CAS membership. CAS membership surveys in 2003 and 2008 showed a general trend of increased support for a variety of potential CAS initiatives to support the actuarial profession in developing countries. But even in 2008 a significant number of CAS members remained neutral on any particular potential initiative: Typically 40 to 60 percent of respondents expressed support, 30 to 50 percent were neutral, and 10 to 30 percent expressed opposition to the various specific potential initiatives listed in the 2008 survey. The percentage of members supporting active CAS participation in the IAA grew

from 42 percent in 2003 to 70 percent in 2008, while in each survey approximately 10 percent of members opposed active CAS participation in the IAA or felt that the CAS should act independently of the IAA.

Unfortunately, as the CAS nears its centennial, the international involvements closest to many members' daily work, namely Solvency II and the international accounting standards, are perceived to be more of an annoyance. Cross-boundary harmonization of regulation and accounting standards may bring new requirements to many U.S. insurers. Notwithstanding the potential new burdens associated with these requirements, this evolution is helping to expand the breadth of the knowledge base and experience of CAS members.

ASTIN—ACTUARIAL STUDIES IN NON-LIFE INSURANCE

ASTIN was created in 1957 as the first specialty section of the International Actuarial Association. It is notable that the organization was created at the IAA congress that was held in New York that year. Since that time, ASTIN has met and been hosted by the CAS multiple times in the U.S., most recently in 2007 in Orlando, Florida, to celebrate ASTIN's 50th anniversary.

ASTIN's main objective is the promotion of actuarial research, focused upon non-life insurance. It is continually working to further develop the mathematical foundation of non-life insurance and reinsurance. ASTIN, like its parent organization, the IAA, does not offer exams or any credential. Indeed, any individual member of an IAA member association can join ASTIN.

ASTIN's annual international colloquia usually include invited lectures, contributed papers, and panels discussing current issues. These colloquia bring together both academics and practitioners, and provide a collegial and collaborative forum for the stimulating exchange of knowledge and new thinking among actuaries of different countries and different disciplines in the application of research to practical problems.

Twice a year the IAA publishes the *ASTIN Bulletin*, the Journal of the IAA. This publication is the internationally renowned, refereed scientific journal of the actuarial profession and was recently expanded to include all aspects of actuarial practice, not just non-life insurance.

Primary actuarial education in countries outside the U.S., Canada and the U.K. is largely or exclusively based in a university setting. Professors teaching actuarial science at universities, particularly those concentrating in non-life studies, have had limited outlets to mingle and to publish. ASTIN is a valuable forum for those purposes. Perhaps not surprisingly, many CAS members find many ASTIN papers and presentations to be too theoretical for their interests. But not all CAS members are disinterested; the ASTIN Committee has included a steady stream of prominent CAS members:

Francis Perryman	1957–59 (Chairman)
Norton Masterson	1964–68 (Vice-Chairman, Chairman)
Charles C. Hewitt	1967–71
LeRoy Simon	1972–78 (Vice-Chairman, Chairman)
Steven Newman	1973–80
Charles Hachemeister	1981–85
James Stanard	1991–97 (Vice-Chairman, Chairman)
David Hartman	2004–07 (Chairman)

One CAS member with a long-term and passionate interest in ASTIN was Charles Hachemeister, whose involvement extended well beyond his tenure on the ASTIN Committee. Charlie was a reinsurance actuary with Prudential Re and then F&G Re. Sadly, Charlie died at the age of 55 in 1993. He is best remembered for his work with other actuarial organizations in North America and around the world, including the Society of Actuaries (SOA), the International Actuarial Association, and especially ASTIN. As a fitting tribute to Charlie's outstanding contributions in this area, the CAS established in 1993 the annual Charles A. Hachemeister Prize for papers published in the *ASTIN Bulletin* or presented at the annual ASTIN Colloquium.

The primary selection criterion for the Hachemeister Prize is the paper that is likely to have important practical impact to practicing actuaries of the CAS. The inaugural Hachemeister Prize was awarded to Thomas Mack of Munich Re for his paper "Which Stochastic Model is Underlying the Chain Ladder Method?" Several subsequent winners of the Hachemeister Prize have been CAS members who have submitted papers to ASTIN. In addition, various techniques developed by distinguished ASTIN members, such as Hans Bühlmann, Jim Stanard, and Gunnar Benktander, are used by CAS members on a routine basis.

BERMUDA

Bermuda has the glorious distinction of having the largest number of actuaries per capita of any country in the world, but it has not been that way for long. The growth in CAS members started in the 1980s as a response to a gap in U.S. accounting regulations (claims ceded to captive insurance companies received more favorable treatment than a corporation's retained self-insured liabilities). Greg Leonard started a Bermuda office for the consultancy practice of Tillinghast in 1980 specializing in performing pricing and reserve studies for captive insurance companies. His arrival doubled the number of CAS members living in Bermuda: well-known CAS member Laurence Longley-Cook was enjoying his retirement living on the island. As recently as 1984, there still were only two CAS members on the island of about 60,000 people.

In 2014, Bermuda had approximately 1,200 insurance companies, primarily captive insurance companies, and CAS members numbered 109 on the island of Bermuda. Combined with many members of other actuarial societies such as the U.K. and Australia, the concentration of actuaries on these little islands creates an environment in which it is typical to see actuarial acquaintances during almost any stroll down a Hamilton street or foray into a local restaurant.

The early Bermuda captive insurers were usually small companies insuring low-layer casualty coverages for non-insurance parent corporations. The tax and regulatory aspects of these activities were evolving through the '70s, '80s, and '90s. Taxation rules allowed and encouraged some captive insurers aggressively to pursue unrelated premium income, primarily assumed reinsurance and especially excess liability. In the late '70s and early '80s, many Bermuda-domiciled captives competed fiercely for premium income. It was a time of high interest rates and there was desire to pull in cash to generate investment income.

Unfettered growth was a disastrous strategy. Typically, there were no actuaries involved in pricing or even in price monitoring. The competition was so fierce that some traditional reinsurers exited the market due to unfavorable market conditions. As claims eventually emerged, the party ended in 1984 with an extreme market contraction. In the U.S., it was called the "hard market of 1986." In Bermuda, it was a collapse. Many reinsurers went into run-off and several of them became insolvent, some of them spectacularly. For actuaries, it was a boon. Companies had to estimate incurred-but-not-reported amounts that arose from all the years of writing reinsurance for managing general agents and opaque underwriting pools. Tillinghast's monopoly on resident casualty actuaries ended in 1985 when KPMG and Coopers & Lybrand established property-casualty practices on the Islands. With these additions, the population of casualty actuaries rose to five, but it was the beginning of a long growth phase.

The hard market in 1986 spawned the creation of ACE and XL, now significant global enterprises. Perhaps more significantly for actuaries, in 1987, the hard market conditions generated Centre Re, specializing in writing finite reinsurance contracts. Centre Re wrote retrospective contracts where the predominant characteristic was the discounting of loss reserves. It should be noted that the insurance regulations at the time were sufficiently murky so as to permit such transactions. Suddenly, actuaries were in high demand. Both the magnitude and timing of loss run-offs had to be estimated so as to craft reinsurance contracts that would meet the needs of ceding companies while providing an adequate return for the reinsurer. One regulation that was rigorously followed was that underwriting of these transactions was performed outside the U.S. So the recruiting was primarily in Bermuda. Several competitor reinsurers were formed with the resultant growth opportunities for actuaries in Bermuda. Eventually regulations for retrospective reinsurance eliminated this niche.

The next growth phase followed quickly with successive waves of property catastrophe reinsurers, especially following Hurricane Andrew in 1992. Many of these companies were early adopters of catastrophe models for pricing, paving the way for the use of large simulation models for other purposes, such as mass tort modeling. Following other large disasters, such as 9/11 in 2001, another cohort of new Bermuda-based insurers was formed. And so the innovative and dynamic role of Bermuda insurers and actuaries continues.

EUROPE AND GIRO

The U.K. Actuarial Profession was almost exclusively life-and pensions-focused until 1974, when a handful of non-life actuaries thought it would be useful to get together to exchange information, general insurance knowledge, and research. This gathering quickly acquired the name GIRO (General Insurance Research Organisation) and GIRO continues to this day as the main annual gathering of the U.K.'s general insurance (property-casualty) actuarial community.

A vibrant element of GIRO has always been volunteer working parties. Each working party meets throughout the year to research its designated subject and then convenes to present their findings to the wider group. Since GIRO was a self-formed group, it has always had the ethos that everyone needs to

participate and contribute. It was not a conference with formal presenters and a non-participative audience; everyone was expected to contribute via working parties or organizing or other means. The CAS members who attended GIRO meetings liked the working party concept so much that it was introduced to the CAS in the early 2000s.

At the inaugural GIRO meeting in Norwich in 1974, four papers were presented. By 1992, GIRO had grown to over 100 participants (including two CAS members) with 15 papers presented to the group. At the 25th anniversary in Brighton, 29 papers were presented and the format had settled into plenary sessions and workshops. At the 38th GIRO in Liverpool, there were more than eighty papers and presentations. GIRO is attended annually by more than 650 delegates and speakers keen to hear about pricing, reserving, PPOs, risk management, and other current topics.

There has always been a significant social aspect to GIRO as attendees enjoy meeting up with old friends and colleagues as well as new acquaintances. There is always a formal dinner with dinner jackets (tuxedos in America) the standard attire for the men; similarly formal attire is expected for ladies as well.

As GIRO was the only gathering for general insurance actuaries, in the first 25 years or so, almost every general insurance actuary in the U.K. would attend. As the general insurance part of the U.K. profession has grown, however, GIRO has also spawned other general insurance gatherings similar to events hosted by the CAS, namely the General Insurance Reserving Seminar, the General Insurance Pricing Seminar, the Current Issues in General Insurance, as well as occasional special interest seminars. Perhaps the most significant contribution to the profession from the members in GIRO was the incorporation of generalized linear modeling (GLM) in the ratemaking process.

For the last 20 years, CAS members have been active GIRO participants and contributors. CAS leaders and individual members have attended GIRO, served as members of working parties, and have maintained ongoing roles in the organizing committee.

LLOYD'S

For decades and even centuries, Lloyd's of London has been the insurer and reinsurer of last resort for U.S. and global risks, particularly unusual ones. This position was reinforced during and after World War II, when there was a marked reluctance—and sometimes a national security ban—to using German reinsurers. Starting in the late 1960s and 1970s, the placement of high-layer excess casualty covers at Lloyd's became relatively commonplace, with several large syndicates taking on increasing amounts of these risks.

The U.S. hard market of the mid-1980s caused a sharp contraction in U.S. reinsurance capacity, leading to rapid growth at Lloyd's, where total capacity grew from £3.7 billion in 1982 to £11.1 billion in 1991. Unknowingly, this growth brought huge amounts of unrecognized long-tail U.S. excess casualty losses onto the books, especially pollution and asbestos.

Historically, Lloyd's did not use actuaries, relying on the in-depth experience of the syndicate underwriters. The first property-casualty actuaries in Lloyd's, starting in the mid-1980s, were David Hart and Tony Jones at the Merrett and Sturge

syndicates, respectively. Growth in the numbers and acceptance of actuaries was slow in the initial decade. This situation began to change as the U.S. losses emerged and Lloyd's and its syndicates faced the prospect of vast losses, forcing bankruptcies among many individual Names.

The market responded with a massive reorganization that included the formation of Equitas as a runoff vehicle ("bad bank") for syndicate years 1992 and prior. The process was led by a U.S.-trained actuary and CAS member, Heidi Hutter, FCAS, at a time when women were still something of a rarity at Lloyd's. The reorganization process required the involvement of cadres of actuaries familiar with U.S. risks, essentially all of them CAS members, introducing them to the London market, and the market to them.

It is also notable that Lloyd's was the forum for an early formal requirement for a loss reserve opinion from a qualified actuary. For any syndicate that remained "open" after the traditional initial three-year accounting period, there was a requirement for an actuarial certificate from a qualified actuary. This requirement predated the general introduction of loss reserve opinions in 1998 in the U.S. Today all annual Lloyd's syndicate accounts require an actuarial loss reserve opinion, the only such requirement in the U.K.

In the 21st century, general insurance actuaries, many of them CAS members who have followed the risks overseas, are now well-established at Lloyd's and the broader London market. Indeed at the time of the writing of this book, the application of actuarial skills may be more prevalent at Lloyd's (and many other U.K. carriers) than at many U.S. property-casualty insurers. This has arisen because of the imminent Solvency II regulation in Europe. The requirements call for determination of risk calculations for the survival of insurers at a 99.5 percent confidence level over a one-year time period. While there is a fallback to a comparatively simple spreadsheet-based Standard Model, Lloyd's has decided that all syndicates will be compliant at the more stringent level of requiring an "internal model." The thousands of pages of documentation required for internal model support have created a very large surge in actuarial employment. Also the growing expertise in validating probabilistic models could advance the related expertise of European actuaries beyond the corresponding capabilities of U.S. actuaries, who are not required to practice such skills.

AUSTRALIA

Similar to the evolution of the GIRO section of the Institute in England, the general insurance section within the Institute of Actuaries of Australia (IAAust) evolved quickly. (In October 2011, the organization changed its name to Actuaries Institute.) In 2010, about half of IAAust members specialized in general insurance. Research from Dr. Greg Taylor and Dr. Ben Zehnir are familiar to both research- and practice-oriented CAS members.

The Actuaries Institute holds a three-day general insurance seminar every other year and also includes a general insurance component in the biennial annual meeting of the whole society. The sessions are very similar in content and structure to CAS meetings. CAS members regularly attend these sessions to hear and present on issues of common interest.

The demand for property-casualty actuaries in Australia arises partly due to a statutory requirement, in place since 2002, calling for a 75th percentile confidence level for reserve calculations. In addition, required capital is set at a 99.5 percent confidence level. Actuaries in Australia have been performing and refining the required calculations since then. Here also, many actuaries outside the U.S. have transcended the more formulaic regulatory capital calculations, such as the National Association of Insurance Commissioners' risk-based capital method, that are the norm in the U.S.

Similar to Europe with Solvency II, the imposition of sophisticated capital requirements has created an increase in actuarial involvement and generally raised the level of actuarial expertise being practiced over a period of years. For example, most Australian year-end reserve reports include the use of copulas for the determination of extreme confidence intervals for carried reserves and have so for several years. In contrast copulas are not in general use in the U.S., and certainly not for reserving applications.

Prior to a general insurance seminar in 2008, a group of CAS members living and working in Australia, led by CAS Fellow Rade Musulin, met with CAS President Chris Carlson at Sydney Harbor to form an informal regional group—Casualty Actuaries Down Under (CASDU).

INDIA

CAS involvement in India began in 1998. Two independent efforts sought to “outsource” casualty actuarial work, tapping a large supply of well-educated English-speaking mathematicians. (India had an active actuarial profession in the first half of the 1900s, but nationalization of the insurance industry limited the attraction to new actuaries for most of the second half of the twentieth century.) GE's Employers Re and Winterthur International (subsequently acquired by XL) both began to hire and train actuarial students to become casualty actuaries. By 2002 each effort had an actuarial team in excess of 15 personnel, and the GE team had in excess of 50 at the time of the sale of Employers Re to Swiss Re in 2006. These development efforts were further advanced by the relocation of experienced actuaries to mentor and oversee the many young professionals. One such experienced professional was Madan Mittal, FCAS, an American actuary, living outside Delhi from 2002–2008. Madan oversaw the Winterthur/XL team, which has since grown to more than 40 personnel.

The property-casualty actuarial students in India have pursued a number of different paths toward actuarial credentials, including sitting for exams administered by the CAS, the Institute of Actuaries of India (IAI), the U.K. Actuarial Profession, and the Australian Institute. The U.K. and Australian organizations both pursued full mutual recognition agreements with IAI so as to attract students to their exams. Amit Gupta became the first resident Indian to qualify as a FCAS in 2008.

The CAS has been formally involved in the recent growth of the actuarial profession in India through the leadership efforts of former CAS President Mary Frances Miller. The basic and continuing educational opportunities in India for general insurance encompass a significant amount of CAS-developed materials. Mary Frances has routinely attended the IAI's annual convention to foster the relationship between the two

organizations. Since 2008, the CAS has formally recognized the IAI's preliminary exams as equivalent to exams offered by the CAS. Full mutual recognition of the IAI Fellowship is still under review at the time of writing of this book.

THE FAR EAST

China now has the largest private passenger automobile insurance (“motor insurance”) market in the world. This insurance growth reflects the underlying growth of the Chinese economy, and it is accompanied by progressive moves towards a competitive insurance market and corresponding regulatory environment. Leading the Society's involvement with the actuarial profession in China have been former CAS Presidents Dave Hartman, Bob Conger, and Dr. Steve D'Arcy. In 2002 the CAS was a key participant in the first-ever non-life actuarial seminar to be held in China.

The number of actuaries in China and other countries in the Far East has increased rapidly, with CAS membership in Hong Kong, China, and Chinese Taipei reaching 96 in 2014, along with 41 CAS members across the rest of the Far East. While some established CAS Fellows have relocated to the region, a notable trend is the increase in the number of local candidates successfully completing the CAS exams. The number of CAS exam registrations in the Far East continues to grow yearly.

Because of this growing interest, the CAS has periodically offered the Course on Professionalism in China, in order thus to eliminate travel and lower costs for new members. To support CAS members and CAS activities in the Far East, the CAS joined with the SOA and IAA to establish and fund a Joint Office in Hong Kong.

As the importance of the actuarial profession grew in China, local policymakers, academicians, and business leaders realized the importance of having a local actuarial association to meet the huge local needs. Thus, the China Association of Actuaries (CAA) was formed. Through an impressive concentration of resources, the CAA quickly established a comprehensive series of examinations and other professional elements, and was granted IAA Full Member status in 2010.

The actuarial profession in Chinese Taipei has chosen a somewhat different direction, making the decision to rely specifically on the CAS exams for its property-casualty actuaries, a decision that was enabled in part by the 2009 CAS decision to offer a CAS nation-specific examination for the exam takers in Chinese Taipei.

It is clear that the history of the actuarial profession, and of the CAS, in much of the Asia region is only beginning to be written. We will leave it to future generations to populate the exciting chapters that will unfold in the coming decades.

MUTUAL RECOGNITION

In 2006, the CAS began to offer mutual recognition (the Fellowship credential) to members of the Institute of Actuaries in England, the Faculty of Actuaries in Scotland (now combined as the Institute and Faculty of Actuaries) and the Institute of Actuaries of Australia (now the Actuaries Institute). To be eligible to apply for CAS mutual recognition, credentialed members of those societies who have achieved their designation

through exams focused on general insurance topics must have three or more recent years of practical general insurance actuarial work experience, have successfully completed the CAS Course on Professionalism, and be free of any public disciplinary sanctions. In return, CAS members desiring the credential of the other organization are similarly considered. This reciprocity also has the effect that students in these countries can consider the CAS exams as an alternate route to an actuarial credential in their home country (and vice versa).

As of the end of 2013, a cumulative total of 36 actuaries have been granted their FCAS credential via the mutual recognition pathway.

For actuarial candidates closer to the beginning of their careers, CAS recognizes various specific examinations of other bodies as being equivalent to the initial several CAS exams, and thus a candidate can attain credit for the specified CAS exam via any of the alternative equivalent exams. At the time this chapter's writing, various CAS exam waivers are available based on credits earned from the SOA, the Canadian Institute of Actuaries, the Institute and Faculty of Actuaries (U.K.), the Actuaries Institute (Australia), and the Institute of Actuaries of India.

REGIONAL AFFILIATES OUTSIDE NORTH AMERICA

In 2014, there were three official and one unofficial CAS Regional Affiliates outside of North America: Casualty Actuaries of Bermuda, Casualty Actuaries in Europe, Casualty Actuaries of the Far East, and Casualty Actuaries Down Under (informal group). This is further evidence of the critical mass of CAS representation outside of North America.

The CAS Asia Regional Committee has also evolved to serve as a networking and information-sharing forum for CAS members working in Asia or who have interests in the insurance market or actuarial professional developments in Asia. Thus, the committee is performing some roles similar to Regional Affiliates, though many of its meetings are conducted by telephone.

THE INTERNATIONAL ACTUARIAL ASSOCIATION

Founded in 1895 and reformed in 1998 with a new constitution, the IAA is the worldwide association of professional actuarial associations, with a number of special interest sections for individual actuaries. The IAA exists to encourage the development of a global profession acknowledged as technically competent and professionally reliable, which will ensure that the public interest is served. The CAS is one of 65 Full Member associations of the IAA, and as such holds a seat on the IAA's governing Council as well as on the various committees that focus on different aspects of the IAA's mission. The special interest sections, to which individual actuaries belong, focus on various areas, as described in the earlier section on ASTIN.

Over the years, the CAS's involvement in the International Actuarial Association has been significant. In addition to participating in the President's Forum with the leaders of other actuarial societies around the globe, CAS members have played highly visible roles as committee chairs and committee members; three CAS members (Jim MacGinnitie, Dave Hartman, and Rob Brown) have served as IAA president since 1998. Being the only organization solely focused on property-casualty insurance, the CAS is often in the position to speak on behalf of all general insurance actuaries, identifying the uniqueness of our work and our approaches, and the implications of those characteristics for the broad strategies and policies, and specific actions of the IAA.

For certain individuals, CAS representation on the IAA committees has meant a multi-year commitment to attend twice yearly meetings around the globe and to participate in email and teleconference discussions during the intervening six-month periods. Contrary to the perception of being a glamorous junket, these IAA meetings comprise intense dawn-to-dusk marathons in hotel conference rooms discussing exciting topics such as international accounting standards. On the front lines and behind the scenes, CAS representatives serve with diligence to ensure that our Society's interests, our members, our actuarial practices, our home countries, and the casualty actuarial profession are properly considered.

As part of the celebration of the 100th anniversary of the founding of the CAS, the IAA selected the CAS (in conjunction with the other U.S.-based actuarial organizations) to host the quadrennial IAA congress in 2014. The International Congress of Actuaries (ICA) 2014 was held in Washington, D.C. March 30 through April 4, a time when the world famous cherry trees (a 1912 gift from Japan, symbolizing international goodwill and cooperation) were expected to be in full bloom. For several years, the U.S. actuarial profession has been working to prepare a rich offering of diverse continuing education, cultural, and networking events for this event, and to welcome actuaries from all disciplines from around the globe.

As it marks its centennial year, the CAS looks forward to the next one hundred years, serving as a preeminent global resource for and representative of casualty actuaries in locations worldwide. CAS members have found opportunities to practice their craft in a wide variety of locales outside the borders of the United States and Canada.

The CAS fully plans to be a vibrant part of the next century's ongoing growth and diversification of the global casualty actuarial profession.



Chapter 10

THE CAS OFFICE

By Robert F. Conger

First official photo of the CAS Office staff, taken for the 1992 *Yearbook*.
Seated (left to right): Tommie L. Blaine, Florence M. Bercal, Scott B. Horwitz, Linda A. Burnett. Standing (left to right): Michele A. Lombardo, Gwynne H. Hill, James H. "Tim" Tinsley, Carla A. Anderson, Kathleen M. Spicer.

Professionals” and “partners.” These two words capture the essence of the CAS Office throughout its long and distinguished history. Shaped by the needs and interests of current and future CAS members—and leveraging the creative ideas and work of CAS thought leaders, volunteers, and elected leadership—the CAS Office has, over the years,

both reflected and enabled the evolution and expansion of the CAS and its activities. While working most closely with the CAS leadership team—officers, board members, and committee chairpersons—the CAS Office staff has, in fact, touched the professional life of every CAS member or candidate who has ever requested information; taken a CAS exam; used the CAS

PROFESSIONALS AND PARTNERS

The Casualty Actuarial Society has a long and proud tradition of volunteerism. During 2013, for example, more than 34% of CAS members volunteered in some capacity for the profession: serving on a committee or task force, taking on a leadership role, writing a newsletter article or professional paper, moderating or presenting a meeting or seminar session, leading a Regional Affiliate, working on an Actuarial Foundation project, and many others. Few professional associations around the world can point to a similar level of volunteerism.

Volunteer involvement means that our members are truly engaged with the CAS—not just interested, but engaged. For the active volunteer, the CAS is “us,” not “them.” Volunteer involvement means that the priorities of the membership are reflected inherently in the priorities of the CAS—not just through the establishment of priorities by the duly elected board, but because member volunteers also are voting with their “feet.” And, volunteer involvement means that the ideas, expertise, and perspectives of the actuary are embedded in all that we do.

From a pragmatic perspective, volunteerism helps keep CAS dues and activities more affordable also—the CAS recently estimated that volunteers contributed more than \$3 million of volunteer time to the CAS during 2013, nearly 119% of dues revenue for the same period.

But reliance on volunteers can be limiting also. Most of our volunteers are employed on a full-time (or more than full-time!) basis, and many have young families and other commitments, so that the CAS volunteer work cannot be the top priority on most days. Sometimes this reality may slow the pace of a CAS project or cause a key member of the project team to fail on a deliverable. Some members may be unable to volunteer at all, with the result that certain perspectives could be underrepresented in a committee’s work. Some employers

may be reluctant to support volunteer work, since it may detract from the business day, or the employer may be focused on assuring absolute control of intellectual property and new ideas. And some volunteer work (editing, hotel negotiations, examinations logistics, and detailed expense budget preparation) may not be ideally suited for, or most efficiently performed by, the actuarial volunteer; a specifically experienced professional can do the job better and faster.

Indeed, the 1991 decision to establish a fully functional CAS Office arose out of these types of limitations: Certain CAS priorities were either not being completed as effectively as desired or were consuming undue volunteer energy. But, the creation of the CAS Office was by no means intended to diminish the importance of the volunteer in the CAS culture and processes.

Thus, CAS seeks to maintain a balance. The involvement of the actuaries is essential, both to assure that the priorities of the organization remain focused on what is important to the members and to embed the appropriate actuarial content and relevant actuarial direction in all of our services to members and candidates. And the full involvement of the professional office staff is essential to assure that the nonactuarial dimensions of CAS services are of similarly high quality, are delivered on a timely and efficient basis, and effectively leverage the work of the volunteers. This requires a true partnering approach by members and staff alike, each leveraging and respecting the professional talents and energies of the other. Happily, many of the success stories outlined in the pages of this history book illustrate (and are the result of) this type of partnership at work.

Here’s a salute to our dedicated CAS Office team! Each staff member brings a professional skill set and experience base to his or her area of CAS services. But equally as important, each recognizes the CAS leaders, members and candidates as partners—not just policy-setters, dues-payers, “customers,” and exam-takers—but partners!

website; attended a CAS meeting, seminar, or webinar; read a CAS publication; or participated on a CAS committee or task force. In short: every CAS member.

Prior to 1991, the National Council on Compensation Insurance (NCCI) graciously hosted for decades the CAS Office in a series of cozy rooms in NCCI headquarters, which was located in New York City at the time. This was a convenient arrangement that most likely was a natural result of the CAS's roots in workers compensation insurance. It was perhaps also a pragmatic recognition that in the early days any expenses incurred by NCCI were effectively spread over essentially the same insurance company funding sources that had reason to care about and support the fledgling CAS and its members. For the era prior to the NCCI hosting arrangement, CAS operational details are lost in the mists of time, but it seems likely that the newly formed CAS got by for a number of years relying on the contributed time and effort of clerical and administrative staff who happened to work for the same employer as one of the CAS officers. Nor were the CAS volunteers themselves exempt from handling many of the detailed manual tasks (such as editing, page layout, and proofreading of CAS publications, hotel meeting arrangements, establishing exam sites, and so on).

We turned a memorable page in our history book in 1956 when Edith "Edee" Morabito became the CAS staff, presumably with little precognition that she would be the face and voice of the CAS to many students, members and leaders for 33 years until Edee's 1989 retirement as CAS executive secretary and manager. Of course, we were a much smaller organization in those days (329 members in 1956; growing to 1,540 by 1989), but many of us can still summon forth a story or two about Edee's attention to the varied requests and concerns of each member and student. (Mike Fusco remembers calling Edee to find out if he had passed or failed a particular CAS exam and feeling that Edee was the omnipotent goddess making these life-or-death decisions. Apparently many others felt the same way, for when Mike later (as vice president—programs) invited Edee to be part of the on-site team for CAS Annual Meetings, she was greeted with great reverence by the members.) More than a few of our older



Casualty Actuarial Society

January 1978

NOVEMBER 1977 CAS EXAMINATION RESULTS

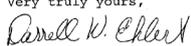
Candidate No. 34

Name of Candidate ROBERT F. CONGER

Part 7 Grade Pass

"Pass" signifies a grade of 6 to 10. (It is not the policy of the CAS to furnish grades to successful candidates.)

A numeric grade of 0 to 5 means that the candidate was unsuccessful and indicates the extent of improvement necessary to be successful. (A grade of 0 signifies a score which is less than 50% of the pass mark.)

Very truly yours,

 Darrell W. Ehlert
 Secretary

DWE:EPM

Exam results for Candidate No. 34, Robert F. Conger, with the coveted "pass" mark.

members probably also can reconstruct a happy mental picture of the gentle loops of Edee's handwritten letters "P-A-S-S" on the individually prepared exam result letters back in the days before computers were readily available to use in such endeavors.

By the mid-1980s, Edee had a little bit of company in the CAS office, with two part-time staff to assist in the areas of meeting

VISITORS TO THE CAS OFFICE

The CAS Office always welcomes visitors (although an advance call is recommended to assure calendar coordination with the people you would like to see). In particular, the conference room makes a convenient place for a committee or task force meeting, particularly since the office can be accessed by subway (the Ballston station on the Washington D.C. Metro's Orange Line) easily from downtown Washington or Reagan National Airport. For many years, staff made good use of a vast (over)supply of CAS porcelain coffee mugs purchased when the office was new, giving one mug to each arriving member to celebrate the occasion of the member's first visit to the office. Occasionally, a foreign delegation of actuaries will include a visit to the CAS office in its itinerary along with stops at various insurance companies, insurance departments, and other relevant points. Since many cultures having a tradition of gift-giving, the CAS office now is graced by a variety of interesting and lovely items from around the world.



In 2003, members of the Institute of Actuaries of Japan present a framed ceramic to CAS President Gail Ross (holding gift, left) and CAS Executive Director Cynthia R. Ziegler (holding gift, right).

TABLE 10.1 CAS EMPLOYEES WITH AT LEAST FIVE YEARS OF SERVICE OR CURRENTLY ACTIVE AS OF NOVEMBER 2014

Name	Completed Years of Service*	Dates of Service		Primary Roles
		Start	End	
Edith ("Edee") Morabito	33	1956	1989	CAS Manager
Kathleen Spicer	26	07/1978	06/2005	Meeting Planner
Todd Rogers	20	10/1994	Active	Director of Finance and Operations
J Michael Boa	18	01/1996	Active	Director of Communications and Marketing
Elizabeth Smith	17	06/1997	Active	Manager of Publications
J. Thomas Downey	16	05/1996	12/2012	Director of Admissions
Suellen Grossi	15	10/1996	12/2011	Executive Assistant
Kathleen Dean	16	09/1998	Active	Director of Meeting Logistics
Robert Craver	14	04/2000	Active	Examinations Coordinator
Cynthia Ziegler	13	11/2001	Active	Executive Director
Jane Brooke	12	11/1992	05/2005	Executive Assistant
Randal Schlosser	10	02/2001	08/2011	Accounting and Operations Assistant
Patsy Roberts	10	08/2000	08/2010	Member Resource Center
Jennifer Walton	11	07/2003	Active	IT and Online Services Manager
James H. ("Tim") Tinsley	10	05/1991	12/2001	Executive Director
Cecily Marx	9	06/2005	Active	Webmaster
Gloria Sessa	7	1984	1991	Administrator
Leanne Wiczorek	7	02/2007	Active	Meeting Planner
Donna Royston	7	03/2007	Active	Publications Production Coordinator
Cheri Widowski	7	05/2007	Active	Research Manager
Vincent Edwards	7	11/2007	Active	Manager of Professional Education
Joshua Liller	6	09/1998	01/2005	Information Technology
Calvin Watkins	6	07/1997	08/2003	Bookkeeper
Sonja Uyenco	6	02/2008	Active	Desktop Publisher
Danelle Gee	6	04/2008	Active	Manager, Member Resource Center
Jesse Jennings	6	05/2008	06/2014	Operations Assistant
Javier Icaza	5	02/2005	01/2011	Information Technology Manager
Jane Fulton	5	01/2005	07/2010	Member Resource Center, Research Coordinator
Robert Ledford	5	09/1995	03/2001	Operations Assistant
Michelle Lombardo	5	06/1990	03/1996	Admissions and Information Technology Administrator
Linda Burnett	5	12/1988	10/1994	Financial Administrator
Matthew Caruso	4	06/2010	Active	Membership and Volunteer Manager
Megan O'Neill LaVine	4	06/2010	Active	Communication Coordinator
Karen Sonnet	4	09/2010	Active	Research Coordinator
Terry Cullinan	3	07/1988	07/1991	CAS Manager
David Core	3	01/2011	Active	Director of Professional Education and Research
Diane Tremblay	3	11/2011	Active	Executive Assistant
Ashley Zamperini	2	01/2012	Active	Admissions Coordinator & Admissions Manager
Worby McNamee	2	08/2012	Active	Member Resource Center
Meaghan Hagner	1	01/2013	Active	Actuaries' Resource Center
Catherine Amsden	1	05/2013	Active	Volunteer and Committee Coordinator
Tamar Gertner	1	10/2013	Active	University Engagement Manager
Nora Potter	-	02/2014	Active	Professional Education Coordinator
Alice Chambers	-	05/2014	Active	Communications and Marketing Coordinator
Leo Sinclair	-	05/2014	Active	Operations Assistant
Hon Michael Chou	-	07/2014	Active	International Relations Manager
Kate Niswander	-	07/2014	Active	Marketing and Communications Manager

* for Active employers, Completed Years of Service is calculated as of employee's 2014 anniversary date.

planning, finances, and clerical recordkeeping. They also shared the correspondence and meeting planning workload. The 1978 addition of Kathy Spicer as staff meeting planner was perhaps a bellwether of the growth in the number, variety, size, and complexity of meetings. Back in those days, we had just the Spring Meeting and the Annual Meeting, and an early version of the Casualty Loss Reserve Seminar co-organized with the American Academy of Actuaries; the CAS Ratemaking Seminar was launched in 1989.

When Edee Morabito retired in 1989, Terry Cullinan took over the role of CAS office manager, bringing with her a strong appreciation for the benefits of computerizing various CAS records, and a determination to make progress in that direction. By then, the growth in CAS membership, numbers of exam takers, number and complexity of meetings, variety of publications, financial transactions, and other activities necessary to the functioning of a professional society was pushing our staff and volunteer resources to the limit (and beyond). The role of the vice president-administration, and some of the committee chairs who reported to that position, seemed on the brink of becoming full-time jobs. Other key areas such as meetings and examinations also needed additional staff support from people with specific professional training and experience.

Following an examination of our strategic, membership, and workload trajectories, the CAS Executive Council and Board of Directors reached a consensus that the time was upon us for a significant leap in the CAS Office capabilities and resources. Specifically, the leadership team concluded that it was time to (a) establish an office that did not rely on borrowed space from another entity; (b) consider geographical locations other than New York; and (c) seek a full-time executive director and supporting professionals to fill other key staff positions to carry on responsibilities and tasks that had outgrown or overwhelmed the then existing volunteer and staff model. The CAS Board of Directors also decided to hire a consultant to assist with this important undertaking.

Jim Huber had recently retired from NCCI, where he had been a human resources executive. The CAS retained Jim to work as a temporary consultant to help me (I was vice president-administration at the time) develop and implement a game plan for the CAS Office move and transition. Following the development of specifications and requirements for the CAS office location and facilities, CAS narrowed the field of possible locations to Chicago, New York City, Philadelphia, and metropolitan Washington, D.C. Leaving New York was sentimentally difficult, but cost differentials and the reputation of Washington and Chicago as headquarters locations for many associations (and thus fertile ground for our staffing needs) tipped the scales further. Ultimately, Arlington, Virginia in the Washington, D.C. metro area scored best on the search criteria, and we were able to secure suitable space at 1100 North Glebe Road that met our immediate and upcoming operational needs and budgetary constraints. Jim established a part-time residence in Arlington and oversaw the many details of designing, building, furnishing, equipping, occupying, and relocating to new office space in a new city. Jim also set up payroll and employee benefits, which would no longer be processed using NCCI systems.

A SHORT HISTORY OF THE CAS WEBSITE

As the story goes, in July 1996, CAS President Al Beer told Executive Director Tim Tinsley in no uncertain terms that he wanted the CAS to launch a website before he left office in November 1996. He instructed Tim to have the office staff work with the CAS Electronic Services Task Force to develop the website, with an expectation that staff would do a lot of the heavy lifting related to identifying and working with a suitable technology vendor to handle the development and hosting of the site. Staff members recall being concerned that this was a lot to accomplish in a short time but feeling highly motivated to fulfill Al's goal to have the site launched on his watch. The site launched in October 1996.

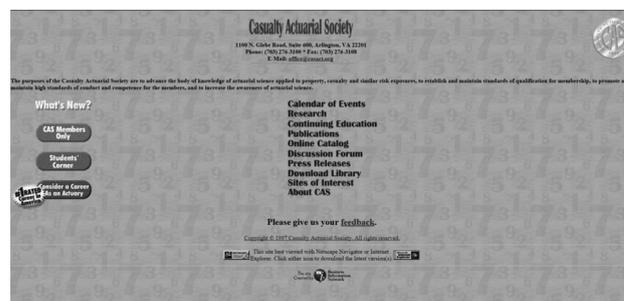
In a 1996 member survey conducted in preparation for the website, just over one-half of respondents reported being members of an online service (such as the early AOL email and community bulletin board service), while approximately 60% reported having an Internet email address at their office, and a similar number reported that they had surfed the World Wide Web. Even fewer members were using these tools in their relationship with the CAS: fewer than one-fourth had ever used the CAS Bulletin Board System (essentially a chat room) and just over one-fifth knew the CAS email address. Many were forward-looking, however, with approximately 90% of respondents expressing an interest in capabilities such as accessing the CAS calendar of events, online searches of information such as abstracts of papers and articles, and the ability to download the information. Perhaps the greatest foresight regarding the information to be accessible on the CAS Website was demonstrated by the respondent who urged, "Go crazy! Put it all out there!"

Just two years later, CAS offered its first online course.

The website allowed the CAS Office to serve members in many ways it couldn't before. For example, the office digitized all of the CAS literature to provide real-time access to the information—no more waiting for books to arrive in the mail from the CAS Library! A major staff and member collaboration project several years after the website launch involved categorizing approximately 3,000 articles according to a complex taxonomy; a group of volunteer members reviewed and categorized the articles, while staff and our technology vendor implemented the search tool.

For several years after the website launch, the board closely tracked the patterns of traffic to the site and observed strong upward trends in usage—and a dramatic but predictable spike twice a year, when passing candidate numbers were posted for the results of the most recent examination sitting. No more poring over a 10th generation fax copy of the passing list!

The CAS marked the fifth anniversary of the website with a retrospective look at some of the operational and service changes that had been enabled by the website, as recaptured in table 10.2.



Screenshot of first CAS website.

TABLE 10.2 RETROSPECTIVE: WEBSITE FACILITATION OF CAS SERVICES AND OPERATIONS

Service area	Modus operandi	
	Before 1996 website launch	By 2001
Membership directory	Printed once a year, with a mid-year update. Mailed to members.	Online directory is updated weekly. Users can search for members by name, employer, geographic location, and various other criteria.
Research articles on a particular topic	Look in the CAS Bibliography printed binder, which is updated from time to time.	The Online Database of Actuarial Abstracts allows a user to sort through thousands of research article citations using author, title, keyword, and other criteria.
Access to papers from CAS publications, and CAS materials for examinations	Call or write the CAS Library, which copies and mails the paper or study kit.	All CAS-published exam materials can be downloaded from the website. All CAS research publications from 1914 to the present can be accessed through the CAS website. All <i>ASTIN Bulletin</i> articles are available, also.
CAS Publications	All printed and mailed.	Most are in electronic form now.
Exam results	Passing candidate numbers are posted on the CAS Bulletin Board System. Two users at a time can dial-in to the BBS to download the data.	Passing candidate numbers are posted on the CAS website, allowing simultaneous access by many candidates.
Copies of past CAS exams	Copies of exams from the most recent three sittings can be purchased from the CAS Office.	Candidates can download past exams and sample solutions back to 1997 through the CAS website at no cost.
Presentations and other materials from meetings and seminars	Printed copies available at events.	Papers and handouts can be accessed online.
Information on upcoming CAS events	Brochures are printed and mailed.	Each meeting is promoted by means of an online brochure that is updated daily and includes links to additional information and tools, such as registration forms and hotel websites. The online Calendar of Events is updated regularly with all future events.
Career information	Students interested in a career as an actuary call or write the CAS Office. The office staff gathers printed recruiting material and mails a package to the student.	The “Be An Actuary” Website, a spin-off of the CAS website, provides an abundance of information for those interested in the actuarial profession, and receives an average of 95,000 visits per month (2012). Plans for 2014 include the launch of a new student website named CAS Student Central.
Job openings	CAS declines to publicize specific job openings.	Employers (and recruiters) can post job openings on the CAS website and actuaries can post resumes.
Membership surveys	Survey forms are printed and mailed; responses may be mailed or faxed to the CAS Office.	Members are notified by email with a link to the online survey, which can be completed and submitted electronically.
Annual CAS postage expense	1996: \$131,000 (\$48.50 per member)	2011: \$123,000 (\$22.50 per member)

The CAS website continues to evolve, with new and updated material posted daily, steady additions to content and periodic overhauls to take advantage of new technology, add features, and improve functionality and the user experience. Webcasts, downloadable audio podcasts, and recorded sessions from recent meetings (featuring audio-synched PowerPoint presentations) enable a broad array of viewers to access CAS meeting and seminar content very economically without leaving their desks.

Today, the website contains more than 43,000 separate member-accessible articles, documents, and other resources. It receives more than 130,000 visitors per month.



The CAS website in 2014.

TABLE 10.3 VOLUNTEER FUNCTIONS REALIGNED TO THE CAS OFFICE, 1991–1996

Preparing and producing the annual Continuing Education catalog

Maintaining records of topics from prior meetings and seminars

Negotiating and managing hotel contracts for meetings and seminars

Preparing and managing CAS meeting and seminar scripts

Administering the Course on Professionalism

Reproducing and mailing services for meeting announcements, minutes, etc. for Regional Affiliates

Preparing analyses of attendance trends for meetings and seminars

Assembly and production of the Syllabus

Monitoring and coordinating with publishers regarding the currentness of texts referenced in the Syllabus

Acquisition of new readings (and copyright permissions) for Syllabus

Sorting, reproducing, and distributing exam essay answers for graders

Assisting at exam grading sessions

Generation and mailing of analysis of each candidate's exam

Operating the CAS electronic bulletin board (predecessor to the website)

Selecting and working with Internet service provider (preparatory to 1996 launch)

Coordinating with printers for production of publications

Managing Calls for Papers

Coordinating with authors regarding submissions for publications

Handling administrative processing tasks regarding technical reviews of submitted papers

Preparing copy for some publications

Nontechnical editing support for CAS publications

Laying out publications

Maintaining bibliography for international publications

Preparing the draft CAS budget

Overseeing dues issues (waivers, overdue amounts)

Evaluating and paying invoices

Administering the CAS insurance program

Executing the Investment Policy

Preparing annual balloting materials for the CAS election process; tallying, verifying and reporting ballot results

Administering the five-year membership survey

Assisting the president in preparing agenda materials; minutes for CAS Board and EC meetings

Maintaining the CAS Policy Manual and Committee Chairperson's Manual

Leading and supervising the day-to-day operations of the office and personnel

Serving as Human Resources Officer for CAS Staff

The actual transition from New York to Arlington occurred in March 1991 and was aided substantially by the retention of the nucleus of the CAS staff: Linda Burnett and Michele Lombardo agreed to relocate; Kathy Spicer continued working from her home in New York (as she had been previously); and Terry Cullinan came to Arlington for about three months to assist with the transition before returning, as planned, to New York to seek other employment. During the transition, Terry oversaw the completion of the conversion of the old membership “database” (a series of rolodex wheels the size of small automotive tires) to a new free-standing computerized database—a hint of things to come.

Meanwhile, Jim Huber and a search committee chaired by Chuck Bryan began a concerted search for an executive director, while Jim also worked to fill out other key positions in the initial staffing chart for the free-standing CAS Office. As anticipated in our selection of the Washington, D.C. area, Jim found a labor pool well-accustomed to operating in an association environment and attracted to opportunities with the CAS. And in the executive director search, we found a nugget of gold: Retired Marine Corps Colonel James H. (“Tim”) Tinsley, whose organizational skills, work ethic, ability to work up and down the chain-of-command, and no-nonsense style seemed to be an ideal answer to the challenge of launching a new office for the CAS. Tim joined us on May 13, 1991; within a few days he was traveling to Palm Desert, California to participate in that year's Spring Meeting (and Board Meeting). Tim brought with him a supply of index cards that proved to be an ongoing part of his routine with CAS—he always had a card or two in his pocket and would quickly make note of anything that needed to be taken care of.

While Jim stayed on board for a few weeks to wrap up and hand-off his projects, it was not long before Tim Tinsley was running at full throttle, with a particular focus on getting his core team in place, and getting a comprehensive set of policies, procedures, and processes articulated and implemented. As Tim recruited staff to focus on each of the CAS member service and office operational areas, he built a strong foundation that has become a legacy of his tenure: a number of these professionals remain in key leadership roles in the office as we approach our Centennial year and have been essential to the successful growth and evolution of those service areas. Among these early significant additions to the CAS team were Todd Rogers (1994, Todd's current role is director of finance and operations); Mike Boa (1996, director of communications and marketing); Tom Downey (1996, director of admissions); Elizabeth Smith (1997, manager of publications); and Kathleen Dean (1998, director of meeting services). We have been blessed with these and other talented and dedicated members of the CAS team, many of whom are listed in Table 10.1).

Implementation of the various facets of the new CAS Office was a major undertaking, but Tim and his team proved equal to this challenge. Steadily, the CAS leadership began to see significant enhancements in membership service levels and turnaround times for all aspects of CAS activities, as well as strong preparation and support for the ongoing cycles of board and executive council meetings. Alice Gannon observes that the Marine Corps motto, “Semper Fidelis,” proved to be as descriptive of Tim's dedication, skill, and, on occasion, courage in service to the actuarial profession as it was descriptive of his military service. Equally important, Tim oversaw and

accomplished the intended transition of a very significant load of nonactuarial tasks and responsibilities away from volunteers and into the CAS professional staff (see Table 10.3 “Volunteer Functions Realigned to the CAS Office”)—while still relying on the CAS volunteer leaders and members to provide the policy decisions and fundamental guidance regarding CAS priorities and actions, as well as industry expertise and professional knowledge.

Under Al Beer’s presidential leadership in 1996, the CAS Office launched the first version of the CAS Website, which has revolutionized the accessibility and delivery of information for CAS members, students and visitors.

Tim exhibited a warm human touch as well. Dave Chernick recalls how pleased members and spouses were that Tim always remembered their names, while Mavis Walters fondly recollects that Tim regularly managed to organize a snack that included Mavis’s favorite—chocolate chip cookies.

As we entered the new millennium, Tim announced his intention to retire at the end of 2001. CAS launched a new executive search with consultant Paul Belford (and a search committee I led along with many of the same members as in 1991), confident that Tim would be handing over a solid team of 17 employees and a set of well-defined and well-implemented responsibilities and processes.

A strong pool of executive director candidates yielded another nugget: Cynthia Ziegler, CPCU, ARM, AAI, CAE. Cynthia brought with her a strong background in association management and a solid knowledge of the U.S. property-casualty insurance industry from her more than 20 years of working with nonprofit organizations in this industry, including Independent Insurance Agents of North Carolina, Professional Insurance Agents of New England, and the CPCU Society (formerly, the American Institute for Chartered Property Casualty Underwriters). She possessed extensive experience in credentialing and continuing education programs and a passion that energized our interview process. As Cynthia noted at the time, it almost seemed as though her entire professional experience was focused on preparing her to be the next CAS executive director! The search committee concurred and Cynthia join the team on November 5, 2001, just in time for the CAS Annual Meeting, and allowing a few weeks of transitional overlap with Tim Tinsley.

Cynthia immediately began to put her association management experience and industry knowledge to work, as she sought to further strengthen staff’s ability to respond to a growing membership base, initial signs of international expansion, a challenging business environment for the insurance industry, membership appetite for a broadening and changing portfolio of membership services, and new technologies. Cynthia also saw the need and opportunity for the experienced members of her staff to operate at increasing levels of responsibility and autonomy as part of the answer to the environmental challenges, thus contributing to the personal growth of the staff members, and to the overall strengthening of the CAS team.

The early 2000s were marked by an increase in the number and variety of services to members, driven by a combination of membership growth and appetite, office capabilities and capacity, and technological change. For example:

- Meetings and seminars grew from 15 in 2001 to 23 in 2011, with 45% of our members attending at least one event in person during 2011. Additional audiences were reached through live webcasts of key sessions, with the availability of recorded sessions on the CAS Web site after the event. (None of these statistics include the numerous Regional Affiliate meetings.) With the global economic downturn in 2008, annual attendance at meetings and seminars dropped from 48% of members in 2006 to 40% in 2008, but the attendance levels rebounded quickly, and broadened continuing education requirements are likely to contribute to continued growth.
- Webinars, first introduced in 2007, grew to 12 in 2012, and now attract 29% of our members annually.
- Exponential increases in the volume and variety of materials, resources, and tools on the CAS website.
- More than 3,000 candidates per year sat for the CAS-specific examinations. They hailed from over 30 countries and utilized as many as 130 CAS examination centers around the globe.

The CAS Office also began to support a significantly increased global footprint for the CAS during this period. In 2010, 6% of CAS members and 22% of examination candidates lived outside the U.S. and Canada. But the CAS’s global reach is not measured solely by our own members and exam takers. As the only actuarial association in the world focused solely on property-casualty risk and insurance, the expertise and perspective of the CAS is sought by others to bring content and insight to seminars, discussions with regulators and policymakers, university forums, and global actuarial deliberations regarding the views and positions the profession will take on key issues. In large measure, CAS has sought to extend and share its expertise through a collaborative international model, working hand-in-hand with other actuarial associations around the world, not only through our active involvement in the International Actuarial Association but also through one-on-one collaborations with other actuarial associations (e.g., by co-sponsoring the Course on Professionalism, sending speakers to seminars in other countries, sharing our Syllabus materials, and participating in networks of presidents and chief staff officers). Cynthia has worked at various levels of statesmanship in helping move forward our international collaborations, from helping to articulate the CAS’s high-level international approach, right down to her ability to assist a traveling president or other senior CAS member in selecting just the right token of appreciation and respect to take along to an important ceremonial meeting or to give to a visiting dignitary.

The CAS Office capabilities also extended internationally through joining in a collaborative Joint Actuaries Office in Hong Kong, led by Pat Kum. The Joint Actuaries Office provides support and services in the Southeast Asia region for the Actuaries Institute (Australia), the Actuarial Society of Hong Kong, the Institute and Faculty of Actuaries (U.K.), and the Society of Actuaries, as well as the CAS. (For a more in depth discussion of CAS International Issues, see the chapter “Global Connections.”

With this increase in the scope, range, and number of activities, the CAS Office itself has undergone several changes during Cynthia’s tenure. The staff strength has grown to 27 full- and part-time employees by 2012, not including the staff in the Hong

Kong office. The current organizational structure recognizes the level of activity in each service area: meeting services, professional education, research, admissions, publications, communications, marketing, online services, volunteer support, other resources for members, and finances. Experienced additions to the staff have included David Core (2010, Director of Professional Education and Research); Vincent Edwards (2007, Manager of Professional Education); Cheri Widowski (2007, Research Manager); Jennifer Walton (2003, IT and Online Services Manager); Danelle Gee (2008, Member Resource Center Manager); and Matt Caruso (2010, Membership and Volunteer Manager). With this growth and development, the original location of the CAS Office, even with expansion, no longer met our needs; in 2005, the CAS Office moved around the corner and up the street to 4350 North Fairfax Drive (still in Arlington, Virginia), a facility that provides a more suitable space configuration to today's CAS, and a location even more convenient for commuters and visitors—just steps away from the Ballston Metro station.

Recognizing that the CAS Office is a full partner in both strategic and operational matters across all sectors of CAS

endeavor, the executive director now serves as the official secretary of the CAS Board of Directors. The executive director is also a full member of the CAS Executive Council and a member of the Nominating Committee. Now the executive director reports directly to the CAS president (rather than to the vice president-administration, as historically was the case). These are very significant changes, reflecting that the executive director and the CAS Office have evolved well beyond strictly administrative responsibilities, and that they are fully involved in strategic, public image, and ambassadorial decision-making and implementation roles.

Indeed, it is impossible to imagine the CAS today without our capable, responsive, and vibrant team in the CAS Office, along with the information and services available on the CAS website. The CAS simply would not be able to deliver and support the number, range, quality, and timeliness of services that CAS members and candidates, their employers—and the actuarial profession at large—have come to expect and rely upon from the CAS.

+ REFLECTIONS OF THE CURRENT EXECUTIVE DIRECTOR

BY CYNTHIA R. ZIEGLER

How fortunate I am to have been selected to serve as the second executive director of the CAS following Tim Tinsley's retirement. The well-trained core staff already in place had daily operations under control, making for a smooth transition. Adding to the ease of getting on board was the two-month orientation period while both Tim and I were on staff and the weekly phone calls during my first year with President Bob Conger.

My focus as executive director has been on continuing professional development so that staff can continue to assume more responsibility and relieve volunteer members of activities that do not draw on their strengths. Toward that end, senior staff now boasts four individuals who have earned the Certified Association Executive credential (CAE) and one who has earned the CMP (Certified Meeting Planner). These credentials and their continuing professional development requirements reflect the highest levels of education and recognition in the not-for-profit world. Many staff are members of the American Society of Association Executives (ASAE) and we are able to take advantage of the many educational offerings they sponsor in the D.C. area.

A high point of recognition for staff, and for me, was in 2006 when the executive director was made a full member of the CAS Executive Council and an officer of the Society by a vote of the membership. This acknowledgement by the membership of the important partnership between staff and volunteers was a happy and proud moment for all of us.

Reflective of the knowledge, skills, and experience of staff is the shared responsibility program launched by President Pat Teufel in 2011 in which department heads partner with vice presidents on the CAS Executive Council to lead the operations of the organization. Staff members participate as full members on many committees and contribute to deliberations. The staff is empowered and encouraged to put forth new ideas and innovations for bettering processes.

As of this writing, department heads Kathleen Dean, CMP; Mike Boa, CAE; and Todd Rogers, CPA, CAE; are still on staff and were joined in 2010 by David Core, CAE, as the Director of Professional Education. By 2012, Kathleen, Mike, Todd, Tom, and Elizabeth Smith had all celebrated their 15th anniversaries with CAS. Sue Grossi celebrated her 15th in 2011, just before her retirement.

Our staff has grown over the years from 19 to 29, with positions added to support volunteer activities, professional education, and research. Membership has also grown during this time from 3,564 in November 2001 to 6,274 in 2014. To accommodate the additional staff, the CAS Office moved in December 2006 from its original location to our current location. That year also marked the formal opening of the Actuaries' Resource Center with a team of four staff dedicated to responding to member and candidate inquiries.

We have been extremely fortunate over the years to have enjoyed the unwavering support of the CAS Executive Councils with whom we have worked so closely.

And I have been extremely fortunate to have reported to the presidents during this time: Bob Conger, Gail Ross, Mary Frances Miller, Steve D'Arcy, Paul Braithwaite, Tom Myers, Chris Carlson, John Kollar, Roger Hayne, Pat Teufel, Gary Josephson, and Wayne Fisher. All of these presidents have been open to new ideas and totally dedicated to the CAS, while treating me as their partner.

It is an honor and a pleasure to work with such a dedicated team composed of volunteers and staff. It has been an adventure helping CAS grow and evolve into a more sophisticated organization and I would not have missed this opportunity for the world.

No one on staff has ever cared to build an empire; however, we have implemented one law that drives everything we do to make CAS a better organization to serve its members: The law of our land is "The Member always comes first."

+ REFLECTIONS OF THE FIRST EXECUTIVE DIRECTOR

BY JAMES H. "TIM" TINSLEY



In 1991, the CAS office was relocated from its tenancy status within the National Council on Compensation Insurance (NCCI) in New York City to stand alone status in Arlington, Virginia. Management consultant Jim Huber, formerly an executive with NCCI, oversaw the process under the guidance and direction of the CAS vice president-administration. He also coordinated the search for a first-ever CAS executive director. I was fortunate to be selected by the CAS for the position.

The office began to assume responsibility for nonactuarial functions, which had historically been borne by members, but I clearly and fondly recall the conditions for this growth from CAS President Chuck Bryan during my final CAS interview—"no empire building!" The office settled at 11 staff members by the end of 1991, with primary tasks related to meeting and seminar planning, examination administration, financial reporting, and publications support. The staff included three holdovers from the New York location: Kathy Spicer (meetings) working from her home in Long Island, Linda Burnett (financial), and Michele Lombardo (examinations).

I recall from the very beginning being in awe of the heavy volunteer load carried by many CAS members, and I set out to bring within the office the appropriate nonactuarial functions being performed for the benefit of the CAS by its members. Bob Conger, my immediate boss as vice president-administration in 1991, stands out as an example. It was easy to think of Bob as if he were a full-time CAS volunteer adjunct to the office (e.g., planning and organizing the relocation of the CAS office). He was always available for counsel, thoroughly versed on the daily business of the CAS and fully aware and immersed in the Society's professional issues of the day. I would have to remind myself that he was a senior consultant for a major firm for which the CAS was his professional society, not his employer.

As the holdovers at the Arlington office decided to return to New York after several years, the staff in the 1990s was built around Todd Rogers (a young CPA) who provided professional financial and office administrative support; Tom Downey who assumed wide responsibilities for the key examination administration function; Mike Boa whose responsibilities expanded rapidly as new staff functions were added in support of the growing committees; Elizabeth Smith who progressed from staff editor, with publications layout and production duties, to manager of publications, including managing editor of *The Actuarial Review*; and Kathleen Dean, manager for the semiannual membership meetings and the widening array of continuing education seminars.

The transition to a more robust staff over the 10 years of my tenure remained mindful of the preservation of the extraordinary CAS volunteer culture. It was not always a simple transfer of tasking or creating new functions. I recall, for example, the sensitive process for initiating staff editorial assistance for production of *The Actuarial Review*. Newly hired Brenda Huber, the first staff editor, in early 1992 sought to enhance the layout format of this long-running quarterly newsletter, including adding a color (CAS blue) to the masthead. She trekked to the New Jersey home of AR Editor Emeritus Matt Rodermund to explain her suggested approach and obtain the

blessing of the highly revered father of this publication. After all, Matt and his wife had compiled and produced the newsletter in their home for over 25 years!

In 1991, there were 1,800 members. The Society doubled in size and expanded to over 50 committees and task forces by 2002. But the CAS also grew more visible and participative within the actuarial profession, due in some measure to the natural consequences of having an executive director as an active staff counterpart to the other actuarial organizations and the Council of Presidents. In particular, closer ties and cooperative efforts at the staff level grew with the Society of Actuaries, American Academy of Actuaries, and the Canadian Institute of Actuaries.

As an organization we weren't always in the forefront of the profession, however. The advent of the Internet became a source of annoyance to the CAS leadership. That is, there were several actuarial organizations with early limited versions of their websites up and running, while the CAS had a task force still studying the members' electronic needs and features desired for an organizational website. CAS President Al Beer, in a bit of situational exasperation in early August 1996, directed the CAS office to develop and demonstrate a CAS website at the September 1996 board meeting. There was no time to hire a professional webmaster, but fortunately a talented Mike Boa stepped to the plate to accomplish this task. A website development firm was selected and utilizing the results to date from the task force, a website was designed, activated, and presented to the board in scarcely over 30 days. This site quickly became a robust standard for the other organizations to emulate.

There was a great marriage of staff and volunteers serving the CAS, but as in life itself there were a few bumps in the road. The day we learned that a sizeable Federal Express package from a large exam center had been lost in transit, or the night in Toronto that the caterer at the CAS Annual Meeting prepared dinner for about 100 persons too few, come to mind. For the latter, there wasn't even any egg left on the buffet table for my face.

I was privileged to serve a steady line of CAS legends holding the office of CAS president: Chuck Bryan, Mike Toothman, Dave Flynn, Irene Bass, Allan Kaufman, Al Beer, Bob Anker, Mavis Walters, Steve Lehmann, Alice Gannon, Pat Grannan, and Bob Conger. Without exception, each gave the full measure of his or her time as needed by the staff for discussions, guidance, and inspiration. Our personal relationships and successful shared efforts with these presidents and all of the CAS officers and chairs are sustaining memories in my retirement. A surprise send-off dinner party in Atlanta in November 2001, arranged and orchestrated by CAS Past President Mavis Walters and my secretary, Jane Brooke, remains an especially fond memory. A framed CAS resolution recognizing the passing of the baton hangs over my desk in my home, and a treasured copy of remarks made by Mavis during the dinner is in my special keepsake file.

My legacy to the CAS was a dedicated and competent key staff nucleus passed to my successor, Cynthia Ziegler, anchored by Todd Rogers, Tom Downey, Mike Boa, Elizabeth Smith, Kathleen Dean, and Sue Grossi. No empire was built, but a supportive, empowering CAS office and culture were created.

USERS OF ACTUARIAL SERVICES

Much has been written in this book about the history of the CAS and its evolution and also the evolution of actuarial science. It would not be complete, however, without some mention of a key element—the users of the actuarial work product. Without them, the CAS history might not even exist, for this is an applied science.

So who are the users of actuarial services? Why do they use actuaries? And have the users of actuarial work changed over the last 100 years?

This chapter deals predominantly with the users of actuarial services in the U.S., although it is recognized that a similar process has evolved in Canada.

At the time the CAS was founded in 1914 and shortly thereafter, much of the actuarial work product was in the area of workers' (then called "workmen's") compensation and mostly for rating bureaus. The users of actuarial services were the rating bureaus and, in turn, the members of the rating bureaus—the insurance companies. The work was focused on base rates and rating plans as well as the development of retrospective rating plans.

Eventually other bureaus were formed such as the National Bureau of Casualty Underwriters (NBCU) and its successor the Insurance Rating Board (IRB) and the Multi Line Insurance Rating Bureau (MLIRB). These bureaus used actuarial services in non-workers' compensation lines. And often these rating bureaus were headed by an actuary. For example, Jim Cahill and then Dan McNamara headed IRB and the Insurance Services Office (ISO—itsself the successor of the IRB and other smaller bureaus). Kevin Ryan headed the National Council on Compensation Insurance.

Rating bureaus (and ultimately their member insurance companies) used actuaries to develop increasingly complex private passenger auto rating plans, fueled by the possibility of anti-selection when using the early undifferentiated rating plans. One of the landmark achievements of the IRB was the introduction of the 360-class plan that permitted rate differentiation in a much more effective way than the old seven-class plan. In fact, classification principles and practices became a major area of actuarial involvement and led to one of the earliest principles papers developed by the American Academy of Actuaries.

After the homeowners product was introduced in the 1950s and 1960s as a package policy including both liability and property coverages in one policy, actuarial services were again sought after to quantify the cost issues associated with requiring everyone to purchase basically the same array of coverages despite what might be very different exposures to the respective perils.

In the early years most actuaries worked for bureaus. But as the competition became more intense, individual companies began hiring actuaries and building actuarial staffs. The large Illinois-based private passenger auto companies, State Farm and Allstate, were among the first companies to build actuarial staffs that did pricing independently from the bureaus. By the 1960s, actuaries were well-established at a number of companies. This trend greatly aided in the expansion of the market for actuarial services.

As rating plans grew more complex and issues of anti-selection emerged and were resolved, the regulation of insurance products also grew. Individual states began to use actuaries to review the actuarial work product of the bureaus. As individual insurers grew large, some began to operate independently of the rating bureaus. But they, too, needed actuaries to deal with the same rating issues, just on a more company-specific level.

In the 1970s, the federal government became involved in a new form of auto coverage, no-fault auto insurance. It turned to actuaries to study what the effects of introducing no-fault auto insurance would be. The Department of Transportation contracted with Milliman to produce an expansive no-fault study, which was led by Jim MacGinnitie, a past president of the CAS, and other actuaries.

Commercial lines rating also became more complex in terms of data collection, class rating plans and individual risk rating. Again, bureaus and insurance companies alike sought actuaries to deal with issues of how to price a package policy for a commercial risk, which was very different from a package policy for a personal risk. By the late 1980s and the early 1990s, demand far outstripped supply.

The early applications of actuarial work were in ratemaking, but of course the set of rates developed through the actuarial ratemaking process is the first rough draft of loss reserves, or what is currently referred to as unpaid claim liabilities. While rating bureaus had no real need for actuaries in the area of loss

reserves, individual insurers did. For many decades insurers used actuaries to estimate loss reserves, but not necessarily in a formal way. It was not uncommon during the first few decades of the CAS's existence for chief financial officers or CEOs of insurers to establish loss reserves in their financial reports with little or no input from actuaries. This gradually began to change as the insurance products became more complex and the estimation of reserves more difficult, however. As the complexity of the insurance product grew, so did state regulation of the various aspects of insurers, both ratemaking and reserving.

Regulators began to require more and more actuarial input into the reserving process, until in the 1990s the National Association of Insurance Commissioners' model laws required a formal Statement of Actuarial Opinion with respect to loss and loss expense reserves. This model law was quickly adopted by many states. As a result, nearly every admitted insurer in the U.S. now either has one or more actuaries on staff to provide these services or has retained the services of actuarial consultants.

With more emphasis on the adequacy of loss reserves and the required Statement of Actuarial Opinion, audit firms began to see the value of using actuaries to augment the work of their audit staffs. KPMG was one of the earliest firms to have its own actuaries. Jim Faber, a 1969 CAS Fellow, was one of the first actuaries to be employed full time by an audit firm. The actuaries at audit firms soon branched out and were offering consulting services to clients. Today, the "big four" audit firms all have actuaries on staff, some with many actuaries. Many of these actuaries became heavily involved in merger and acquisition work for client companies. In many cases, non-insurance firms needed the services of actuaries to estimate liabilities on the balance sheet such as retention levels, warranty obligations and so on.

A series of events leading to an availability "crisis" in certain types of commercial insurance gave rise to quasi-insurers, who also used actuarial services. Some non-insurance companies formed captive insurers to provide for their insurance needs, and they generally used consulting actuaries to provide reserve analysis. Some entities, although they did not form a captive, chose to self-insure or to purchase excess insurance coverage with such a large self-insured retention as to require actuaries to provide analysis of these risks as well.

All the while regulation was increasing on both the rating and the reserving sides; the states themselves began to hire actuaries on staff or to retain the services of actuarial consultants. New York and California were among the earliest to develop actuarial staffs. One could raise the question whether the growth of the services required by the users of actuarial services were driven because the users found the actuarial services necessary or desirable to operating their businesses or if they

simply had to do so in order to deal with the various aspects of regulatory compliance.

As state regulation grew through various departments of insurance, consumer organizations sprang up to protect the insurance-buying public. Bob Hunter, an actuary who founded the National Insurance Consumer Organization, often played the role of consumer advocate. These organizations also used the services of actuaries. Part of this trend manifested in state regulation from a government entity other than the insurance departments; state attorneys general became involved in a different aspect of insurance company scrutiny and they, too, used the services of actuaries.

No discussion of insurance would be complete without consideration of reinsurance. Today's reinsurance products are very different from those of decades gone by. They are more complex, and reinsurers now have actuarial staffs to analyze rates as well as reserves. As the reinsurance product has morphed in the direction of being more financial than risk transfer, regulators have once again looked to actuaries to provide analysis on the extent to which there actually is a transfer of risk in the product itself.

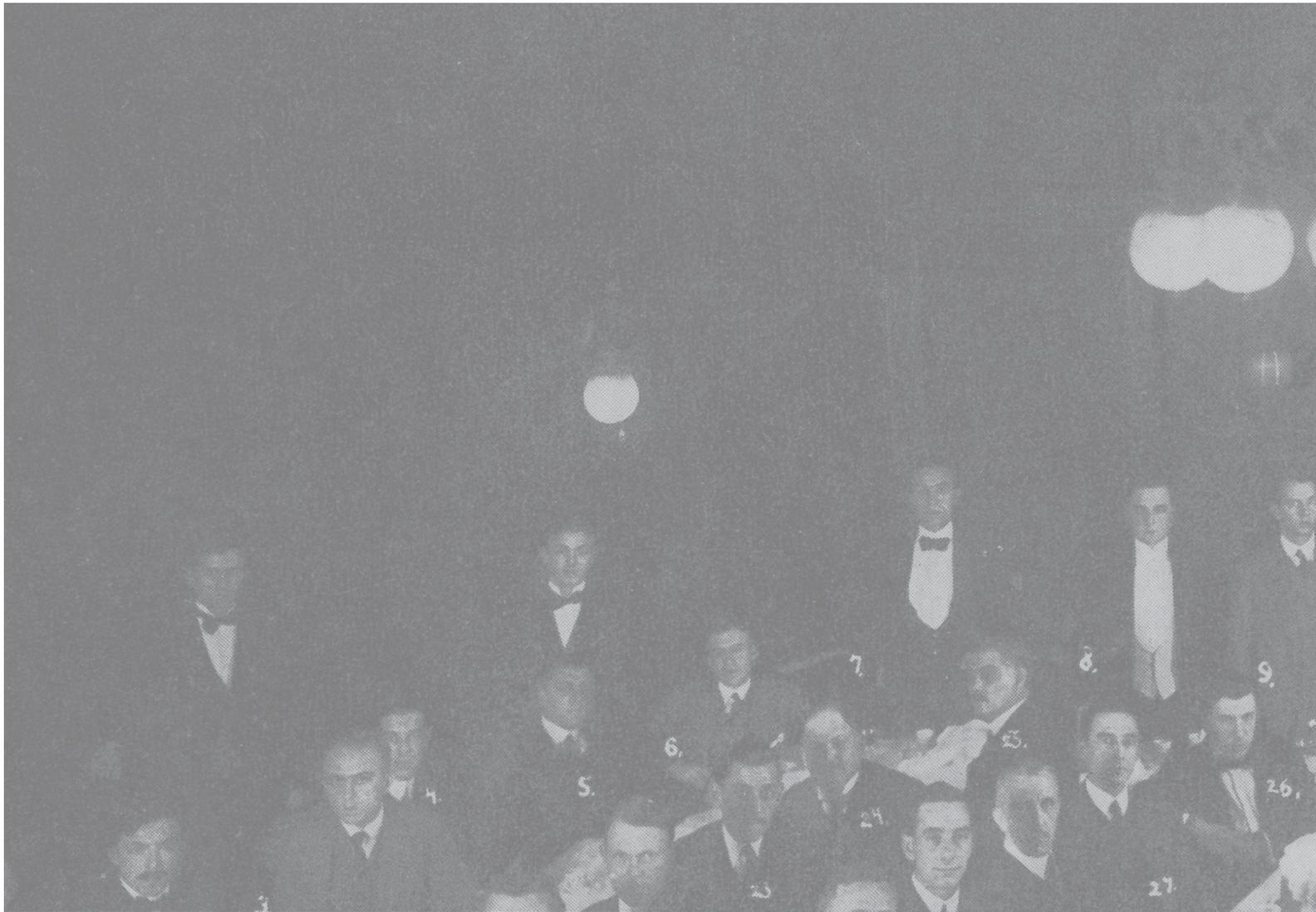
In fact, it is in reinsurance where many actuaries were particularly likely to rise to the CEO level. Ron Ferguson at General Re, Ron Bornhuetter at NAC Re and Jim Stanard at Renaissance Re all were well-known actuaries who became CEOs of companies. Many brokerage firms have used actuaries because of their ability to help to advise brokerage clients on their coverage needs and how to fund those coverage needs.

In very recent times, users of actuarial services are looking beyond the boundaries of traditional actuarial services to the newer area of enterprise risk management. A number of firms now use the services of actuaries in the position of chief risk officer.

A number of actuaries have also become prominent as expert witnesses and have provided their services in arguing complex legal cases in both the state and federal arena.

In the end, the common thread in the actuarial profession over the years has been an increasingly complex world, met with increasingly complex insurance products, and then the ever-increasing regulation of the insurance products and producers. The users of actuarial services include rating bureaus, primary companies, reinsurance companies, accounting firms, attorneys, regulatory authorities and others. Actuaries have been successful in serving so many users.

On this 100th anniversary of the founding of the Casualty Actuarial Society, we must ask ourselves if the users of actuarial services will demand that those services go beyond the traditional fortes of actuaries in ratemaking and reserving and whether our successors will respond successfully.



PART TWO



REFLECTIONS

+ A MUSICAL TRADITION—THE CAS PLAYS

BY DAVID SKURNICK

While CAS members over the years have dedicated themselves to running the organization, they have also tapped into their creativity to act, sing and even dance in theatrical productions staged at meetings. Designed to entertain and educate, these productions showcased talents of many CAS members outside the usual realms of office and board room.

In 1990, I created a musical comedy, *Cut My Rate*, which was based on the interminable public hearings held by the state of California after the passage of Prop. 103, a law that dramatically changed rate regulation in that state. I wrote new lyrics to songs from Cole Porter's *Kiss Me Kate*. The show was performed at the 1990 CAS Spring

Showman Dave Skurnick carried on the tradition of CAS parody plays penned by John Muetterties and Matt Rodermund.



Meeting and reprised at a Casualty Actuaries of Greater New York meeting.

The story involves the struggle between consumerists and company interests to decide how Prop. 103 should be implemented. It caricatures consumerists, regulators, consultants, and company actuaries. At this time, there were only a few casualty actuarial consultants. The male consultant character was named Jim Hallquist MacFaber in honor of four early consultants named Jim—Hall, MacGinnitie, Faber, and Berquist—as well as Richard Fallquist. The main theme was that testifying at public hearings is a lot like acting in a show. Another theme was that actuarial love could spring from attendance at public hearings, from studying for exams, or even from the *Syllabus of Examinations* (“Brush up your Syllabus, and they’ll all kowtow . . .”).

Fortunately, a group of talented, enthusiastic members of the actuarial community wanted to do the show. I am especially grateful to Erich Parker and Bob Gardner, FCAS. Erich, the director of public relations for the American Academy of Actuaries, had previously been an international opera star. From his wealth of theatrical experience he provided professional set design, props and blocking. Bob contributed invaluable piano skill and music know-how. He also brought his wife, soprano Sherry Gardner, who played a lead.

Since Jane Taylor, FCAS, worked as a lawyer as well as an actuary, it seemed natural that she play the role of the hearing officer. Somehow it was decided that she should wear a robe and wig, like a British judge. That costume left a memorable mental picture.

The show played before a packed house at the Broadmoor Hotel in Colorado Springs. It began with the song, “Another Hearing, Another Show,” sung to the tune of “Another Op’nin, Another Show.” When the second verse switched from unison to four-part harmony, the audience “oohed” and “aahed,” and I thought that this was going to be something good!

For the 1992 CAS Annual Meeting, we presented another musical comedy, *The Sting*, at the Boca Raton Resort and Club in Florida, with many of the same players. It was based on the purchase

and looting of American Universal Insurance Company as well as another insurance company that suffered a similar fate. The real-life basis of the play involved a managing general agent (MGA) who was claimed to have destroyed a small company.

The plot of the show tells how a swindler borrows money from organized crime and purchases American Galactic Insurance Company. After acquiring the company, he proceeds to loot its assets. Actuary Chap Cook, FCAS, had been the CEO of the actual American Universal Insurance Company when it was taken over and looted. Chap and his wife, Barbara, were in this show. I always hoped that this show might have given them an outlet for venting after the traumatic destruction of Chap's company.

Not only did Erich and Bob again contribute their musicianship and stagecraft, this show had tap dancing! It seemed surreal the first time a group of stodgy actuaries, including old-timer Norm Bennett, formed a dance line and did the move called "Shuffle Off to Buffalo." Actuaries aren't supposed to behave this way! The tap dancing went so well that we added a kick line to a number that used music from Cole Porter's *Can-Can*.

These two shows continued a tradition of actuarial parodies from earlier shows by Matt Rodermund and John Muetterties. They were great fun for the actors and audience. They also made some serious points about the insurance industry and the actuary's role in it.

Videos of the CAS plays, *Cut My Rate* and *The Sting*, can be viewed at <http://centennial.casact.org/100-years/video-gallery/>.

Dave Skurnick (fifth from right) poses with some of the cast of *The Sting*, presented November 17, 1992, at the 1992 CAS Annual Meeting in Boca Raton, Florida.



+ FORE!

BY WALTER J. HANER

The CAS isn't all papers and seminars—every once in a while we let our hair down and play some sports. Or at least some golf.

Sometime in early 1983, Al Beer asked me to join the CAS Program Planning Committee. He had two immediate thoughts in mind: first, he wanted me to recruit a panel on the deregulation of American industry (which eventually was presented the 1984 meeting at the Camelback Resort) and second, he wanted me to revive the CAS Spring Meeting golf tournament after a lapse of four to five years. In 1983, the Spring Meeting was to be in Doral, home of the famous Blue Monster—what better place to kick off such a revival?

For the eight Spring Meetings (there wasn't one in the 75th anniversary year of 1989), we scrambled our way from Doral to Camelback in the Arizona desert, to the Disney courses in Orlando, to The Broadmoor

in Colorado until I finally gave it up after the 1991 meeting in Palm Desert, California. Along the way in 1986 the meeting was held at the Hotel Del Coronado near San Diego. It was arranged for us to play at La Costa, which was an ambitious 35-mile bus trip north of the hotel. Just as I was getting nervous about taking 90 some odd members on a tour up I-5, La Costa called to say they couldn't do it but that they would make it up to us. Four days later, 120 dozen La Costa logo golf ball showed up in the mailroom at Peat Marwick addressed to me. I gave out a dozen to each of our players that year, but it was several years until I finally gave away the last of those balls.

In 1992, I went out on my own and stopped going to national meetings. I regretfully turned over golf tournament responsibilities to someone else. The 2006 brochure for the meeting in Puerto Rico showed that we're up to the 23rd annual tournament. Good for us!

+ RECOLLECTIONS OF A PAST PRESIDENT

BY CHARLES C. HEWITT

Because of the predominance of major stock companies and some of the mutual companies in the Northeast, the early meetings of the Casualty Actuarial Society were all held north of Washington, D.C. and east of the Allegheny Mountains. For example, Spring Meetings were held in the Berkshires, the Catskills, and the Poconos or along the Atlantic Coast shoreline. Fall meetings were held within major cities like Boston, Hartford, New York, Philadelphia, and Washington.

Eventually, after many years, a meeting was held in Chicago—I believe it was either in the late '40s or the early '50s. This Chicago setting probably resulted from the fact that companies in the Midwest said that it was about time to have a meeting there. Subsequently, meetings were held in Atlanta, New Orleans, Texas, Florida, Wisconsin, Michigan and, at least one, at the Greenbrier in West Virginia—and eventually in Canada, the Bahamas, and Puerto Rico.

After many years, when it was decided to hold a meeting in San Francisco, a CAS Board member named Henry Menzel objected to the fact that California was too far to go. When I made the point with him that our members from California had been coming east to our meetings for years, Menzel said, “But San Francisco is so far away!”

“MR. PERRYMAN”

I direct your attention to an obituary of Francis Perryman, which is found in the 1960 *Proceedings of the Casualty Actuarial Society*, volume XLVII, on page 248.

When there was a battle between the stock companies and the mutual companies over retrospective rating, much of the CAS meetings were devoted to that battle. Each member would speak in favor of his side. At one such meeting the presiding officer said during this discussion, “Now Mr. Perryman will speak for the stock companies.” Francis Perryman, an Englishman, very dignified, and not wanting to be identified as partisan, said “Mr. Perryman will speak for Mr. Perryman.”

Any reference to company groups in the earlier *Proceedings* was not considered a good idea. My understanding is that life actuarial societies actually forbade reference to the company names during a professional meeting.

On a personal note, I was once with some actuaries at a hotel bar in New York City—I think it was the Roosevelt. Perryman told us about coming from England to the United States and finding that we put ice in our drinks. He didn't like that; the British don't put ice in their drinks. Well, Mr. Perryman tried it and he liked it—so much

that when he was reassigned for a brief period back to England, he found out that he didn't like *not* putting ice in his drinks.

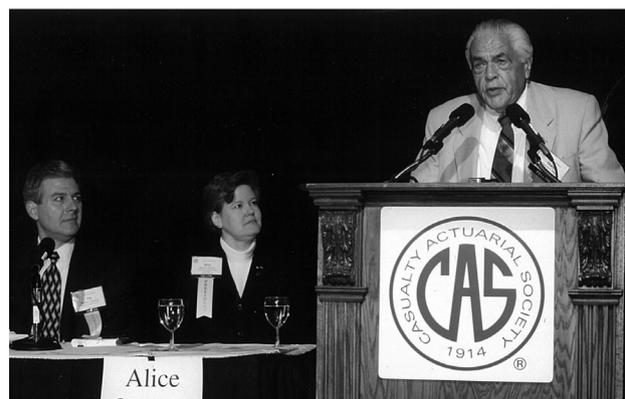
REGIONAL AFFILIATES

I was in on the founding of the first Regional Affiliate, which was known as the Midwestern Actuarial Forum. I got together with some members of the Society. I can specifically remember James MacGinnitie, Alan Curry, and Paul Singer—there may have been others. We met in a motel room out in the Chicago O'Hare area and decided we would form a local chapter of the Society. The Midwestern Actual Forum was the first such affiliate.

I was also involved in the early stages of the Casualty Actuarial Society of New England, which came to be known CANE. The founders met somewhere in a motel near the Massachusetts Turnpike in Sturbridge. Other founders were John Bevan of the Liberty Mutual and Bob Foster of the Hartford plus some whose names I forget. From that point on, the idea of Regional Affiliates spread within the U.S. and ultimately abroad.

During my term of office as president of the CAS, I established the practice of going to at least one regional meeting a year, for every one of these Regional Affiliates. That practice was followed for many years, but now that there are so many affiliates and now that there are international demands on the president's time, board members make those visits.

Charlie Hewitt (right) gives the “Address to New Members” during the business session of the CAS Annual Meeting, held on November 13, 2000, in Washington, D.C. To the left and center are CAS President-Elect Pat Grannan and CAS President Alice Gannon.



+ SIN CITY

BY FREDERICK W. KILBOURNE

Among many events memorable to me is moving the 1983 CAS Annual Meeting from Las Vegas to Toronto.

The reason for the move was the reputation of the former as a "city of sin," including particularly gambling. It's interesting that the city's promoters are now trying to burnish that reputation (after chafing for several years in the ill-fitting sheep's clothing costume of being a family town) with their slogan "What Happens in Vegas, Stays in Vegas." Perhaps they're referring to gambling money, although I never hear it that way.

In any event, returning to a generation ago, a sizeable number of actuaries shared the concern that Las Vegas was not a fit venue for the annual meeting of an organization of professionals entrusted with public and private funds. At least one actuary was so exorcised over the issue that he resigned his Fellowship in the Casualty Actuarial Society. This FCAS was, as I recall, more concerned with sins of the body and soul than those of the wallet. The aforementioned sizeable number was reflected as a majority on the CAS Board, not including me and several others who were more zealous about sin than its avoidance. Accordingly, the outcome of the debate was that my presidential address came to be delivered in a foreign country.

+ OUTSIDE PERSPECTIVES: HIRING THE FIRST NON-ACTUARY MEETING SPEAKER

BY CARLTON W. HONEBEIN

In the earlier years of the Casualty Actuarial Society, prior to 1975, the semiannual Society meetings were usually introspective. That is, the panelists and speakers at the meetings were almost invariably members of the Society.

During his term as president in 1976, however, Ron Bornhuetter wanted to broaden the Society's perspective and invite non-actuaries to speak at the meeting. Many members of the Society have heard Ron reminisce on this subject, but as an active participant in bringing this objective to fruition I think it's worth recording some of the events in accomplishing the goal.

My involvement began with a phone call in mid 1976, from Ron, which went something like this:

Ron: Carl, what do you think about the idea of having an outside speaker at the November meeting in San Diego?

Carl: I think that's a great idea, Ron, who do you have in mind?

Ron: No one in particular at this time, the meeting is in San Diego and you're out there, probably someone local.

Carl: You mean a movie star, or a comedian, or someone more serious like a politician, a business leader, or an academician?

Ron: Probably a politician would be a good place to start. If that doesn't work out we can easily get a business leader.

Carl: Sounds great.

Ron: How long will it take to get me some names?

Carl: WHAT! I don't have a clue how one goes about finding speakers.

Ron: Carl, you're local out there, I'm sure you have some contacts through the company.

Carl: Okay, Ron. I'll do some snooping around and get back to you if I'm not making any progress.

Ron: Great Carl, talk to you soon, Goodbye.

Carl: Goodbye, Ron.

In my CAS biography I guess this will go down as another assignment that I volunteered for. What do I do now?

As I write this today, all I'd have to do is type "speakers" into my Internet browser and I'd get at least a million hits for speaker bureaus and speakers. But, that was before the Internet and browsers, so after a bit of thinking and a few false starts, I called the husband of a friend of my wife's. I had met him a couple of times and he had talked about working on the election campaigns of a number of politicians. While I knew he was very liberal, and had worked almost exclusively for Democratic candidates, I was getting desperate.

Carl: Hi, Mike. This is Carl.

Mike: Hi, Carl. How's it going old buddy?

Carl: Everything's going really well except for one little problem I've run into.

Mike: What's that?

Carl: You know I'm an actuary.

Mike: Yeah.

Carl: Well the Society's having a meeting in San Diego in November and I've been asked to find a speaker.

Mike: So?

Carl: Well, we were thinking about someone from the political arena who could provide a bit of perspective to the group, you know, broaden their horizons.

Mike: Sounds like a good idea.

Carl: Trouble is I don't know any politicians and don't know how to make contact. I was wondering if you could use your contacts and see who might be available.

Mike: Shouldn't be a problem. Are you guys willing to pay a speaker's fee?

Carl: Oh, we hadn't discussed that. I'll call you if we're not. How long will it take to get back to me?

Mike: Shouldn't take too long, a couple of weeks, okay?

Carl: Sounds great, talk to you then.

I quickly called Ron.

Carl: Ron, I'm making some progress on that speaker for the CAS meeting, a question has come up though, are we willing to pay a speaker's fee?

Ron: We don't have anything in the meeting budget, but as long as it's not too large an amount I should be able to cover it. When will you have some names?

Carl: Shouldn't be more than a couple of weeks. Talk to you then.

A couple of weeks flew by, and then another week, and finally the long awaited phone call came in.

Mike: Hey Carl, got your messages, sorry I didn't get back to you sooner.

Carl: No problem, Mike, any luck with some names?

Mike: Got a few, want to go over them?

Carl: You bet.

After taking copious notes and asking all the questions I could think of, I thanked Mike and said I'd get back to him with our decision. Finalizing commitments with our selection would still have to go through Mike.

Because it was late in the day in California, my call to Ron had to wait till the next morning.

Carl: Hi Ron, ready to consider some names for a May speaker?

Ron: Sure am, how many do you have?

Carl: Four right now, we can get more if we have to. Ready for number one?

Ron: Let's go.

Carl: The first guy is California's current governor, Jerry Brown. He's a Democrat, has a bit of a reputation for being off the wall, but it's possible he'll speak for free.

Ron: What do you mean "off the wall?"

Carl: It's impossible to know what he will talk about. It might have nothing to do with politics, insurance, or the state of California. He might talk about drugs, hippies, or flower children.

Ron: Oh, who else do you have?

Carl: Teddy Kennedy. He's a big name and been in the Senate since 1963. He's got the Chappaquiddick incident on his record though, and he's expensive.

Ron: What do you mean?

Carl: He gets a \$4,000–\$5000 honorarium and you have to pay transportation for him and his entourage to San Diego from the East Coast.

Ron: Who's next?

Carl: Ronald Reagan, California governor before Brown and currently he is a spokesman for the Republican Party. Rumor is that he might make a run for the Republican nomination for president. He's even more expensive than Teddy, \$6,000, but there wouldn't be any travel expenses because he's local in Southern California.

Ron: Six thousand dollars! Is there any room for negotiation?

Carl: Apparently not. He's got all the speaking engagements he wants, in fact, we're lucky that he has an opening on the right day.

Ron: Six thousand dollars is a lot. I don't know if I can come up with that kind of money. Who else?

Carl: Six thousand dollars is a lot of money, but he gets it from everyone else. Next is Senator Alan Cranston, he's a second term senator who's pretty visible out here. His honorarium is \$2,000, and he wouldn't require any travel expenses.

Ron: Is he any good?

Carl: He certainly isn't as well known nationally as the first three guys, but he is very visible here in California. He's a politician who gives speeches all the time, so he has to be good on his feet.

Ron: Okay, let me think about it and I'll get back to you.

The minutes of the November 1976 CAS Meeting show that we went with Alan Cranston. He did a yeoman's job which accomplished what Ron really had in mind, which was to establish a precedent that would be consistently followed in the future: to have the CAS utilize non-actuarial speakers at the CAS meeting so that the Society and its members would broaden its perspective in the environment in which we operate.

But, with that said, and with the historical perspective of events for the past 30 years both Ron and I would like to have had a chance to make the selection all over again. Not that Cranston was a bad choice; he served four terms in the U.S. Senate from 1969–1991, was Democratic whip from 1977–1991, and ran unsuccessfully for the Democratic nomination for president in 1984. Unfortunately, he was reprimanded by the Select Committee on Ethics "for improper conduct" in 1991 and was not a candidate for re-election in 1992.

However, subsequent events clearly show that the best choice would have been Ronald Reagan. Of course, at the time Reagan was often referred to as a has-been actor, ex-governor who is currently out of a job. Six thousand dollars in 1976 was a lot of money, especially for a has-been.

Interestingly, both of the other two candidates we considered continued to have long, active in political lives. Teddy Kennedy was the very visible senator from Massachusetts for more than 40 years.

Jerry Brown is still active in state politics, as of this writing. He was elected California attorney general in 2006, despite the Republicans branding him as a “flower child.” He attempted to secure the Democratic nomination for president in the 1992 but lost out to Bill Clinton. He is currently serving as California’s governor.

How far have we come? At the May 2006 Meeting in San Francisco, the luncheon speaker was an Olympic Gold Medal speed skater with a motivational theme. Perhaps even good ideas can be taken too far.

+ THE STEAK HOUSE GANG

BY RONALD L. BORNHUETTER

As background, the atmosphere between the SOA and the CAS was not the most cordial: seven vs. five exams for Associateship, sharp growth in the casualty area resulting in a few SOA members doing casualty actuarial tasks, and competition for trainees, just to name but a few contributory factors. The time was the late 1970s.

To try to establish some dialogue between all actuarial organizations, it was then agreed the presidents of the four main actuarial bodies would meet on a regular basis over dinner. The participants were Julius Vogel (SOA), David Reade (Conference of Actuaries in Public Practice), Jim MacGinnitie (CAS), and me (American Academy of Actuaries (Academy)). We met monthly, always at the same

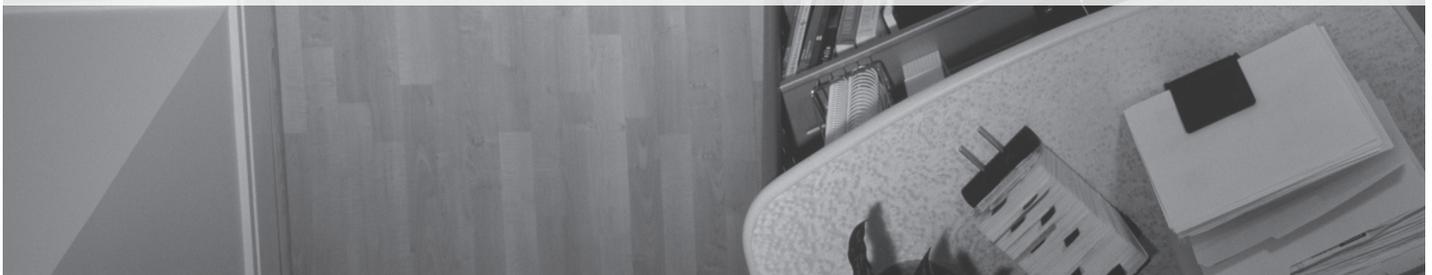
restaurant, the Springfield Steak House in Springfield, New Jersey. Fortunately, three of us lived in the New York City metropolitan area so only Jim MacGinnitie had to fly in from Atlanta. We always made sure he made the last flight back to Atlanta.

Thus started a procedure whereby dialogues were created in years to come that helped with relations being greatly improved. In addition, the presidents-elect were encouraged to meet on occasion to get an early start. It all began at a small restaurant located on U.S. Route 22 in Springfield, New Jersey. Eventually, the Council of United States Actuarial Presidents was formally created.



Chapter 13

ON WORKING LIFE



+ THE TEMP JOB OF A LIFETIME: MY EXPERIENCE IN THE EXECUTIVE OFFICE OF THE PRESIDENT

BY MAVIS A. WALTERS



Most CAS members are too young to recall wage and price controls in the early 1970s under President Nixon, but for me those days were full of excitement and provided a unique opportunity for professional growth and industry experience.

It all began with a phone call from the Office of the White House asking me to come to D.C. for an interview. In August 1971, President Nixon went on national television to announce a 90-day freeze on all wages and prices because of “rampant inflation at the rate of 4% annually!” Subsequently, a Wage Board and Price Commission were established under the oversight of the Cost of Living Council, (CLC) in the Executive Office of the President. Don Rumsfeld was Chairman of the CLC and Dick Cheney was his Deputy.

The Price Commission was looking for an actuary to establish and administer the insurance regulations under which insurers would be allowed to raise rates. After the interview I was offered the position. Having lived in New York all my life and not knowing anyone in D.C., I was unsure about accepting this position, which, by definition, was a temporary one. I credit my boss at the time, Dan McNamara (who would later be the first President of ISO) for his advice that this was an opportunity of a lifetime and I most certainly should accept it. I did and he was right.

During the three or so year period the Price Commission was in existence I had the opportunity to meet and work with senior executives of many property/casualty and health insurers, senior political figures, TV, newspaper, and other media representatives as well as many members of Congress. I also worked closely with IRS special agents who were tasked with enforcing the regulations.

The regulations required several revisions over time. Because very few in the federal government had any insurance experience, I was the only non-lawyer who got to draft regulations. I also participated

in the design of the federal forms that insurers had to use to file their requested rate increases.

On one or two occasions, letters were sent to the Chairman of the Price Commission, C. Jackson Grayson, objecting to some of my decisions. But, since the Chairman’s office had come to rely completely on me and my staff, those letters were forwarded to me to provide the basic responses.

We also had to meet regularly with representatives of a number of other agencies to brief them on what we were doing and how things were working in the insurance sector. These agencies included Treasury, IRS, Justice, and Budget. The Council of Economic Advisors, and our parent agency, the Cost of Living Council. Again, none of them knew very much about insurance so these meetings could be very painstaking because I was constantly educating these people about the nature of insurance ratemaking and how our regulations applied.

I scheduled these meetings regularly every six weeks or so, but if a key party failed to show, we could not move forward. At one point I became frustrated by no-shows and sent a memo to all the intended attendees saying that if they could not make the “agreed-upon meeting date” they needed to have a note from their superior. On the morning of one of these scheduled meetings I found an envelope on my desk with the return address of the Attorney General. The note inside said, “Please excuse from today’s meeting.” And it was signed personally by Richard Kleindienst who was the U.S. Attorney General at that time. Needless to say, I was dumbfounded and a few minutes later, the person from the Justice Department walked into my office laughing. He had gotten the AG to sign the note to show they appreciated my efforts. I still have that note!

And now, almost 40 years after accepting that “temporary” position, I am still in Washington, D.C. and occasionally run into some of my fellow “Office of the White House” employees from those days.

+ ACTUARIAL CAREER DECISIONS

BY MICHAEL A. WALTERS

For me the decision to become an actuary came in my second year of graduate work in mathematics at the University of Notre Dame. After finding that theoretical math had relatively few applications to the real world, I sought some interviews in the actuarial field in the middle of my second year, having had two summer actuarial jobs.

After a few interviews, I soon found some firms that were willing to take a chance on a graduate school dropout (master's degree only) and someone who had passed only one actuarial exam. The first offer was from a major life insurance company executive to whom I gave the strong impression I was likely to accept.

When some other offers came in, I narrowed it down to two—one casualty and one involving the Society of Actuaries (SOA). When told of my two offers, the life insurer executive opined that the

opportunities were much greater in the SOA field as there were thousands of life actuaries and only a few hundred casualty fellows. In fact, his company already had 73 FSAs on staff.

This actually made the casualty field seem more intriguing and I informed the life insurer vice president that I was going with the casualty offer. This produced a response implying that going with casualty was a mistake I might regret.

That gave me some pause, but I went ahead anyway with joining a predecessor of ISO. It wasn't until 13 years later that I saw a trade press announcement that the life insurer vice president had just been promoted to senior vice president. I resisted the temptation to send him a congratulatory note—on my senior vice president and actuary stationery from ISO from the year before.

+ MY CIVIL SERVICE EXPERIENCE

BY FRANK HARWAYNE

In February 1952, I became the New York State Insurance Department actuary by civil service examination. Almost immediately, I became the target (unwittingly on my part and without notice or legal representation) of the Moreland Commission investigation of workers' compensation insurance rates. Fortunately, Arthur Bailey, my predecessor had left a record that gave no basis for criticism except attendance at the rating board meetings, which I promptly stopped because it smacked of conflict of interest.

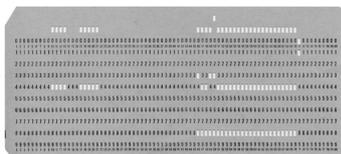
The Moreland Act allowed the New York governor to appoint a commissioner to investigate virtually any insurance problem that could affect the state. Almost immediately, the Moreland Commissioner asked me to meet with him on a "friendly basis" to explore what went into a review of the workers' compensation rate filing. I went there and, lo and behold, I was told to hold up my right hand, swear to tell the truth, etc., and for more than

three hours, my "off the cuff" dissertation on the entire process was written down by a court stenographer. Questioning by the commissioner made it clear I had been sandbagged and, I believed, he wanted me to disapprove any increases whatsoever. Ultimately, he seemed to be implying that I was a tool of the insurance industry because I attended the insurance industry's rates committee meetings. I pointed out that I had inherited this when I took the job and, moreover, it enabled me to appreciate any closet skeletons that were discussed and not contained in the actual filing as well as understanding the actual contents. In the end, I abandoned any further attendance.

Naturally, when I was given the transcript of my statements, some minor corrections were necessary. These I wrote down and tried to insist that these be verbally transmitted under oath, but by then the Moreland Commissioner was "too busy."

+ NOW AND THEN: TECHNOLOGY HAS COME A LONG WAY

BY JOHN M. PURPLE



As I think back to the early days of my actuarial career during the 1970s, I am always amazed at the tremendous enhancements to the technology and tools

available to actuaries today. While I have to admit to being somewhat of a Luddite in today's world, even my limited abilities would have seemed like something out of Star Wars by the standards of 40 years ago.

There were no Excel spreadsheets. Most calculations were done by hand or with slow and cumbersome calculators, and exhibits were handwritten on analysis paper. More complex programs could be written in APL programming language, but you needed to get access

to a computer terminal (no PCs or laptops!). There were a few of these "timesharing" terminals available for actuaries to use, but you needed to sign up for them and reserve time in competition with other users. Larger programs were done on mainframe computers with large decks of punch cards (8" x 3 1/2" hard stock paper). If these cards got out of proper order, the programming was doomed.

Study materials and research on actuarial topics were paper and books; no online searches and CAS websites. We had an actuarial library at the company with copies of *Proceedings* and other hard copy materials. All exams were taken at examination sites and on paper. There were no online tests or webinars for continuing education credits; you got that at the annual meetings.

We've advanced tremendously with technology in our profession. I can't imagine what it will be like in another 40 years.

+ THE ACCIDENTAL ACTUARY

BY ELSIE RUCHLIS

It was quite accidental that I ended up as an actuary. The only reason I was able to go to day college was because I won a \$100 per year Regents scholarship. We were very poor and until that scholarship was offered, I was going to have to find a job after high school graduation. In my four years at college as a math major I never heard of "actuaries" or the "actuarial profession." During Saturdays and summers at college I worked at Macy's and after graduating in the depression in June 1933 I got a job at Macy's as a merchandise control clerk.

I was not looking for other work, but at the end of 1933 I received a letter from Leon Senior, general manager of the Compensation Insurance Rating Board, requesting an interview and then in a subsequent letter asking me to report for work. Apparently I was referred to him by Mark Kormes, his actuary, whom I did not know. But he was the husband of one of my college math professors, Jennie Kormes, who apparently had told him about me. I learned that Mr. Kormes became a Fellow of the CAS in November 1933, just prior to my receiving the letter.

On my first day at the new job, Mr. Kormes told me, "Elsie, you must take the actuarial exams." He handed me an application form and a copy of the "Recommendations for Study" in eight subjects, including calculus, statistics, and two new subjects, "Calculus of Finite Differences" and "Mortality Tables." I was not told where to get the books. Fortunately my future husband was available to drive me around to libraries after work and on weekends. I took the exams in May, passed all parts, and was admitted as an Associate at the fall meeting in November 1934.

This meeting was after I was married in August 1934. There was a sign posted in my office that women had to inform the management if

they were married. I did not inform them until I was pregnant in 1942 for fear of losing my job. Many employers had the attitude then that if women were married their husband should be the breadwinners and they should not be taking jobs from men. I subsequently learned that many of the women who worked in the office were married and also had not informed management of that fact.

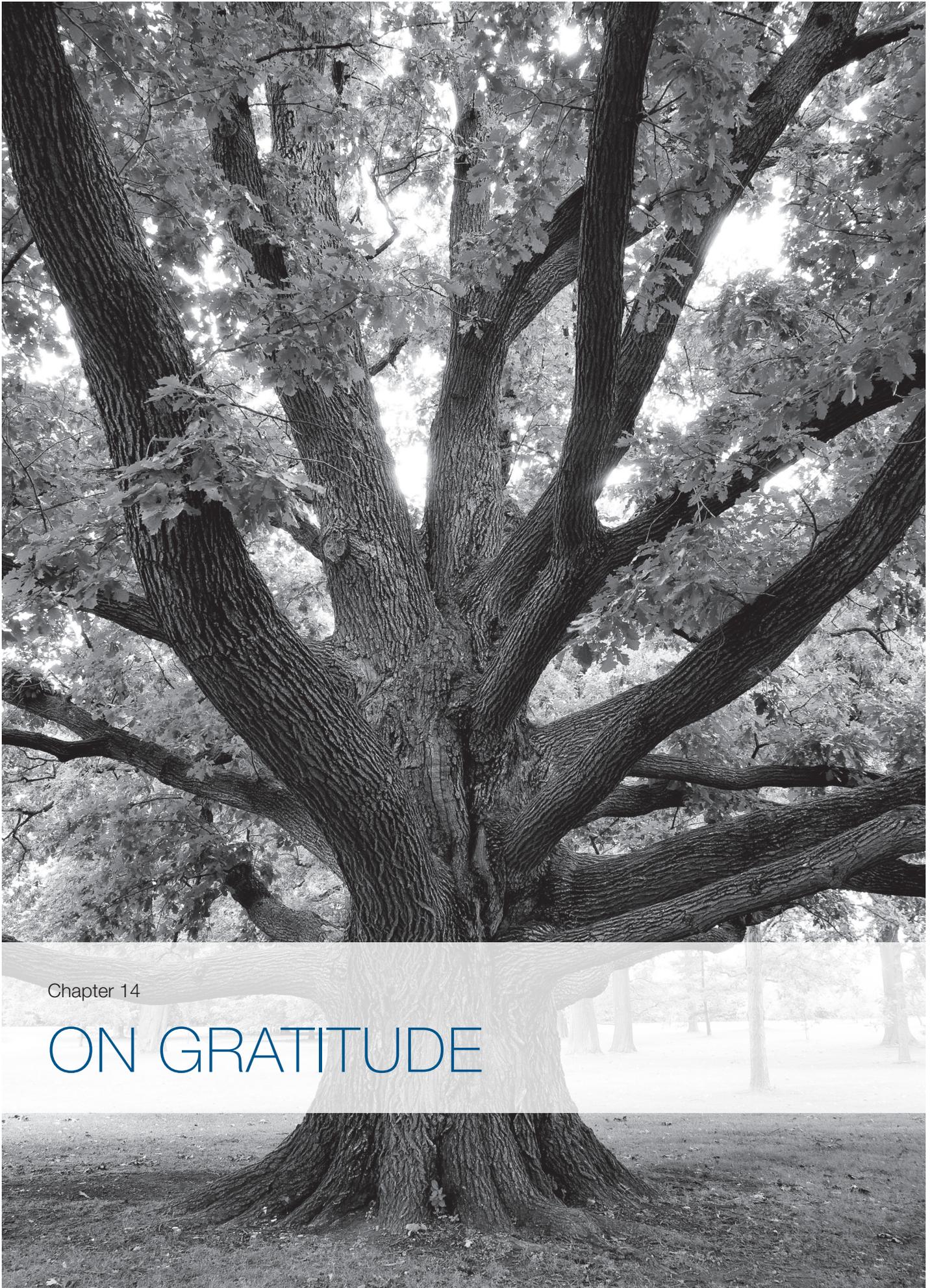
During the four years after I became an Associate I took the CAS Fellowship exams, all under my maiden name Elsie Kardonsky, and earned my FCAS in 1938. I was appointed statistician in June 1939 and wrote a paper for the CAS in 1940 titled "Recent Developments in the Special Funds under the New York Compensation Law."¹

In 1942, I left the Compensation Board to raise a family. I returned to work in 1954 at the National Bureau of Casualty Underwriters and remained there and at its successor organizations for more than 18 years. I retired from the Insurance Services Office in July 1973. In this period I was listed in the *CAS Yearbooks* under my present name.

By the way, the CAS acknowledged my 50th anniversary as a CAS Fellow in the *Actuarial Review*, along with that of John Miller. Mr. Rodermund refers to my listings in the *Yearbooks* as "a strange snafu" but he also contributed to this "snafu." I sent a letter with an explanation and correction, which was printed in the February 1989 issue of the *Actuarial Review*.

Incidentally, the *Actuarial Review* of May 1980 includes an article on the female membership in the CAS and the Society of Actuaries from 1950 through the late 1970s. Mention was made of three of the very early female CAS members, who had been officers of the CAS, and Ruth Salzmann, who had been president of the CAS.

¹ *Proceedings of the Casualty Actuarial Society*, Volume XXVII, 1941.



Chapter 14

ON GRATITUDE

“

A society grows great when old men plant trees in whose shade they will never sit.

—Greek proverb

+ HONORING A GOOD FRIEND ON ITS HUNDRETH BIRTHDAY

BY P. ADGER WILLIAMS

As I think back on all that has happened since Doc Masterson signed my Fellowship certificate in 1957, I try to think of the best way to summarize my experiences in the CAS; the professional pride it has given me, the comfortable living it has provided, and the respect (and sometimes wonder) that our arcane practice brings to us from outside. But how would I describe my years in the CAS? After thinking about it, I decided that what most accurately summarizes my experience in the CAS is that it has provided continuity in my career.

In my early days at The Travelers, I got sidetracked into the wonderful world of data processing where I worked throughout the sixties. Fortunately for me, it was during that time that Ron Bornhuetter and I were working on the Exam Committee and having a little fun revising part four. It was also around this time that Ham Barber tried to get Win Green to stand on his head at a CAS cocktail reception in Philadelphia. Win said he would do it if Ham would get a group of us from The Travelers to sing a Brown University fight song he had written. The “Bumbershoots”—Lu Tarbell, Paul Liscord, Bob Foster, and I—agreed to sing it. Win stood on his head, we sang, and that was the beginning of the actuarial songfests. Back at work, I was sitting in the middle of departmental battles for computer time, but then I’d go off to an Education Committee meeting where I served under great chairmen such as Laurie Longley-Cook and Bill Wieder. Or I’d go to a National Council Committee and meet Frank Hope and Bill Hazam for breakfast at Stouffers across from Grand Central.

In the seventies, my job seemed to be changing pretty often; first, running the audit department and next, monitoring our non-insurance subsidiaries. Nothing seemed to have much to do with actuarial training, but sitting on the CAS Board having LeRoy Simon call to tell me that I would be going through the chairs and working

with those who came before and after me, made those years both meaningful and worthwhile.

Once when I was in Los Angeles on business, I was having breakfast alone. Matt Rodermund, whom I didn’t know was within 3,000 miles of the place, walked in and sat down at my table as if we had an appointment. He said, “What we are going to do is put on ‘How to Succeed as an Actuary’ at the Boston meeting.” That’s what we did, and so began the tradition of having entertainment at the CAS meetings.

Jobs come and go, decades come and go, people come and go, honors and disappointments come and go, but the CAS is always there. The people that you see only once or twice a year become the people you have seen most often and feel closest to. An accumulation of actuarial acquaintances takes place and you realize that those acquaintances and the CAS have become the continuity in your life.

When I was working on a talk for new Fellows and Associates, the spell-check on my computer asked, “What is CAS, a friend? Should CAS be added to the list of friends?” and I realized that is exactly what the CAS has been, a friend. I would like to honor my good friend, the CAS, on its one hundredth birthday. I offer my thanks to the CAS for that friendship and I also thank all of my fellow actuaries for their friendship.



P. Adger Williams

BY MARTIN ADLER

I first saw the word “actuary” in 1947 in a seventh grade math text. Since my father was an insurance broker, and also well-read, I asked him about it. He had two observations: He didn’t think they paid very well, nor did he believe that they hired any Jews. He probably was aware only of life actuaries. Fortunately, the latter observation, if it was ever true, turned out to be out-of-date by the time I applied for my first position. And after a while the first part also became outdated.

Becoming an actuary, however, also required good fortune. At Harvard I majored in biochemical sciences, which I realized too late was the wrong field for me. I had only two years of calculus as part of the major. Not knowing what I would do after college, I applied for Naval Officer Candidate School. After 40 months in the navy, I came home and joined my father’s insurance brokerage. Although passing the exam for a license was easy enough, this, too, was the wrong fit. I kept thinking about an actuarial career. My wife found in the library a booklet in the “American Occupations” series on the actuarial profession. It mentioned, among other fields of specialization, the casualty actuary. I was delighted to see that one of the Associateship examinations was on insurance coverages and policy forms. That part should be easy enough, but what about my skimpy mathematics background?

The CAS office in those days was housed in midtown Manhattan at the National Council for Compensation Insurance. I went to visit Al Skelding, long-time CAS secretary-treasurer, who was retired but came to the office a couple days a week. He found it amusing when I asked if I was too old to start a new profession. He also told me of review classes for Part 1 given by the Insurance Society of New York, and that he would be willing to sponsor me. He also gave me two leads, one of which led to my first actuarial position at The Home Insurance Company in 1963. I started on my 29th birthday.

Before that, however, I had to get reoriented to calculus. I took my trigonometry textbook on vacation to Cape Cod, and I retook freshman calculus at summer school at Brooklyn College. Although I always looked young for my age, the professor knew that I was different from the rest of the class. He asked me what I was doing there and I told him I wanted to be an actuary. He said that he did, too, but he didn’t think they hired Jews. He wished me good luck. When I took the Part 1 review class, I was often learning what the others were simply reviewing. But I passed the first time, actually getting a 10, which surprised me, as I had omitted 12 of the 70 answers. And I was fortunate that the Society also had a review class for Part 2. My only statistics knowledge came from one semester at college in a course that was given in the social sciences area. Here, too, I was often learning what the others were reviewing. I don’t know what my grade was, as grades were not given for Part 2 then. I know only that I passed.

I knew that I had found my profession. I was so excited that I wrote in my class’s tenth report that I looked forward to being an actuary the rest of my life. About a year later, one of my classmates wrote a skeptical article in the *New York Times Magazine* about the class report. Apparently he thought that many of us were painting a not-so-honest picture of our lives. He said that one of his classmates even looked forward to being an actuary the rest of his life. By that time I had left The Home and moved to Woodward & Fondiller to work with Lew Roberts. But I knew that Henry Schneiker, my supervisor at The Home, read the *New York Times*, and felt sure he would recognize me in the article. It turned out that he hadn’t

seen the magazine yet. A few days later he sent me a note. He said, “Marty, I’m disappointed. I thought you had more ambition.”

Many years ago, before we had a professional staff in the CAS office, there was a CAS Sites Committee. Its function was to select the sites for future meetings and to see that the meetings ran smoothly. At least theoretically there was a committee. Everything was actually run by Dick Lino, with help from his staff at the bureau (The National Bureau of Casualty Underwriters and its successors). Everyone knew that. So when Dick called me to join the committee, promising that it would not entail much work, I agreed to help him out. He said he needed someone from the South. I had come to GEICO a few years earlier, and to a New Yorker like Dick, Washington was the South.

About a year later the unimaginable happened. Dick decided to leave the committee. Phil Kates became chairman and it would become a real committee. The Spring 1981 meeting was to be at The Homestead in Hot Springs, Virginia. It was about a five-hour drive for me, but I was the closest of all the committee members. I agreed to become local arrangements chairman. Jerry Scheibl was president, and he wanted to be sure everything would be perfect. He asked me to meet him and his wife Marlene at the hotel on a weekend early in January, off-season for The Homestead, to go over arrangements with the staff. Fritz, the maitre d’, was a European—Swiss or German—and was very, very proper. It was a different era. For instance, he said the hotel would not allow unmarried persons of opposite sex to share a room. In the dining room there was an elegant trio playing light classical music. Fritz said that we would have such a group at our meeting. It was then that I made my faux pas. Remembering that we had entertainment at a recent meeting in the Poconos, I asked if there would be entertainment. Fritz looked down his nose at me and said, “This is *not* the Catskills!”

My other fondest memories also involve the after-hours activities, notably the satirical shows written by Matt Rodermund. One year he wrote lyrics to the tune of “Mrs. Robinson” from *The Graduate*. At the time one of the U. S. Senate committees, headed by Sen. Magnuson of Washington, was investigating the insurance industry. Some feared legislation for federal regulation. Matt used the line, “I say ‘No, Mr. Magnuson.’” He had told Joe Demelio (who, incidentally, was head of the new actuarial department at The Home when I was hired as an actuarial trainee) to be sure to attend the performance. One line went, “Where have you gone Joe Demelio?” At that point Joe stood up and took a bow.

Another anecdote about Matt Rodermund comes to mind. At a meeting in the late sixties he reviewed a paper by J. Robert Ferrari: “A Theoretical Portfolio Selection Approach for Insuring Property and Casualty Lines.” As I recall, Matt’s critique was that the approach might have been theoretical, but not very practical. The author began his response by saying how honored he was to have his paper reviewed by a man whose last contribution to the *Proceedings* was on that serious subject, “How to Tell a Pure Actuary from a Lay Actuary.”

I remember, of course, my first CAS meeting, held in Boston. I had gained ACAS status just two years after I began my career, which one could do in those days. I remember thinking how dignified the older members looked—like the public image of bankers. If I remember correctly, they still wore three-piece suits. The CAS was much smaller then, fewer than 500 members, a number of whom seemed to be life actuaries who found it easy to get ACAS status. Times certainly have changed.

+ INDEBTED TO THE PROFESSION

BY LEROY J. SIMON

In the 1950s, the fire rating bureaus around the U.S. had a very tight control over the rating structure and the rate levels for fire, extended coverage, and related property coverages. There was competition among the American agency stock companies, but it was mainly on commercial risks and in the areas of fast service to the agent or fast service in the settlement of claims. There was essentially no rate competition among these companies. Competition on rates within the property insurance industry was provided by (1) the mutual property insurers who would deviate from bureau rates by a flat percentage or by (2) the awakening of the large, independent personal lines, automobile insurance companies and their gradual entry into property personal lines insurance.

The Insurance Company of North America was a member of the various rating bureaus but, in the mid-1950s, decided to limit its membership to commercial risks. It would then bring out a new concept for personal lines that combined property and liability insurance in one package with a simplified rating structure. This was the origin of the homeowner's policy, which was later extended to tenants. To get the rate structure and overall rate level right, the company recognized the need for actuarial advice, but there were very few experienced property actuaries in the U.S. The company searched in England for someone and luckily found Laurence "Laurie" H. Longley-Cook, a life actuary with the Prudential of the United Kingdom. Laurie and family came to Philadelphia and he wrote our eight exams in two sittings to become an FCAS.

Laurie became the architect of the company's rate structure and rate level as he worked with Bill Francis (underwriter) and Perry Epes (lawyer) under the leadership of Dick Hellman (executive vice president). He then testified before various state insurance departments as the new homeowner's policy and the concept of excluding personal lines from bureau membership was introduced. Laurie was the most brilliant individual I have ever known, but he came with two handicaps: (1) he had a decidedly British accent with a rather clipped way of speaking that made it difficult for many of the insurance regulators to understand him completely and (2) he had little patience with people who couldn't (or wouldn't) follow a line of reasoning that he thought was obvious. Hence, he set out to find someone who could take some or all of the burden of testifying off his shoulders. I had become an FCAS in 1954 and his good friend, actuary Dudley Pruitt (of General Accident in Philadelphia), pointed him toward me. At the time I was heading a small actuarial department of a Minnesota regional personal lines insurer and was fortunate enough to be offered the job.

Laurie already had Fred Hunt, FCAS on board when I joined in 1957 and things moved quite rapidly as he added Ed Hobbs (who steadily moved through the exams to become a Fellow), Ruth Salzmann, FCAS, and Bob Bailey, FCAS. We each had the freedom to develop our own customers within the property and casualty companies in the fleet and it seemed to work quite well. I believe it was one of the first arrangements within a fleet of American agency companies where the actuaries were deeply involved with the company underwriters and we carried a real responsibility for success of the efforts. These developments brought considerable attention to the CAS and the place of actuaries within a company.

I joined Prudential Property and Casualty Insurance Company (PRUPAC) as head of underwriting and actuarial just as Prudential was about to start into the property-casualty personal lines business.



Left to right: C.K. "Stan" Khury (CAS President 1984-1985), Kathryn Simon, and LeRoy Simon (CAS President 1971-1972) at the 1994 Past President's Dinner.

We were suddenly presented with the opportunity to write a very large catastrophe reinsurance cover on a direct placement basis. We wrote it in PRUPAC but realized that such a volatile business would cloud the operating results of PRUPAC. A business plan was formulated and Prudential Reinsurance Company (PruRe) was established in 1973 with an initial funding of \$75 million, a surprisingly large amount at that time.

I won the toss and got to go with PruRe as its chief operating officer with a title of senior vice president. Up to that time, this position carried the broadest responsibility held by an FCAS for a reinsurance operation even though the company had only one contract at the time. I was not about to accept business on my own; I needed a team. I really enjoyed my years as an actuary but now it was necessary to be a manager, albeit one who could easily understand the actuaries and had to struggle more to follow the underwriters.

I was successful in recruiting Ross Cowan (to head up facultative underwriting), Paul Ingrey (treaty), Dewey Clark (international), and Charlie Hachemeister (actuarial and systems). We "stole" John Jones (controller) from PRUPAC, plus John Andrews (law) from the Prudential and we were off and running. It was a truly collaborative effort in which each of the department heads had input on all of the major decisions affecting more than just his own department. If there were significant differences of opinion on how we were to go on some given decision, the final responsibility fell on me, and I tried to promptly and clearly communicate the decision and the principal reasons for reaching it. On the other side of the coin, each department head had the authority and the responsibility for operating decisions within his area. I had neither the experience nor the desire to micromanage the operation, but I did have the responsibility for the total operation running smoothly and profitably. Whatever it was that we had going for us seemed to work and PruRe grew and prospered to become the fifth largest U.S. reinsurer by the time of my retirement. We had some failures along the way, but by and large the successes carried us onward and upward. The CAS education and training program was one of the contributing factors to molding my approach to managing an activity such as

PruRe and, in turn, our activities contributed to the development and recognition of the wide range of positions within a company for which an actuary was trained.

Management responsibilities took up my entire working days but my natural inclinations as an actuary drew me toward the developments in improved calculators and eventually to computers when they began to appear. Fortunately, there were a few stolen hours that could be found in evenings and on weekends that allowed me to develop some ideas that struck me as particularly interesting during this time. My 1972 paper¹ (when we were still part of PRUPAC) on one aspect of catastrophe reinsurance was based on a very practical operating problem that arose immediately after a loss occurred under a catastrophe treaty. It also arose before the actuarial department was fully operational. Buyers were in a mild panic (particularly if it was early in the contract term) because they had now lost their one automatic reinstatement of the coverage that was part of the normal contract. This meant that another catastrophe loss would leave them without coverage for the then-remaining contract term and they would be virtually uninsurable. Fortunately for reinsurers, three catastrophes hitting one contract within a year were very rare, so there was essentially no experience on which underwriters or actuaries could rely. A probabilistic analysis gave some guide to the minimum price that would be required to cover the expected pure premium in the original quote for the contract. Happily we found that buyers, who did not have the benefit of the analysis, were willing to pay a multiple of our calculated rate. As a result, we became a good market for such covers.

The other major area in which my stolen moments allowed me to explore some calculator and computer developments was in the basic rating of windstorm catastrophe covers in the U.S. Paul Ingrey used a system based on the premium by state for each of the lines of insurance having windstorm exposure. These were grouped into eight zones and had windstorm factors applied to extract the wind pure premium. Other factors were applied to weight the zones for catastrophe propensity to determine the maximum foreseeable loss (MFL).

One then entered a table based on the MFL relative to the attachment point of the cover, did a linear interpolation, and determined the excess ratio of the MFL that was appropriate for the attachment point. One then entered the table again for the top of the layer, got its excess ratio, and the difference of the two was the loss cost for the layer for the windstorm peril expressed as a portion of the MFL. Multiplying this result by the MFL converted it back to a dollar pure premium for wind. Dividing by the subject premium gave the rate for wind. This result was loaded for other perils to be covered on a judgment basis and expenses (including profit, of course). To calculate all the required values, apply all the factors, do the interpolations, and apply the necessary loadings without error was quite a challenge. We were able to computerize the procedure (at first using machines that would never be called “computers” today) and simplify the work while improving speed and accuracy. This helped make our catastrophe area one of the better lead markets in the world and eventually led to better and better systems developed by us and others.

AN ABUNDANCE OF LITERATURE RESEARCHED AND WRITTEN

Over the span of my career, 60 of my papers, speeches, reviews, and other items were published in some form, so it seems

¹ “Actuarial Applications in Catastrophe Reinsurance,” *PCAS* LX, pp 196–202, <http://www.casact.org/pubs/proceed/proceed72/72196.pdf>.

appropriate to comment on some that might be of historical interest. Seventeen of the items appear in the *Proceedings of the Casualty Actuarial Society*. The first paper² in the *PCAS* pointed out an error in logic in the use of rate revision adjustment factors that were used extensively at the time, especially in property insurance where an exposure base was not recorded as part of the statistics. This “logic error” did not have a major effect on the result, but its presence in the procedure occurred to me early in my career when working on the justification for a rate deviation made by a small Midwestern insurer.

The next paper³ in the *PCAS* (with Bob Bailey) was based on an idea I got in the early 1950s while studying for the exams. The Canadian data used in the paper was the first opportunity to turn the usual credibility formula “upside down” and statistically determine the credibility of a single private passenger car over three years of experience.

A year later, the CAS published “Two Studies in Automobile Insurance Ratemaking”⁴ (again with Bailey) based on some thoughts that I had (again) while studying for the exams. My master’s degree in college was in statistics, so multi-dimensional curve fitting by a minimum Chi-square method came rather naturally. The trick here was using the Chi-square method to determine relativities by an iterative technique that minimized Chi-square. This method differed from the typical statistical technique of having a set of data and a theoretical population from which the data arose and testing via Chi-square to see if the data was likely to have arisen by chance from that population.

Unquestionably the most difficult paper I ever wrote was “The 1965 Table M.”⁵ It arose out of work done on a special committee of the National Council on Compensation Insurance, as explained in the paper itself. At the time, computers did not have anywhere near the random access memory that is available today. Therefore it was deemed necessary to derive a simple set of curves that would slightly smooth the Table M values computed from modestly smoothed raw data calculations. Such a procedure gave assurance that there were no illogical crossovers or other defects in the final values.

(To be honest, with each of these papers and most of the others among the 60, I grew to hate them before being finished. The correcting of defects, rewordings, refinings, etc., etc, soon wears one down and tries one’s patience.)

GIVING BACK

In 1972, Harold Schloss, who had already completed his term as CAS president, wrote to ask me if I would agree to be nominated as the next CAS president. In his letter, he included the following quote by Francis Bacon: “I hold every man a debtor to his profession.” I have always been extremely proud to be an FCAS and have been thankful for the contributions I’ve been able to make as part of my effort to pay back some small part of my debt. We all stand on the shoulders of those who have gone before us. As you do the same, be proud, stand tall, and pay back some part of your debt as the second century in the life of the Casualty Actuarial Society unfolds.

² “Rate Revision Adjustment Factors,” *PCAS* XLV, pp. 196–213, <http://www.casact.org/pubs/proceed/proceed58/58196.pdf>.

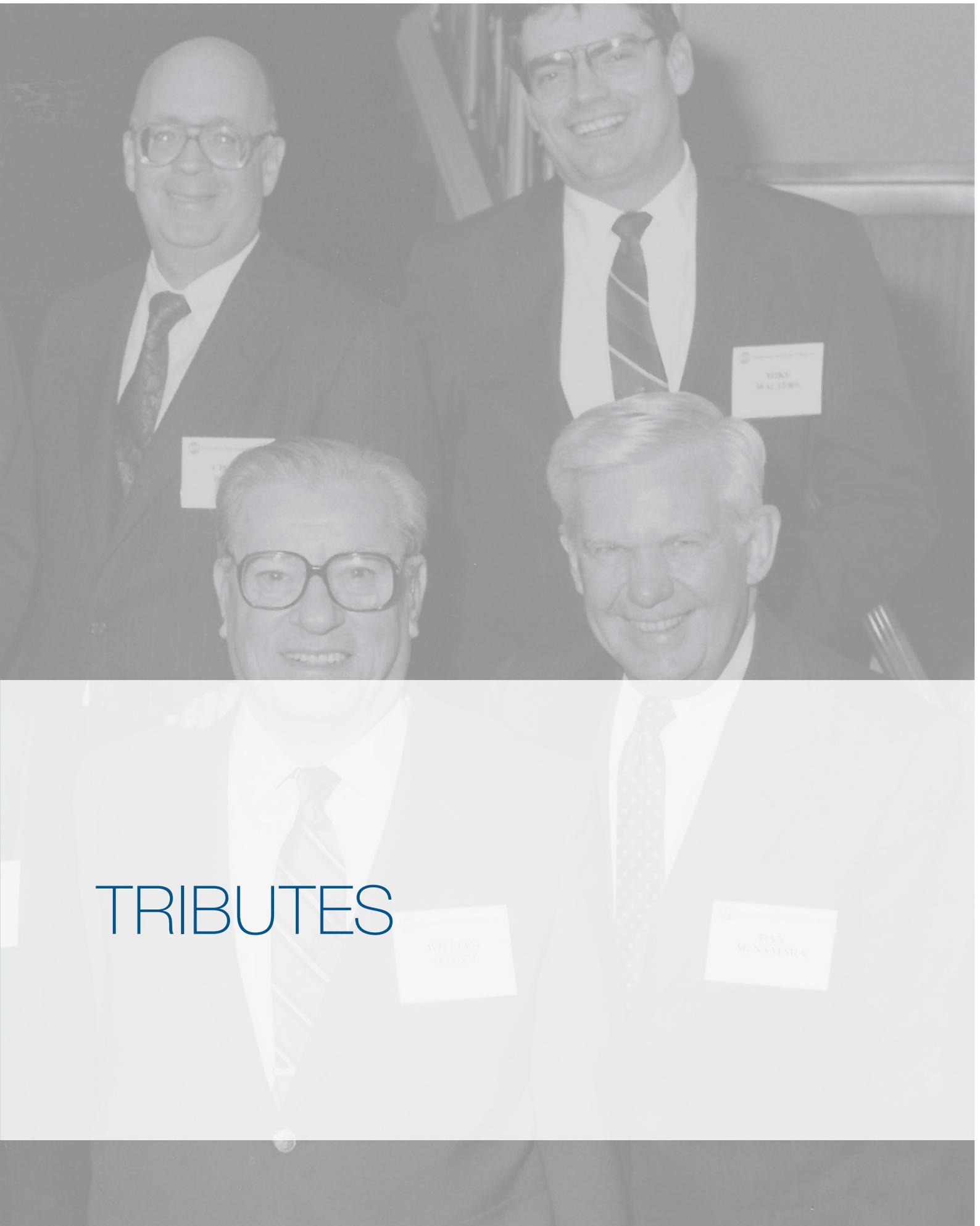
³ “An Actuarial Note on the Credibility of Experience of a Single Private Passenger Car,” *PCAS* XLVI, <http://www.casact.org/pubs/proceed/proceed59/59159.pdf>.

⁴ *PCAS* XLVII, pp. 1–19, <http://www.casact.org/pubs/proceed/proceed60/60001.pdf>.

⁵ *PCAS* LII, pp. 1–45, <http://www.casact.org/pubs/proceed/proceed65/65001.pdf>.



PART THREE



TRIBUTES

JUST FOUR OF MANY DEDICATED INDIVIDUALS

+ THE MENTOR: NORTON E. “DOC” MASTERSON

BY STEVE JUDD AND TERRY ALFUTH

The CAS was a rather small group in 1970 when we were beginning our careers. Regional gatherings, in particular those of the Midwestern Actuarial Forum (MAF), were very collegial and open. They provided opportunities for young and aspiring actuarial students such as us to meet and visit with veterans and accomplished actuaries and industry leaders. Doc was awarded the designation of FCAS in 1927. He surprised me when he was very interested to learn that I worked at “Paul Otteson’s company.” Doc told me that Paul and he were good friends and long-time professional colleagues. Doc was familiar with my company, encouraging and genuinely friendly. Later years increased my awareness of the close relationships and deep respect amongst Doc, Paul Otteson, Ruth Salzman, and others.

Doc spent 37 years of his career at Sentry. Terry recalls that Doc was an important mentor to many young actuaries, many of whom he hired. After his retirement from Sentry, he continued to offer his presence, support and insight to the actuarial staff at Sentry. Doc was known for some colorful comments such as, “When I started work scotch tape wasn’t even invented and there were no computers.” And, “When I took the exams, I took them at my desk in the statistical department. People would come up and ask me company questions while [I was] taking the exam. It was a different time. You still had to be very prepared.”

Doc got his nickname when his father died. There is an old Irish concept that the seventh son of a seventh son is a gifted healer. That was his father, who was a farmer. “Doc” was the nickname that was passed on to him. A lot of people think it was Norton who was the seventh of a seventh, but that is not true. Still, it is just a technicality because “Doc” fit him so well.

Many of us are aware of the insurance cost indices that Doc created. He wrote and presented his important work “Economic Factors in Liability and Property Insurance Claim Costs 1935–1967” in 1968. He maintained this work for several years and it was published regularly by A. M. Best. We (Sentry), like many companies did, used it as an important reference source in our pricing and other actuarial work. Others have since taken on responsibility for maintaining and updating the data and providing other appropriate modifications. They also continue to make reference to Doc’s original work developing this important reference information. Today, our profession and business continue to benefit from the work, professionalism and good friendship of Norton E. “Doc” Masterson.

Doc was 98 when he died, but during his 37 years at Sentry he contributed greatly to our professional society and to all those of us who were able to take advantage of his actuarial insights and leadership.

+ THE THOUGHT LEADER: ARTHUR L. BAILEY

BY JAMES C. HICKMAN

The story I will tell highlights one of the most creative members of the CAS, Arthur L. Bailey. In the early 1950s, I was a graduate student in mathematics at the University of Iowa, concentrating on statistics and actuarial science. One of my colleagues was Robert A. Bailey (Bob), the son of A. L. Bailey. Bob, of course, also made many contributions to actuarial science and practice. I am a native of Iowa, but I do not know what chain of events brought Bob Bailey to Iowa City.

A. L. Bailey came to Iowa to visit his son and to give a seminar. Through the haze of a half century, I recall vividly several aspects of the seminar. A. L. Bailey had come to the seminar room early and covered the blackboards with data about the frequency of automobile claims and notes on the Poisson distribution. The students were mystified by the mass of data and befuddled by the Bayesian approach that was then out of favor. We were enormously impressed by the enthusiasm of the lecturer. I recall the reaction of two of our esteemed professors who left the seminar in a daze because of the Bayesian approach, which had been overlooked for a century.

I wish that I had taken more complete notes, for over the years I came to recognize the remarkable intellectual leadership of A. L. Bailey. This was true for actuarial science but in many ways also for the philosophic basis for statistics. Amazingly, he was largely self-taught.

+ THE DEN MOTHER: EDEE MORABITO

BY RONALD L. BORNHUETTER

For over five years, the secretary-treasurer function of the CAS was handled by Al Skelding, an executive with the National Council on Compensation Insurance (NCCI) in New York City. He and his executive assistant, Edith (Edee) Morabito, did most of the administration work of the CAS on a part-time basis. The NCCI was basically subsidizing the CAS as we did not reimburse them. Al retired in 1974.

When Al retired, I took over his duties as secretary/treasurer, which added time and effort to my schedule. Fortunately, Ron Ferguson offered to help out and we spent many of our lunch hours at the NCCI signing checks and keeping the books. It was only then that the two of us recognized the sincere feeling/love Edee had for the CAS and its members. She never had children of her own and we, the CAS members, were her family. She was the glue that kept our organization going in the right direction. She single-handedly organized the semiannual meetings, enlisted spouses and others to ensure that all went smoothly. She disliked travel, but nonetheless was always at the registration desk to greet her “family.”

Moreover, since Al retired, Edee had to take on more day-to-day responsibility. I have no idea where the CAS would be in the early days without our “Den Mother.” Edee finally retired in 1975 and after that the CAS Council split the functions into separate secretary and treasurer positions.

These are just a few memories that represent the CAS as it was growing into the organization it is today. There are many CAS members who had a great part in all that went on in the past. The fruits of their efforts are very apparent today.

+ THE VOLUNTEER: MATTHEW RODERMUND

BY C.K. “STAN” KHURY

Matthew Rodermund (January 31, 1916–January 27, 2011) most prominently demonstrated what it means to live a life of service. He earned his FCAS designation in 1947. And from that time until well after his retirement, aside from his compensated work as an actuary, his life was an unbroken chain of service to the CAS and the profession. In 1990, the CAS decided to honor this remarkable dedication by naming a special award in his name, The Matthew Rodermund Service Award.¹ And appropriately, this award is intended to recognize CAS members who have made significant volunteer contributions to the actuarial profession *over the course of a career*, exactly in the same manner that Matthew Rodermund demonstrated in his life.

Matt, as he was known to his friends, began his career at the Interboro Mutual Indemnity Company and performed in multiple roles until, in 1961, he joined the Munich Reinsurance Company as vice president-actuary. Matt remained with the Munich until his retirement in 1981. Matt’s service to the CAS spanned all aspects of its operations. He held multiple leadership roles, including service on the Council (the then governing body of the CAS) from 1957 to 1960, serving as editor of CAS publications from 1964 to 1973, as well as chairing numerous committees on all aspects of CAS operations, both technical and administrative.

Perhaps no other service rendered by Matt to the CAS community best describes his commitment than his work on the *Actuarial Review*, from 1974–1988. Prior to the first issue of *Actuarial Review*, for a period of four years, there was an informal publication called the *CAS Newsletter*, penned largely by the then president and was published and distributed to members. The first edition of the *CAS Newsletter* was published in 1970, on the personal stationery of the then president Daniel J. McNamara. That publication continued through the respective presidential terms of Richard Johe, LeRoy Simon, and Charles Hewitt. In 1974, Matt was asked to lead the regular production of this publication.

In February 1974, the first issue was produced under Matt’s editorial leadership. It didn’t take him long before many enhancements and innovations were brought to this publication, including the adoption of the new name, *Actuarial Review* beginning with the very next edition. Much of what Matt did survives today. Matt was able to recruit a full complement of assistants who headed various departments of the *Actuarial Review*. He recruited a puzzle editor, a regular contributor for a column of clever commentary then called *Maunderings*, and a crossword aficionado who would provide an occasional Actuarial Crostic for the enjoyment of CAS members. Occasionally a talented CAS member would provide Matt with comics relevant to the actuarial enterprise. No description could do justice to herculean effort required to produce just a single issue of the *Actuarial Review*. In those days, desktop computers and word processing capabilities were unheard of. So everything had to be typed, then type-set, and produced on “stickies” (printed text on long columns, printed on paper treated with a light adhesive) that could be cut and pasted to actually compose a complete page of copy. Then it had to be proofread, and a

mock-up was sent to the printer, who in turn produced a proof for final editing. Matt would make the final edits and send to the printer for printing and distribution. All of this was done by Matt. The proofreading task was required to be done by an outside person (as experience has shown that the writer of a piece is entirely unsuitable to proofread his or her own work) and that work was assigned to another fellow who in turn recruited his wife to do the proofreading with him as a team effort. It was truly a family affair. And when the fact that the CAS office consisted of two persons is considered, the scope of the task grows even larger. This work, Matt did for 15 years. In all of this, Matt was also a stickler for proper writing and therefore he issued a copy of Strunk & White’s *Elements of Style* to each person who served on the *Actuarial Review* staff.

The family-affair aspect of producing the *Actuarial Review* extended even beyond what is reported above. Matt recruited his wife, Edythe, to assist him on all elements of the production. She was, by Matt’s own determination, the most dedicated staffer that he had working on *Actuarial Review*. Not only did she help with all aspects of production, she was also talented in her own literary way. She used to produce an occasional clerihew (a light verse form, usually consisting of two couplets, with lines of uneven length and irregular meter, the first line usually containing the name of a well-known person). She always signed her clerihews with the initials “A.W.” No one ever knew what these initials stood for. Edythe Rodermund inadvertently gave away the secret on a social visit when she revealed that A.W. stood for “Actuarial Wife.” Her dedicated and selfless service to the CAS could not be publicly acknowledged contemporaneously because neither Matt nor Edythe wanted it known that she was, for all intents and purposes, serving as the co-editor of the *Actuarial Review*. But now her contribution can be memorialized in proper context, alongside the recitation of Matt’s many contributions.

Matt also wrote a number of papers and reviews of papers. He also wrote the introduction to the 1990 edition of the CAS textbook *Foundations of Casualty Actuarial Science*. In 1983, Matt also wrote a *Style Manual* for all CAS publications. This *Style Manual* was to assure that all CAS publications had the same look and style, irrespective of who was editing what publication. Aside from his many serious contributions to the literature, Matt had a streak of wit in him that was hard to miss. That is perhaps best illustrated in his well-known 1964 *Proceedings* paper “How to Tell a Pure Actuary from a Lay Actuary.” The paper is timeless and can be read anew without fear that its humor will get old. It is best illustrated by the following quote from the paper: “A rate derived by the method of moments is one fashioned with care by a pure actuary. A rate derived in a matter of moments is one pulled out of the air by a lay actuary.”

Finally, to illustrate the breadth of Matt’s creative talent, I cite two examples. He often entertained his fellow actuaries at the presidential suite at CAS meetings by playing the piano and leading songfests whenever a piano could be arranged for his use. Those who participated in those songfests as well those who merely listened, remember those evenings with great affection. The other example is his mammoth project of writing, directing, and producing an actuarial play titled *How to Succeed as an Actuary*. The play was performed in November 1973 at the CAS Annual Meeting at the Sheraton Boston. It was adapted from the 1961 Frank Loesser hit Broadway musical *How to Succeed in Business Without Really Trying*. The cast consisted of actuaries and their spouses. This was a fabulous and clever presentation that thrilled and entertained the CAS members present. A review of this performance can be found on the last page of that first *Actuarial Review* in February 1974 (<http://casact.org/pubs/actrev/historic/feb74.pdf>).

After Matt’s retirement from the *Actuarial Review*, the CAS Board, as a token of its appreciation for his many years of dedicated service, adopted a resolution that recognized Matt’s contribution with a special life time achievement award. That was a one-of-a-kind award and it is very appropriate, as indeed, Mathew Rodermund was one-of-a-kind, a light that had shone and nourished the CAS faithfully for more than 50 years.

¹ After learning of Rodermund’s death, the CAS changed the award’s name to The Matthew Rodermund Memorial Service Award.



PART FOUR



THE NEXT 100 YEARS



Chapter 16

THE FUTURE

By Alice M. Underwood

Let me admit it right up front: I'm a science fiction fan. Big time. (I know that's a shocking admission, coming from an actuary, but there you have it.) So when I think about the future of the actuarial profession, my thoughts race toward the FUTURE of the actuarial profession.

The world has seen massive changes since the CAS was founded 100 years ago. A lot has happened just since I entered the field in the mid-1990s. The Euro came into existence; the Y2K disaster didn't. Minimally invasive surgery is now performed using robots. Broadband, flash memory, Wi-Fi, and the Cloud are reshaping the way the world stores and shares information. In addition to changing our daily lives, all these developments (and many more) have affected not just how actuaries do our analyses but also the risks and products that we analyze. So just think what the FUTURE could bring! It would be fascinating to make rates for an extended warranty program for autonomous household robots. I wonder what the liability implications of antigravity technology will be, and how we'll reserve for that. What new property perils will be covered for orbital habitats—meteorite strikes and atmospheric leakage, business interruption due to solar flares? Perhaps life insurance policies will exclude coverage in cases where there is a viable clone—or make a reduced payment, depending on how well the memory transfer works.

Then I think about all the fabulous new tools the actuaries of the future will have. Keep your Ralph Kramden "Chef of the Future!" jokes in check for just a moment, and consider how much computing technology has changed just since I joined the actuarial profession. Google didn't exist then. The Blue Screen of Death made regular appearances on our huge CRT displays. We were constrained to eight characters in our (often cryptic) file names. There was no way to get email on a handheld device. A spreadsheet much more than 1MB in size might choke your processor. Heck, how long ago was it that actuaries actually did pencil-and-paper calculations in their day-to-day working life, and not just on the exams? MS-DOS spreadsheet technology seemed like a miracle at first. But which of us would want to go back to DOS now? In the age of technology, 10 years is an eternity and 10 months is a life cycle.

It might seem far-fetched to imagine describing the problem you're trying to solve to a smart predictive modeling system—and I mean describing it out loud, speaking into a

voice recognition system like Spock talking to the Enterprise computer—and expecting the machine to come back with something useful. But today we routinely use tablet PCs like the Enterprise's crew. And the *Jeopardy!* victory of IBM's Watson indicates that natural-language-based problem-solving systems are not a distant daydream. The computing systems we'll see in just a few years will quickly make today's best stuff look like an 8-track tape compared to an MP3 player. (I'll apply here a simple rule I often use pessimistically—*how bad is the worst you think that scenario could get? Well, double that*—and apply it optimistically. How good do you think those systems could possibly get, and how quickly? Well, double that.) Of course, I'm equally sure that tomorrow's actuaries working with these systems will find them too slow to do what they want sometimes, and they'll curse their AI system or their brain-jack interface just as we curse Microsoft Excel today.

Such technology may well render certain job descriptions obsolete. After all, "computer" used to be the job title of a human being tasked with doing mathematical calculations by hand.

But that doesn't mean the demand for intelligent, insightful quantitative risk analysis will disappear. I believe the market for insurance products—contractual agreements that allow individuals and corporations to protect themselves against the risk of contingent future financial events—is a robust one. And while technological improvements have more or less steadily increased the overall quality of life for those with access to the technology, I don't think there are many who would argue that the world is a less risky place than it used to be. New technologies mitigate some old risks and usher in some new ones. And of course one of the beauties of being a property-casualty actuary is that whenever there's some kind of new idea, new service, or new stuff, risk-averse people will want to insure it and savvy lawyers will figure out how it gives rise to new reasons to sue.

Since I'm sure I can't possibly be as prescient as Arthur C. Clarke or William Gibson—or the myriad science fiction authors writing today whom we'll hail 20 years from now (or maybe 10 years from now) as having seen the shape of things to come—let me return to the present and address what the actuarial profession needs to do now in order to thrive in that future world.

To state the obvious, we can't tie ourselves to methods and work products that may become outmoded. We must remain flexible, forward-thinking, and open to change. Will occurrence policies go the way of the dodo, and claims-made coverage prevail in all lines of business? It's possible. Could insurance regulation in the U.S. become nationalized? That's possible, too. It would be foolhardy to circumscribe our practice to areas defined too narrowly—and that's why we won't do so. Actuaries are the experts at dealing with contingent future events. We can apply those skills to shaping our own future—in fact, we're doing that already.

Let me suggest some trends we can already see in the data:

WE'LL BE MORE MOBILE.

We already are. In fact, I'm typing this on my netbook in an airport. I can easily upload it to my company's VPN or email it to a friend. Knowledge workers' base location is less important than ever. Without question, face-to-face discussions can be important and valuable; the CAS Regional Affiliates don't seem to be losing steam (quite the opposite, in fact). But more and more meetings are held remotely by phone, videoconference, or telepresence; a mobile "remote presence" robot already exists, and practical hologram technology may arrive sooner than you think. Today, many actuaries employed by big firms work remotely from their homes, visiting the company office or client site as needed in person or by video call. And that means . . .

WE'LL BE MORE INTERNATIONAL.

Which is great! More brainpower in the mix worldwide will make for a better profession and all kinds of new opportunities. As the CAS continues to grow, we'll have more members, partners, employers, and stakeholders all around the world. (That's already happening: we're seeing growing influence in Asia, for example.) The market will sort out which things need to play in person in Peoria and which can more efficiently be done remotely from Rhode Island, Reading, Rio, or Romania. And to deal with our international employers, employees, and colleagues . . .

WE'LL BE BETTER COMMUNICATORS.

Our employers demand it. Numerical results alone are no longer sufficient. In order to communicate increasingly complex issues and analyses, we need to be able to tell the story behind the numbers. I'm happy to say that as a hiring manager I've had terrific success finding bright young actuaries with sharp analytical minds and excellent communications skills. And for the same simple reason of market demand . . .

WE'LL BE SAVVIER ALL-AROUND BUSINESSPEOPLE.

As risk modeling and risk management continue to mature, the next generation of actuaries will be sought for their insight in ever broader business contexts, wherever there is financial risk and uncertainty. An advantage they'll have: they will be able to devote more time to sharpening their business know-how and communications skills. They won't have to spend as much time on the grunt computation, because . . .

WE'LL HAVE BETTER COMPUTERS.

Better, smarter, faster. We can rebuild it. We have the technology. And what cost six million dollars a few years ago

will cost three million tomorrow and \$300 not too much later. Moore's Law keeps on ticking; scientific ingenuity keeps finding new ways to overcome apparent roadblocks. That means . . .

WE'LL MAKE INCREASING USE OF DATA VISUALIZATION.

A picture really can be worth a thousand words—or a thousand pages of tables jam-packed with numbers. It needs to be a good picture, though. A useful one. A picture that speaks to the viewer. But better technology is making this easier all the time. It's also giving us images we can interact with: drill down into, click through, rotate, and expand. Demand for such functionality is likely to accelerate the move away from paper-based publication since interactive media will help us share our findings in new, more accessible ways. Which is important, because . . .

WE'LL TURN OUR HAND TO ALL KINDS OF NEW QUESTIONS.

Ratemaking, reserving, and valuation will still be a core part of what we do—for new insurance products and perils (body modification insurance, anyone?) as well as for ones we know and love today. But actuaries have already expanded our scope of work both within and beyond the insurance industry, and in years to come we'll have many new types of questions to tackle. Some of those questions will be fun and interesting. Some of them will be less fun, but still very important. Because—for all my optimism—I'm not so naïve as to think it's nothing but sunshine from here on out, or even that all sunshine all the time would be a good thing. Sunshine can cause skin cancer, after all. In fact I'm quite sure that . . .

WE'LL HAVE TO DEAL WITH NEW KINDS OF BAD THINGS.

Fifty years ago AIDS was unknown. Now we know it all too well. Twenty-five years ago, foreign terrorist attacks on U.S. soil were unthinkable. But then someone thought of it. What new awful truths will we have to confront? Global climate change, mass extinctions, new diseases, stresses on national retirement and medical systems, pandemics, product failures, systemic risks, zombies and vampires? Well, maybe not the last two, but who knows? The thing I can say for sure is that when new bad stuff happens, people will want to insure against it.

That's the silver lining of the actuarial profession. When bad stuff happens, it means there's a contribution we can make—a way we can be part of the solution. It means we have work to do.

And as I look back to the future, I'm counting on new gene therapies and my cyborg implants to help me have a healthy and active life for at least the next several hundred years. I'd like to vacation in a space habitat. I want to use telepresence to sail the methane seas of Titan. I want to know if there's life on those extrasolar planets we keep discovering.

So I'd better work hard to keep my actuarial skills current, right?

Fortunately, as CAS members we have more and better learning opportunities than ever. Regional Affiliates are going strong, offering excellent continuing education and fostering local actuarial communities. The CAS has numerous distance-learning offerings, such as Webinars and online

courses, in addition to all the great material—not to mention the camaraderie and networking—to be found at CAS meetings and seminars. We're putting more resources into research than ever before. And we're strengthening our ties to academia, nonactuarial organizations, international actuarial organizations, and general insurance practitioners around the world.

Change is a constant. But some things—the core of what the CAS is about—must be preserved. CAS members will maintain a strong focus on rigorous qualifications, deep subject matter expertise, and consistent application of actuarial principles. And the CAS will remain a society focused on providing value to its members and other stakeholders. As individuals and as a profession, we'll build on the strength of our experience and tradition as we reach for the future.

I'm excited to be a CAS member as we move into our next 100 years. It's a bright future ahead!



PART FIVE



CONCLUSION



Chapter 17

WRAPPING UP 100 YEARS

By Charles A. Bryan



So there you have it. We hope you have enjoyed reading this 100-year history of the CAS as much as we enjoyed writing it. We hope you have enjoyed reading about the CAS as much as you have enjoyed participating in the creation of its history. And we hope you will enjoy many rereads over the years.

As your experience has told you and as this book has recorded, the CAS is a dynamic organization. Our hope is that it will continue to support its members as they seek to succeed and pursue satisfying careers for years to come. We also hope that the CAS will be responsive to the needs of the users of actuarial services and provide innovative solutions to problems that arise. It has always been the CAS's philosophy that the best way to serve our members is to be sure that we pay attention to the users of our services and that the users will be enthusiastic about employing our members in creative and innovative work. If so, our members will always be fine.

The chapter on the future of the CAS has touched on one possible future. But, in spite of the fact that we are actuaries, it is impossible to know the future in any detail. Could our founders have predicted the need for cyber insurance, satellite insurance, and so on? Clearly not. But we are confident the CAS will continue to evolve and provide what our members need to support the actuarial elements of all types of future risk transfer. We will leave the working out of these issues to whomever writes the next CAS history.

Of course, there are some areas we could have expanded upon. For example, the evolution of the exam system was ably treated, but we could have gone into great detail on the evolution of exam approaches, the selection of the appropriate number of exams, and the nuances of the joint exams. We hardly touched upon governance and how the CAS evolved from primarily a three-officer organization to the many officers and the structure we use today. We skimmed over the competition between actuarial societies and instead emphasized where we have all worked together successfully. And so on.

In parting, thanks to each of the authors and those who offered their recollections for contributing their thoughts and views and for devoting themselves to the monumental effort involved in writing a chapter. Thanks to the chapter reviewers for focusing their skills and experience on making each of the chapters as good as it could be. Thanks to the professional staff of the CAS who has always been so critical to our growth and success and was equally critical to the success of this history. Thanks to the leadership now and in past years for leading the CAS and in organizing the Centennial Celebration. Thanks to our membership for permitting me and my colleagues Steve Goldberg and Elizabeth Smith to craft this history. And, most of all, thanks to each member for loving the CAS and contributing to its growth and success over these last 100 years.

And 100 years from now, if you remain enthusiastic and energetic, someone else will have the privilege and honor of being the editor of the 200th Centennial Commemorative book of the Casualty Actuarial Society!

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