The Newsletter of the Society of Actuaries
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JUNE 1992

THE Actuary

Career implications for actuaries in the changing employee benefits consulting business

by Anna M. Rappaport and Paul B. Zeisler

In 1988, *Forbes* magazine featured actuaries in a "careers" article headlined, "Boring All the Way to the Bank." That article highlighted the growth of employee benefits consulting firms and the high pay actuaries receive. This was one of several articles published in the past few years extolling the benefits of an actuarial career. They painted a rosy picture: low stress, high pay, and opportunities for advancement. Now, less than four years later, the situation has changed, at least for U.S. consulting actuaries specializing in employee benefits. This article explores why these changes have occurred and how both current and future consulting actuaries might respond.

Growth in the 1980s

During the 1980s, employee benefits consulting firms expanded, and their revenue grew as a result of several factors:

- A constant stream of changes in laws and regulations with the need to review, and often to amend, retirement plans frequently to comply with these changes
- The promulgation of new accounting rules for pensions, requiring much more work to maintain a defined benefit plan, and the preliminary stages of new accounting rules for other retiree benefits, effective for most plan sponsors in 1993

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A new era for life insurance consulting actuaries

by Robert D. Shapiro

The ground rules for U.S. insurance industry actuarial consultants have changed, particularly for those serving the life insurance industry. Although the rash of insolvencies of the past few years (e.g., Executive Life, Mutual Benefit, and First Capital) spawned massive one-time projects for many actuarial consulting organizations, these windfalls may mark the end of an era.

The 1970s and 1980s were characterized by a planning, product, and pricing revolution within the life insurance industry. These activities stretched the actuarial capabilities of many life companies. Consequently, companies asked actuarial consultants to help develop company models and projections and to help design, price, and manage new generation products.

The 1990s present a new ball game for life insurance companies and for life consulting actuaries. Massive consolidation is occurring within individual life company operations and the broader industry. The marketplace demands that companies be strong, efficient, and responsive. This means that the management must focus on addressing customer needs, managing capital effectively, controlling costs, and providing quality service. Reorganization efforts have continued the breakdown of functional organizations, including the actuarial department, as life companies seek to emphasize business requirements over pure technical requirements.

This leaves life actuaries without their historical organizational anchor. In addition, corporate management imperatives are demanding expertise and experience that often is not associated with actuaries. The unfortunate result is that many life actuaries are

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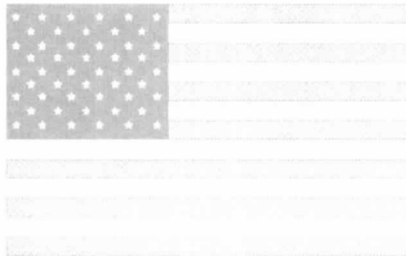
Editorial

U.S. actuarial employment opportunities

by Linda B. Emory

What has happened to all those calls from search firms that actuaries used to get? Instead of calls to greener pastures, we're getting more resumes coming across our desks, making us aware that actuaries are out there looking for jobs. Is this because of the recession? Or are there fundamental changes in the outlook for employment opportunities in the actuarial profession?



According to a survey that associate editor, Mike McGuinness, and I conducted of four actuarial search firms, both these things are happening. The articles by Anna Rappaport and Bob Shapiro in this issue address fundamental changes in the profession. Shapiro reminds us that The Actuary of the Future Task Force is trying to redefine the actuary's role to fit the emerging new environment. The article by Linda Delgadillo addresses how actuaries periodically should evaluate their employability and respond to changing needs and opportunities. McGuinness' article on the consulting business in Canada confirms that the situation is similar on both sides of the border.

With a greater supply of actuaries compared to demand than in the past, the actuarial recruiting firms' observations are probably more extreme than the actual employment picture. Companies and consulting firms can meet more of their employment needs directly. For example, while all the search firms paint a dismal picture for actuarial entry-level positions, only slightly fewer companies were represented at the recent on-campus interviews for actuarial graduates at Georgia State University. Bob Batten at GSU reports that the majority of its graduates will be placed before June. The number of entry-level positions are down in these companies, but students with good grades and good communication skills still are very much in demand.

David Spencer of Management Recruiters of Atlanta has seen a tremendous difference in new openings for actuaries. Three or four years ago, as many as three new openings a day came to his firm. Now he says it's more like one a week. Then, almost all actuaries could be placed where they wanted to go – geographically and in specialty areas (i.e., pension to casualty to life). He believes fundamental changes are occurring in the industry and profession, such as slowdown in pension consulting, downsizing, and takeovers. However, the slow economy has made both companies and actuaries more cautious. Companies have taken a "wait and see" attitude.

Companies with openings can afford to be selective. Moves from areas where the recession has hit the hardest, such as New England, are difficult because of the inability to sell homes. The psychological effect of such economic conditions is to make actuaries more risk averse and less likely to even consider making a move. In the past, one move created several job changes because of the domino effect.

Spencer's firm sees the most opportunities now at the ASA level. The most employable actuaries are those with a familiarity with FASB 97 and group health, especially managed care or HMO. He sees increases in requests for computer strengths with an actuarial background. He said computer industry demands for programmers remain high, and this may be an area of opportunity. He

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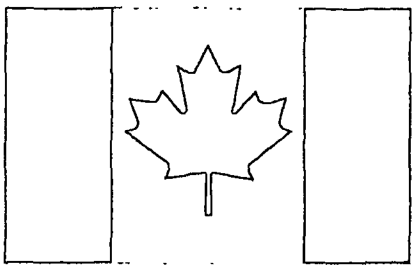
The actuarial consulting business in Canada

by Michael McGuinness

I asked four prominent Canadian actuaries, three of whom are full-time consultants, for their views on the career prospects for Canadian actuaries. This article includes responses from Robert L. Brown, D. James Christie, H. Douglas Lee, and Paul M. Winokur.



Insurance

The insurance industry in Canada is going through substantial change and rationalization. The result is that in the short term, three to five years, all Canadian consulting actuarial firms should be very busy. In the longer term, six years out, one cannot be so sure. Meanwhile the number of universities in Canada with an actuarial program has increased from five to nine, with several others offering a smattering of actuarial science courses. Also, in established programs, graduating classes have tripled in the last three years.

The new Insurance Companies Act is expected to be proclaimed this summer. It will make demutualization possible, which will require reports from independent actuaries. Similar reports will be required, assuming that in the near future substantial merger and acquisition activity will occur along with the sale and purchase of large blocks of business. Further activity is likely to emerge from auditors, who are still defining how to use the work of the valuation actuary. Asset/liability matching also may provide considerable work for actuarial firms.

All this is good for actuaries already working in the consulting field. However, it does not lead to a great demand for hiring new members of the firm, especially with the long term in mind.

The prospects for new Fellows of the Canadian Institute of Actuaries (FCIA) are not as good as they were a few years ago. This applies not only to those who are Fellows of the Society of Actuaries (FSA), but also to Fellows of the Casualty Actuarial Society (FCAS). A few years ago, more FCIAs/FCASs were needed. At least one consultant believes that the CIA, by providing a special exam route for nonresidents to qualify during a three-year period, filled the gap. The consultant believes that the 50 Canadian resident and 50 nonresident FCASs who are FCIAs are about the proper number for the industry.

Fellows with broad backgrounds and considerable experience in more than one area of actuarial work have much better career prospects. In the consulting field, experience is necessary to achieve instant credibility with clients. Today, those with this experience lack the time to train others.

Employee benefits

The reduction (4,000 in the past five years) in the number of benefit plans is caused partly by the recession, by plan terminations due to increasingly complex regulations, and by the transfer of some firms to the United States resulting from the Free Trade Agreement.

The marginal FCIA has less job security today, but those with ability and the willingness to work hard are every bit as secure as they ever were. A few years ago, firms might be prepared to hire any FCIA with a modicum of ability. Now, there are cutbacks.

The situation applies even more to someone at the ASA level. Recently, the supply has grown rapidly, and demand has almost vanished. For the top 10%, there is a lot of demand. Clearly, the increase in overall supply results from the very high demand of several years ago.

Another issue that causes concern is the narrow focus of most graduates today from an actuarial science course. They have had excellent training, which makes them suitable for a variety of jobs. They should not graduate with the view, "I'm going to specialize in one year," but rather take one of the attractive alternative jobs available and consider what may happen one or more years down the road when the current shortage of opportunities may have been alleviated.

Another cause of declining actuarial employment is fee pressure, although this is not as severe in Canada as in the United States. One example was cited, however, of a case lost because of too high fees.

Four years ago in Toronto, a major employee benefit consultant might have planned to hire 10 to 15 recruits a year, and salaries in some cases rose 30% a year. This year, the numbers are probably one-third of that, and starting salaries are lower than they were two years ago.

The door is certainly not closed to new graduates, however. One firm, for example, for 10 years has hired new graduates and helped them develop their skills internally.

The nature of the work is changing, with more work being done by computers instead of students. The trend is toward more involvement in overall financial management and, in fact, more opportunities may exist for actuaries to work in other branches of the financial services industry as it becomes more complex. Investment houses and banks are beginning to hire actuaries, but the actuarial profession is going to have to work to convince these nontraditional employers to look to it for solutions to their problems.

Michael McGuinness is with Eckler Partners, Ltd.

Cash flow testing survey

by Abe Gootzeit,
Mike Pressley,
and Greg Roemelt

Year-end 1992 is rapidly approaching and with it, the need for many actuaries to perform asset adequacy analysis to support statutory reserve opinions. Because actuaries are expected to use cash flow testing to evaluate asset adequacy, Tillinghast surveyed U.S. life insurance companies to identify trends that are developing in the cash flow testing arena.

At year-end 1992, all large companies and many smaller companies must submit statutory reserve opinions based on asset adequacy analysis. Cash flow testing is one form of asset adequacy analysis. Insurance companies also can use cash flow testing with product development, with investment and crediting strategies analysis, and as a framework for financial projections. Actuaries are required by professional standards to consider the need for cash flow testing when performing such work. Tillinghast surveyed more than 1,500 companies on their attitudes and practices on cash flow testing. Excerpts from the survey responses are included in this article.

The U.S. Standard Valuation Law (SVL) and accompanying Actuarial Opinion and Memorandum Regulation have established possible exemption criteria from the asset adequacy analysis provisions. Our survey respondents were asked to indicate their size and whether they qualify for exemption. The 317 respondents are categorized in Chart 1.

Chart 1

Company Size and SVL Asset Adequacy Exemption

Company Size	A	B	C	D	Total
Admitted assets in millions	Up to $20	$20 to $100	$100 to $500	More than $500	
Number of companies responding to survey					
Exempt	22	35	42	0	99
Nonexempt	3	11	21	152	187
Uncertain	7	7	17	0	31
TOTAL	32	53	80	152	317
Cash flow opinion required if exempt?	Not required	Not required	First year and every third year thereafter	Every year	

Of the 35 companies in company size A, B, and C that indicated a nonexempt status, 22 did not comply with the limitation on annuity reserves.

Reserve adequacy opinion

Chart 2 summarizes the cash flow testing language each company included in support of the December 31, 1991, actuarial opinion.

Of our respondents, 46% (146 out of 317) performed cash flow testing as necessary to support the 1991 actuarial opinion. Two-thirds of the largest companies performed cash flow testing at last year-end.

Chart 2

Actuarial Opinion Wording

Cash Flow Testing Language	A	B	C	D	Total
	Number of Responses				
1. Not mentioned	6	2	2	4	14
2. Considered, performed as necessary	2	13	31	100	146
3. Considered, not performed because deemed unnecessary	16	26	32	15	89
4. Considered, not performed due to inadequate time and/or resources	3	8	5	11	27
5. Combination of 2 and 3	4	1	8	13	26
6. Other	0	1	1	6	8
7. No answer	1	2	1	3	7
TOTAL	32	53	80	152	317

Asset models and assumptions

In contrast to liability models, asset modeling is new to many actuaries. About 66% of responding companies use a seriatim approach to asset projections. The rest are grouping assets to some degree. Asset modeling assumptions, such as scenario parameters, call and prepayment information, and dynamic assumptions, are determined by members of the actuarial and investment departments according to Chart 3.

Scenarios

Companies with assets in excess of $100 million are using the seven scenarios mentioned in the SVL, as well as other sets of deterministic and

Chart 3

Who Determines Asset Model Assumptions?

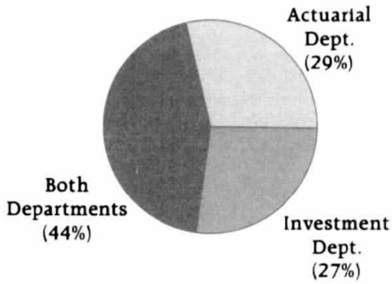


Chart 4

Number of Scenarios

Companies in Excess of $100 Million of Admitted Assets (Multiple Responses Permitted)

	Number of Responses	Number of Scenarios Average	Number of Scenarios Median
Standard Valuation Law 7	186	7	7
Other deterministic scenarios	73	7	7
Stochastic scenarios	43	157	80
Total respondents	302		

stochastic scenarios. Of our respondents, 86% (259 out of 302) are using deterministic scenarios. The responses are summarized in Chart 4.

Seventy-three percent of respondents believe that a negative result in one scenario does not necessarily constitute a "failure" of the reserve adequacy test.

Results analyzed and projection period

We tried to determine the results analyzed and the projection period by asking the following question: "What results did (will) you look at to determine whether or not the reserves for any given scenario are inadequate? Please be precise, e.g., 'We look at accumulated surplus at the end of each year for 20 years, where surplus is the excess of assets at book value over statutory reserves.' "

One hundred eighty-one companies responded to this question. The answers identified:

- Type of statistic analyzed
- Whether results are examined each year
- Projection period

Many companies gave multiple answers. The results are detailed in Chart 5.

Over time, we suspect that actuarial practice and/or regulatory guidance will emerge to help the insurance industry with consensus methods for determining reserve adequacy.

Management attitudes

Most companies do not perceive management as having a strong attitude, positive or negative, toward cash flow testing. We asked, on a scale of 1 to 10, if company management was more interested in getting through cash flow testing as quickly as possible or in trying to gain additional benefits out of the required testing. Most companies believed their management fell somewhere in the middle range. This attitude is borne out by the relatively few companies using cash flow testing for purposes other than satisfying regulatory requirements. Larger companies are more interested in deriving additional benefits available from the models used in performing cash flow testing. The additional uses of the cash flow analysis (other than reserve adequacy testing) are summarized in Chart 6.

Chart 5

Results Analyzed and Projection Period

	Number of Responses
Results Analyzed	
Profits	16
Distributable earnings	2
Net cash flow	18
Surplus	39
Market value of surplus	59
Book value of surplus	62
Macaulay duration	1
Are results analyzed at the end of each projection year?	60 of 181 respondents indicated "yes"
Projection Period	
Less than 10 years	4
10 years	44
10 to 20 years	18
20 years	46
25 to 30 years	20
More than 30 years	8

Chart 6

Uses for Cash Flow Analysis

(Other than Reserve Adequacy Testing)

Description	Percentage of Respondents Saying "Yes"
Any Additional Use	47%
Product design and pricing	34%
Testing investment strategies	30%
Testing interest crediting strategies	27%
Testing non-guaranteed elements	8%
Testing dividend scales	5%
Financial projections	26%

Lines of business

The new valuation requirements on asset adequacy analysis apply to all lines of business. We asked each company to indicate for its major lines of business whether cash flow projections were made as of December 31, 1991, to support the statutory reserve

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Survey cont'd

opinion and if projections are anticipated for year-end 1992. Chart 7 summarizes the results for major lines of business for insurers in company size C and D as defined by the new valuation requirements. These companies (in excess of $100 million of admitted assets) must perform some form of asset adequacy analysis for each line of business the first year that the new valuation requirements are in effect.

Insurers overwhelmingly anticipate performing cash flow testing to support the December 31, 1992, reserve adequacy opinion for their individual life insurance, individual annuities, and group annuities. Less than half of the insurers plan to perform cash flow testing in support of their individual accident and health, group life and health, and credit business.

Chart 7

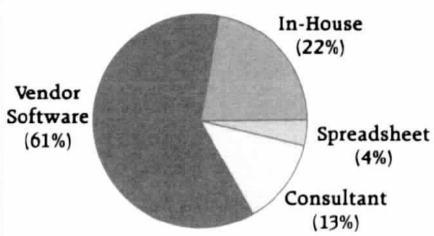
1991 and 1992 Reserve Adequacy Opinion

Companies in Excess of $100 Million in Admitted Assets (204 Total Respondents)

	Number of Companies		
	Major Product Lines	Cash Flow Testing Performed as of December 31, 1991	Cash Flow Testing Anticipated as of December 31, 1992
Individual Life			
Universal Life	157	79 (50%)	152 (97%)
Traditional Permanent	164	47 (29%)	129 (79%)
Traditional Term	146	42 (29%)	109 (75%)
Individual Annuities			
Single Premium Deferred	151	112 (74%)	144 (95%)
Flexible Premium Deferred	156	103 (66%)	147 (94%)
Immediate	113	75 (66%)	102 (90%)
Supp. Contracts – Surrenderable	53	40 (75%)	47 (89%)
Supp. Contracts – Non-surrenderable	67	43 (64%)	62 (93%)
Individual A&H			
Medical	52	6 (12%)	15 (29%)
Disability Income	75	11 (15%)	29 (39%)
Long-Term Care	21	1 (5%)	9 (43%)
Group			
Life	84	10 (12%)	30 (36%)
Medical	61	9 (15%)	23 (38%)
Annuities	55	37 (67%)	52 (95%)
GICs	43	40 (93%)	40 (93%)
Credit			
Credit Life	35	5 (14%)	9 (26%)
Credit A&H	27	3 (11%)	6 (22%)

Chart 8

Type of Asset/ Liability System



Computer software

A key element in the performance of cash flow testing is computer software. For companies expecting to perform cash flow testing, Chart 8 illustrates the type of system used in the asset/liability analysis.

Summary

This is the year for cash flow testing. The SVL will be effective in many states as of December 31, 1992. With cash flow testing still in the development phase, many companies are concentrating on the creation of asset/ liability models. Once the models are in place, it is likely that insurers will use them to perform additional analysis beyond the scope of the valuation law requirements.

Abe Gootzeit, Mike Pressley, and Greg Roemelt are with Tillinghast/Towers Perrin.

Early-release copies of *TSA* papers

The following papers have been accepted for publication in Volume 44 of the *Transactions*. Members who would like an early-release copy before it is published in a preprint should send $5 for each paper to the SOA Books and Publications Department.

"An Updated Money's-Worth Analysis of Social Security Retirement Benefits" by Robert J. Myers and Bruce D. Schobel

This paper addresses the question of whether workers get their "money's worth" from the payroll taxes they pay toward the U.S. Social Security program. The authors analyzed cash retirement benefits for hypothetical workers at two earnings levels who attained age 65 and retired in the past and who will attain the normal retirement age and retire in the future.

The majority of workers who retired in the past received, and are receiving, retirement benefits of far greater value than the taxes they paid for those benefits. In the future, however, increasing numbers of workers will not get their money's worth, especially if tax rates rise to a level sufficient to support the program over the long run.

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

This paper presents some numerical distributions, showing how well the actuary can expect to do in measuring major medical trends that have already occurred and shows a computer algorithm for performing univariate (1-dimensional) numerical convolution-type operations on empirical frequency or probability distributions. (The convolution may or may not be for sums.) The algorithm is explained in simple notation designed to ease the newcomer into convolution-type operations. It is difficult to overestimate the number of different actuarial and statistical applications of these techniques.

Who's minding the store?

by Walter S. Rugland

This article was edited from remarks made at the SOA seminar, "Understanding and Managing U.S. Life Insurers' Financial Strength," in New York on April 16, 1992.

When the Society of Actuaries' Planning Committee begins its strategic planning process, it classifies issues in one of three categories: professional, membership, or organizational. We discuss the implications of each issue and suggest strategic directions for the Society upon which the next year's operational plan is based.

The current issues list includes several issues that apply to the public's confidence in the U.S. life insurance business:

- Evaluations of insurers' financial strength and risk are often made without adequate applications of actuarial techniques or input.
- The importance of investment risk and asset-liability management is being increasingly recognized in today's business environment.
- Current reporting and analysis methods may not be adequate to expose all risks to which financial security systems are susceptible.
- Actuarial skills could be applied beyond the current scope of practice for the benefit of the public.
- Roles and responsibilities of actuaries in today's business environment require more ability to address a broader and different range of issues.
- The profession may need more focus on professional responsibility, ethics, and conduct.
- Practicing actuaries continue to call for meaningful continuing education and research programs to maintain and broaden their professional skills and qualifications.

While all these issues are appropriate for the Society's strategic plan, I have thought about one other professional issue even more:

- Widespread failures of insurance companies and other financial security systems could severely damage the actuarial profession's image.

My first reaction is, "Of course," but then I ask, "Why? Why should our image be damaged? Is this a legitimate issue?"

I might say it is, because we are the engineers of these systems. We have a public duty to make them structurally sound and able to meet their promises. That's what we believe; it's what we teach, and what we profess to do.

This is, in fact, what the real world was like in the late 1930s when A.N. Guertin and other Actuarial Society members thoughtfully anticipated the post-Depression life insurance business needs and crafted the initial Standard Valuation Law and Standard Nonforfeiture Law. They initiated the call for a new structure, put it in place, and documented their rationalization so that when conditions changed, future practice could change.

Conditions have changed, but practice has not, except for a major factor: the actuary as a practicing professional in this arena is now on the sideline. No one seems to want to know what the actuary thinks of the insurer's structure and whether it can deliver as promised. We sometimes are asked for opinions, but these requests have been limited and many times irrelevant to the big picture.

So, who's minding the store when it comes to financial strength, on whether an insurer can survive its business plan and make good on its promises? No one.

Actuaries have been told not to. When we try, no empathy exists for the framework in which such an analysis can be appropriately presented, evaluated, and discussed.

I said no one is minding the store. In reality, however, many are trying to, including regulatory supervisors, auditors, rating agencies, stock analysts, media experts, and consumer advocates. Would you let these people design the airplane you fly in? Why do we let them tell the public whether an insurer is strong or weak?

Of course the actuarial profession's image could be damaged if insurers fail – and it should be. If this is true, let's assume an actuary has a role in this area, and let's get on with the job of trying to keep insurers from failing. Let's get into the mainstream, take up the mantle, look the public in the eye, and say, "Have confidence."

Actuaries need to speak out on the difference between financial strength and financial reports, to point out that insurer value is more than insurer capital. They need to show that actuarial analysis is the key not only to the insurer management process, but to determining insurer financial strength.

New on the library shelf

The following is a partial list of additions to the SOA library. Members may borrow library books or obtain a complete listing of additions by calling the library at 708-706-3538 or 706-3575.

Canadian Institute of Actuaries

Pension Plan Surplus: Exposure Draft, July 1991
Report on Canadian Economic Statistics 1924-1990, June 1991
Standard of Practice on Dynamic Solvency Testing for Life Insurance Companies, July 1991

Circulating

The Complete Internal Revenue Code, Research Institute of America (HJ 3521 .R4)
Duesburg, Peter H. and Bryan J. Ellison, *Is the AIDS Virus Science Fiction?*, 1991 (uncatalogued)

International

2nd AFIR International Colloquium, Volume 1-4, AFIR, Brighton, April 1991
Life Insurance Business in Taiwan, Taipei Life Insurance, 1990
Toward a New Era for Actuaries: The Fifth East Asian Actuarial Conference, Taipei, December 1989
Transactions: Institute of Actuaries of Australia, Volumes 1 & 2, 1990
Transactions: Institute of Actuaries of Japan, Volume 43, 1 & 2, 1990

Life insurance consulting cont'd

losing their historical corporate influence and even their jobs.

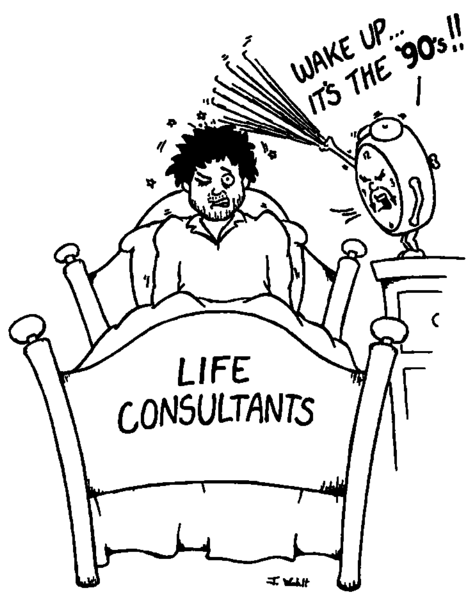
Life insurance actuarial consultants are finding their world changing dramatically. New product development needs are decreasing. More companies have their own projection capabilities, and consulting budgets have been reduced. In addition, consulting needs in the 1990s are emerging in areas not in traditional actuarial expertise.

The actuarial profession can respond to this wake-up call by either taking a good, hard look at its strengths and limitations to determine where to best fit into the merging new paradigm or by going back to sleep. The Actuary of the Future Task Force has been working on the first of those two choices for almost five years. It has identified several nontraditional roles and nontraditional employers where actuarial expertise brings something special to the table in resolving critical business problems of the 1990s.

The September 1991 report of the Actuary of the Future Task Force, "A Plan to Develop Nontraditional Opportunities for Actuaries," was approved by the Society of Actuaries Board last fall and is being implemented. It read:

> Traditional life insurance and employee benefit markets for actuaries are shrinking....Traditional actuarial career paths are disappearing....At the same time, the increased financial complexity of the world naturally increases the value of skills actuaries possess in situations well beyond traditional boundaries.

The fundamental changes occurring in life insurance companies create real threats and offer significant future opportunities for life insurance consulting actuaries. On one hand, the emerging environment will limit the opportunities for traditional consulting work. On the other hand, the need for an actuarial perspective exists in many new areas and for many non-insurance employers. The challenge is to recognize where these opportunities exist and to establish a plan for developing them. A few of the specific areas of opportunities identified in the previously mentioned report are:



In insurance companies –
- Product line management
- Asset/liability management
- Strategic planning
- Government relations
- Emerging issue development
- Marketing/distribution management

In nontraditional companies –
- A financial analysis actuary working with the CFO of any corporation
- A valuation actuary for a bank
- A pricing actuary for a utility
- Emerging issue development

The Actuary of the Future Task Force urges every SOA member to read its report and to be a part of the effort to redefine the actuary's role before the marketplace redefines it for us. It is available from the Society library. We have much to offer both traditional and nontraditional employers of life actuaries, but we need to modify our views and approaches to fit the emerging new world.

The...profession can respond to this wakeup call by taking a good, hard look at its strengths and limitations ...or by going back to sleep.

Robert D. Shapiro is president, The Shapiro Network, Inc., and Chairperson of the Actuary of the Future Task Force.

Help for exams

Study manuals and textbooks for the November 1992 SOA exams are available from Actuarial Study Materials. For a complete list, write to A.S.M., P.O. Box 522, Merrick, NY 11566, or call 516-868-2083.

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An intensive three-day problem-solving workshop for the EA-2 exam will be given by Actuarial Study Materials on October 16-18, 1992, in New York City. For details, write to A.S.M. at the address listed above, or call 516-868-2924.

The 1992 AERF Practitioners' Award

The Actuarial Education and Research Fund (AERF) invites entries in the fifth annual Practitioners' Award for research done in the past year. This award recognizes unpublished research done by actuaries working in a non-academic setting and encourages the publication of research performed in the working environment. The top prize is $1,000, and honorable mention prizes of $500 are possible. AERF expects to publish submitted papers in the *Actuarial Research Clearing House (ARCH).*

Submissions must be made to AERF by August 31, 1992. Winners will be announced in October. For rules and requirements on the Practitioners' Award, call Mark G. Doherty, Executive Director of AERF, at 708-706-3570.

In memoriam

Sidney Benjamin ASA 1965, FIA
John W. Clarke FSA 1947, FCAS 1949, ACA 1961, MAAA 1965
Joseph F. DeSimone FSA 1969
Matthew Henry Oram ASA 1950, FIA

Employee benefit consulting cont'd

- New laws (OBRA 87) that required even more work to determine minimum required and maximum tax deductible contributions each year. OBRA 87 also introduced PBGC variable premiums, the calculation of which often involves considerable time on the actuary's part.
- Skyrocketing health care costs
- The termination of many smaller and middle-sized defined benefit plans. Today, these plans are much less prevalent than in 1980 for under 1,000-life employers.
- A large number of mergers and acquisitions
- A willingness by business to use outside consultants and advisors for a variety of special projects, including the development of new or improved benefits

Business slowdown

Around 1990 (but at different times in different parts of the country), business slowed down. Benefit consulting firms, traditionally among the largest employers of consulting actuaries, were pressured by clients to reduce fees, and they experienced intense competition for new and existing business.

The situation hasn't improved over the past two years. The demand for services is lower now than it has been for more than a decade because of:

- Decreasing number of smaller and medium-sized defined benefit plans and the completion of these plan terminations
- Declining need for compliance work, particularly with continuing delays in the effective dates of regulations, expected changes in rules, and an emerging "Section 89" mentality among plan sponsors. ("We were able to repeal one bad law by refusing to comply. Surely, we can get these awful regulations changed.")
- Reluctance of many plan sponsors to do special projects and limited budgets for such projects when they are approved
- Decreasing number of mergers and acquisitions
- Improvements in computer hardware and software capability, making it easier for lower level staff (or clients) to perform functions historically performed by actuaries

Times are tough now. Many businesses are struggling to stay alive, and virtually all are looking for ways to contain out-of-pocket expenses.

Buyers of professional services are scrutinizing them, evaluating what is necessary and what is "just nice." Much of what is "just nice" is being put on hold. They're also demanding better communication from their advisors. Actuaries or lawyers who know their fields well but cannot converse in layman's terms are no longer acceptable. In addition, buyers expect their advisors to see "the big picture" and to relate the professional work they do to the broader issues facing their clients.

Significance of these trends

Until about four or five years ago, passing actuarial examinations was almost a guarantee that an individual could get a job with good pay, and if that job did not work out, there would be plenty of other options.

Buyers expect their advisors to see the "big picture" and to relate...to the broader issues facing their clients.

The situation is very different today, however, because:

- Fewer consulting actuaries are needed (demand no longer exceeds supply).
- Many more people are taking actuarial examinations, and new entrants to the field have increased dramatically.
- The demands of consulting jobs have changed, and communication skills and a general knowledge of business are essential, rather than just desirable.

This is a frustrating and confusing time for many actuaries and for people entering the actuarial profession. They have expectations based on an easier past, but they must live in today's more challenging world.

This means actuaries today and in the future will need to pay much more attention to career planning and management and to keeping their skills current. Advice to today's actuaries might include:

- Develop and maintain the basic skills that are important, regardless of the practice area of actuarial science. These skills include verbal and written communication, presentation abilities, project management, and general business knowledge. The actuary without good communication skills will have difficulty developing a satisfactory career in consulting. Further, the consulting actuary who cannot relate his or her work to the client's broader business objectives will be of limited value.
- Stay up-to-date in your area of practice, and be familiar with the rest of the services the firm provides.
- Remember that the younger generation has excellent computer skills. If you don't have them, a younger person may be able to do five times as much work as you can and more accurately. Productivity is increasingly important, and those who can't use today's automation may already be obsolete.
- The 1980s were a time of rapidly rising salaries, particularly for entry-level actuaries, but the increases affected actuaries at all levels. Salary growth will be slower in the 1990s, and the real earnings levels of professionals, including actuaries, may decline. Your expectations should be realistic.
- Think long term as well as short term. Two factors that can most enhance career growth are being in a firm with very good people and working with the right people. Keep these goals in mind, but remember that not as many options are available now.
- Remember that consulting is demanding work. If you are not prepared to put in long hours and to work hard, it's probably better to think about doing something else.
- If consulting is not a good fit for you after an honest try, don't try to force it. This could lead to several years of unhappiness and frustration and the possibility that you could lose your job. Play to your strengths, rather than your weaknesses.
- Remember that professional service firms value those who can bring in clients and those who can keep the bigger clients happy. If you do not see those skills in your long-term career, you may still have a place in a consulting firm, but probably not at the same reward level available to those who perform these functions.

Anna M. Rappaport is managing director, and Paul B. Zeisler is principal with William M. Mercer, Inc.

Actuaries and career planning

by Linda Delgadillo
SOA Director of Communications

Increasingly, actuaries may find future employment opportunities in a "hidden" job market – nontraditional environments where actuaries have not been employed before. Why should actuaries seek career opportunities outside their traditional environment? Consolidation in the insurance and employee benefits industries and the concomitant possibility of a shrinking traditional employment arena are just two reasons.

To enter such environments, however, actuaries will have to enhance and supplement the assembly-line type of actuarial education they received. Employers in all industries now are selecting people for positions based on communications skills, the ability to work effectively with others, to make written and oral presentations, to think and act entrepreneurially, and to manage people. Tunnel-vision thinking or dealing with problems as isolated incidents is out. Problem-solving must now include marketing and operations components.

To succeed in new environments, actuaries need to do some self-analysis and career planning. Probably the best approach is to begin by thinking of yourself as the CEO of your career. This means developing your career plan, including short-term and long-term goals, and monitoring your career progress as you carry out the various steps of your plan.

Career Values Checklist

Work Environment	High	Medium	Low
I would like to work:			
- for a small company	☐	☐	☐
- for a large company	☐	☐	☐
- at a fast pace	☐	☐	☐
- at a more relaxed pace	☐	☐	☐
- at an established company	☐	☐	☐
- at a newer company	☐	☐	☐
- in a people-oriented job	☐	☐	☐
- in a task-oriented job	☐	☐	☐
Position Preference			
I want a job that:			
- does not require supervising others	☐	☐	☐
- involves leadership responsibility	☐	☐	☐
- lets me define my responsibilities	☐	☐	☐
- is well defined and structured	☐	☐	☐
- involves little risk taking	☐	☐	☐
- involves taking risks	☐	☐	☐
- provides many opportunities for advancement	☐	☐	☐
- provides plenty of time for recreation and/or family activities	☐	☐	☐
- offers chance to advance in technical responsibility	☐	☐	☐
- offers chance to advance in administrative responsibility	☐	☐	☐

Source: Career Values Scale, Talico, Inc.

Self-analysis

The first step in developing a career plan is to take stock of your situation. Begin by reviewing basic information such as age, current income level, education, sphere of work now being done, and the type of business you are in. Determine what percentage of time you want to spend on your career, personal life, recreation, and other areas of your life.

The next step is to ask yourself a series of questions:

- What am I doing right?
- What could I do to make things better?
- Is this the business or industry I really want to be in?
- Where do I see myself in five years? In 10 years?
- Do I want to be in management or on the technical side?
- Is it in a traditional or nontraditional area?
- What income do I want?
- Am I in the right place today to achieve my goal?

Filling out the Career Values Checklist on this page may help you focus on what you believe is important in your career.

Career planning

After you have decided where you want to be, study the industry you are interested in. Look for trends and changes, identify the issues, and find out who the publics are. Develop a scale of career levels to suit that industry, and then position yourself in the marketplace. Look at where you are now, where you want to be, and what it takes to get there.

It may help to create a professional development matrix. List the levels, such as top management, middle management, junior management (usually initial supervisory role), and beginning professional. Try to clarify what responsibilities and activities are at these levels, and then define what skills and knowledge are needed at each. Then rate yourself – high, medium, or low – on your knowledge or skill in an area.

If you need to fill in the gaps in your knowledge or skill level, make a list of resources available to accomplish this. For example, resources could include on-the-job training, a mentor, books, seminars, accredited

Continued on page 12 column 3

SOA actuary learns through teaching at Nankai University

by Judy Bluder

SOA Research Actuary Warren Luckner recently returned from China with a few new friendships and experiences he won't soon forget. Luckner was the second of ten North American faculty members recruited for the second of two three-year cycles of the actuarial program supported by the Society of Actuaries at Nankai University in Tianjin, China. The actuarial graduate program, which is organized and administered by Nankai's finance department, began in September 1988. Seven of the courses are taught by North American actuaries with the goal that Chinese faculty will teach all the courses after the current cycle is completed.

Arriving in February a few days before classes began, Luckner got acquainted with his new surroundings by putting a lot of miles on a bicycle provided by Nankai's finance department. He also walked to a nearby park some mornings where he watched individuals doing various activities such as meditating, reading aloud or doing traditional Chinese exercises of t'ai chi ch'uan, which emphasize relaxtion, balance, and proper techniques of breathing. Luckner especially enjoyed watching kindergarten children perform their daily dance and exercise ritual. He also was surprised to see the hulahoop craze (popular in the United States in the 1950s) had hit during his visit.

His host, Nankai finance professor Luo Yu, became a friend and an invaluable teacher, showing Luckner around Tianjin, taking him to sights like the local markets, ancient culture street, a traditional lantern festival, and the new television tower. Yu also helped Luckner figure out the Chinese currency and sometimes acted as his translator with the students and faculty.

Students showed their appreciation for Luckner's efforts by bringing him tea each class session. In turn, he invited them to his apartment for help on assignments after class. Luckner explained that foreign faculty members don't have offices on campus.

Warren Luckner (center) visits with some of his students in one of their dorm rooms. He invited all the students to his apartment for a party the night before the last day of class in appreciation for their hospitality.

Although Luckner taught theory of interest at the University of Nebraska for nine years, he said teaching the subject at Nankai was an opportunity to learn new material and to update his skills.

Nankai actuarial students spend an average of 25 hours and six days a week in the classroom, compared to an average of 15 classroom hours for North American students. Because several of his 14 students weren't fluent in English, Luckner spoke slower, used simpler words, and wrote on the chalkboard as much as possible to help them understand the assignments.

Unlike their American counterparts, his Nankai students were reluctant to turn in an unfinished quiz. "I let them take their first quiz home and finish the problems they didn't get to for partial credit," he said. He allowed twice the amount of time for a quiz than he would allow for English-speaking students. When Luckner discovered the final exam would be given on Friday the 13th, he amused his class with an explanation of the American superstition behind that day.

Luckner said he was impressed with the quality of the students and sees a solid base of actuarial expertise evolving. "One of the program's objectives is to prepare individuals who can teach actuarial science at Nankai or other universities in China," he said. "Based on my experience, I am optimistic that there will be little difficulty in the transition to Chinese faculty for the courses currently taught by North American faculty.

"The opportunity to assist in the development of an actuarial science program in China furthers the stature of the Society of Actuaries in the international actuarial community, and individual North American faculty members have a rare opportunity to live, teach, and learn in a different country and culture."

Seminar Calendar

Valuation Actuary Symposium	September 17-18	Waldorf = Astoria New York
Multivariate Duration Analysis Theory	September 21-22	MIT Faculty Club Boston
Multivariate Immunization Theory	September 23-24	MIT Faculty Club Boston
Critical Issues in Contemporary Risk Selection	November 15-17	San Antonio Hyatt San Antonio

For more information on seminars, call 708-706-3545.

U.S. employment cont'd

knows of several FSAs with salary expectations of $75,000 and above looking for employment.

Spencer's advice for actuaries who want to be more employable is to:

- Improve verbal and written skills.
- Become aware of what non-actuaries want.
- Become better acquainted with the marketing side of the business.
- Be more flexible in employment demands, especially in salary expectations.
- Do not strap yourself financially, since it becomes difficult to change jobs for the same or less money.
- Learn BASIC, COBOL, and computer languages applicable to other industries and professions.

John Baumann said that Jacobson Associates, an executive search firm that specializes in insurance and health care industry employment, sees about 50 resumes a day where it used to see 30. He believes the economy is the primary cause of the downturn in employment opportunities for actuaries, and he remains very optimistic about future employment opportunities. Demand for well-qualified actuaries continues to be strong and consistent, and he believes that actuaries still have an edge in the market.

Baumann points out that the health care industry continues to grow despite the economy. He sees the most opportunities now for actuaries in managed care, financial/investment, and nontraditional consulting roles. Geographically, the South, Midwest, and Mid-Atlantic have had the greatest opportunities. He also stressed the need for actuaries to be flexible in their geographic and salary demands. He recommends that actuaries focus on the "big picture" business issues and remain current on technical matters. He also notes that management and communication skills are becoming more important.

According to Michael J. Corey of CSG International, Inc., actuaries have a better chance than other professionals connected with the insurance industry to be considered for international opportunities. Fellows of the Institute of Actuaries (England) do very well in the United States and Fellows of the Society of Actuaries do well in Europe. His firm has been busier so far in 1992 than in any of the last five years. Much of this activity is at the very senior level. Companies now seek actuaries to fill CEO, CFO, or chief marketing officer positions.

Another area where demand is strong is for health actuaries at all levels.

ASAs have become harder to place, and there's definitely excess capacity. Companies now find they can hire an FSA instead of an ASA. Mid-level salaries are static, but those at the upper levels remain high. Corey stresses that the actuarial profession continues to have a great future. Those with a breadth of experience and talent still have wonderful opportunities.

Ken Mitchell of Kenneth Mitchell & Co. has seen a significant improvement in job prospects for actuaries in 1992 over 1991. Demand is up for employee benefit consulting in Cleveland, Chicago, and Minneapolis-St. Paul. He sees life insurance companies beginning to hire again, especially in the health areas. On the other hand, there is still an overabundance of pension talent looking for work. He points out to U.S. actuaries that many U.K. actuaries are employed in investment work, and he hopes actuaries will become more involved in investments on this continent. He believes actuaries must be more flexible and market themselves to find work in nontraditional areas. He said he knows of no other profession with members as ethical and moral as actuaries.

Although current and future actuarial employment opportunities do not appear as exceptionally bright as they once did, the actuarial profession still has a lot going for it. The "closet actuary" is not as much in demand. We have to know and respond to the needs of our clients. To know what our clients want, we must communicate with them. Welcome to the real world! It's not so different from what's going on with MBAs, doctors, and attorneys. We have to be willing to know what is valued or could be valued in our profession and develop ourselves to respond to the opportunities.

We can use some of the time we once spent talking to search firms to evaluate our future employability and how we can best cope with the needs of our employers and clients. Those who survive and prosper will be those flexible enough to respond to this changing environment. Meanwhile, some improvement can be expected as the economic environment brightens.

"The slow economy has made both companies and actuaries more cautious. Companies have taken a 'wait and see' attitude."

Mail alert

The *Transactions 1988-89-90 Reports of Mortality, Morbidity, and Other Experience* was mailed to members early in April. If you have not received your copy, please call Donna Klehr at the Society office, 708-706-3526. (Note that because of the date of the *Reports*, it is not sent to new 1991 Associate members.)

* * *

The Colorado Springs *Record*, Vol. 17, No. 3A & 3B, was mailed in mid-April. Volumes of the *Record* for the 1991 spring meetings are now complete. If you are missing any of Vol. 17, please call Donna Klehr.

* * *

Second Ballots for the Society's 1992 elections will be mailed to all Fellows on July 21. Ballots must be returned to the Society office by August 21.

Career planning cont'd

programs at colleges or universities, bibliographies from current literature, periodicals or journals that are industry-specific, newsletters, newspapers, material from industry foundations, research groups, or national and local associations, and continuing education programs in various fields.

In the final analysis, it may not be so important to market yourself as an actuary, but rather to market the actuarial set of skills and how these can be successfully applied to different businesses or industries. It requires delineating what you bring to the table, using the actuarial set of skills, that no one else has been able to do thus far. The key is to show how you can make a "cutting edge" difference in the work environment, whether it is traditional or nontraditional.

The baseball teaser in the March *Actuary* brought comments, and in some cases, extensive calculations, from six readers. With baseball season in full swing, it's timely to take a look at what they had to toss our way.

C.L. Trowbridge observed the teaser assumed the teams are evenly matched in every game. In sports, he said, the home team has the advantage. With the first team winning four games declared the victor, the solution implies that, with the first two games in the Triplets' park, the next three in the Tomahawks' park, and last two in the Triplets', the Triplets have a better than an even chance of winning the series. Under all reasonable home-team-advantage assumptions, the values calculated in the solution change slightly, and chances that the series will go six or seven games are increased slightly.

Donald Baillie suggests the teaser can be answered more readily by concentrating on the final $(n+1)st$ game in the series.

William A. Bailey solved the teaser by using 2-dimensional numerical convolutions. Both he and John Rutter confirmed the answer, expressing it in decimals instead of fractions.

Wayne Lowe believed the solution to be needlessly complex, and that by using symmetry, one does not have to compute the probability of each elementary event.

A true baseball fan, Philip Feuer compared actual results for the 84 World Series since 1905 that required four games to win the series to expectations based on the teaser's probabilities:

No. of Series Ending after *Z* Games

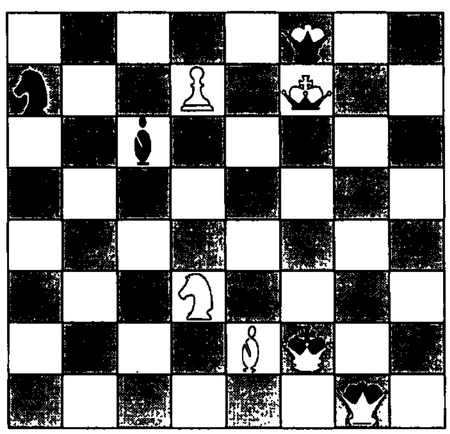
Z = No. of Games in a Series	Expected	Actual	Actual/ Expected
4	10.5	13	1.24
5	21.0	22	1.05
6	26.25	17	.65
7	26.25	32	1.22

Feuer also said, "The National League is making agonizingly slow progress in getting its winning percentages up to 50%." In 1932, after 25 World Series, the National League won 36% of the series championships. In 1991, after 84, its wins had only increased to 42%. "Probably...the longest shot of all," he said, "is the number of years we'll have to wait to see a display of pitching rivaling that of the first modern World Series in 1905 – five shutouts in a five-game series, three of them hurled by the legendary Christy Mathewson." (The other two were pitched by Ironman Joe McGinnity and Chief Bender.)

* * *

On a little different level of gamemanship, Elmer Sangalang in Manila offers another chess study. It was composed by Alexander Seletsky in 1933, he said, and is a favorite of world chess champion Garry Kasparov.

Black



White

White to play and win

(Solution on page 18)

RESEARCH CORNER

- The report on the "Single Premium Deferred Annuity Persistency Study" has been released. Copies may be purchased for $25 from the SOA office. A seminar on the SPDA study tentatively is planned for the end of June. (Contact Continuing Education, 708-706-3545, for seminar information.)

  The Project Oversight Group also is considering the next phase in interest sensitive cash flows research. Alternatives include a study of flexible premium annuities, universal life, or an update of the SPDA experience.
- The Annuity Valuation Table Committee is preparing a position paper on issues facing the development of new valuation standards. Of particular interest is the possible use of projected mortality as part of the standard. Another consideration might be a generational cohort approach. The concept is to prepare a valuation table that is not static but can adjust to improvements in mortality.
- The Committee on Actuarial Principles has prepared a statement of actuarial principles to be published in the *Transactions*. Preprints will be available soon. The committee is undertaking the next phase of its work, which is to define methodologies as an extension of the principles.
- The first comprehensive survey of Lyme disease patients has started, and the data base continues to grow. Information on more than 500 patients has provided some insights into diagnostic tests results, average months from infection to diagnosis, cash and noncash losses, and treatment costs. The research uses actuarial techniques of experience studies, going well beyond the typical medical clinical approach studying a few patients. It is sponsored jointly with the Lyme Borreliosis Foundation.

Official student newsletter arrives in fall

Actuarial exam time can make students a bit anxious. This fall, those stressful months may become easier with the arrival of a new publication for students taking the first five jointly administered Society of Actuaries/Casualty Actuarial Society exams. Those who take the November exams will be the first to receive *The Future Actuary*, a newsletter cooperatively produced by the SOA and CAS. It will offer tips for getting through those pressure-filled exam days, cover issues affecting the profession, and offer realistic insights into the future of actuarial careers.

Students taking beginning exams and faculty contacts at colleges and universities will receive *The Future Actuary* three times a year in February, May, and November. All CAS and SOA members will receive the premier issue in November.

Students will get full coverage on topics like career development, grading systems, special interest careers, study tips, professional conduct and ethics, and the structure of actuarial organizations. Regular features will include a Q&A column by Pat Holmberg, SOA student ombudsperson; a calendar of events; news briefs; and a listing of scholarships, internships, seminars, and workshops.

The SOA and CAS boards enthusiastically endorsed a task force's proposal for an official student newsletter for the profession last fall. Many members had become confused about another publication for students being produced by a commercial firm reportedly representing an actuarial student organization. Many people assumed the SOA and CAS had endorsed the organization and were cooperating with the magazine, which is not the case.

As part of the task force's recommendations, the Board approved sending issues of *The Actuary* to all students enrolled in the nonjointly administered SOA exams who had not reached Associateship. Students in the CAS exam process have been receiving that organization's newsletter, *The Actuarial Review*, for some time.

Editorial board members for *The Future Actuary* are: Charles Emma of Deloitte & Touche, editorial board chairperson and representative from the CAS External Communications Committee; Stuart Klugman of Drake University, academic representative; Bob Musen of Metropolitan Life, SOA representative; and Michelle Ann Smith, a student at the University of Wisconsin-Madison. Judy Bluder, assistant staff editor of *The Actuary*, has been named editor of *The Future Actuary*.

Because research indicated that job information is students' first interest, *The Future Actuary* will accept classified advertising for help wanted listings and employment services, as well as classified ads for publications, study aids, and products/services. Ads will cost $9 a line (about 50 characters a line), with a $35 minimum per ad and an additional $40 for boxed ads. Prepayment with a completed advertisement form will be required for all ads six weeks before each issue date. Advertising information will be sent to interested parties in July. For more information on advertising, please call Judy Bluder at 708-706-3566.

The complete actuary

Strategic planning

by John O. Nigh

At the Society of Actuaries' annual meeting in Toronto last October, the Management and Personal Development Committee sponsored a session on "Strategic Planning." Dr. Philip G. Kuehl, an independent consultant and former associate professor in the College of Business and Management of the University of Maryland, conducted the session.

This article presents highlights of that session.

A manager's challenge

Today's corporate manager must be prepared to meet increasing competition from within and outside the industry, providing products that will place the company in a strong position now and in the future. The manager also must deal with the implications for the organization of changing government regulations and tax laws.

An effective manager must know where the company stands among its competitors. Such business leaders must take a proactive, rather than reactive, approach to management by anticipating the effects of internal and external influences and conditions. A good manager also must have a solid foundation of clearly defined goals on which to base the selection of short- and long-term strategies.

The strategic planning process

Through strategic planning, a manager can make the most effective and efficient use of the company's organizational resources to accomplish its objectives. It helps management understand the company's competitive stance in the marketplace and its organizational effectiveness. Through strategic planning, a company can focus on its objectives, identify additional markets and services, and analyze the trade-offs of alternative courses of action.

Situational analysis

The first step in establishing a strategic plan is to conduct a situational analysis. This analysis determines the position of the company in its market, addressing economic factors and industry competition and any other business conditions that may affect the company's competitiveness. The analysis assesses the structure, resources, and operations to evaluate how well they are aligned to enable the company to survive and prosper in the current economic market. The strengths and weaknesses of the company, which have been revealed through this in-depth analysis, can help the company identify opportunities to improve its market position or to gain a competitive edge.

The strategic plan

Armed with this valuable information, the company then is ready to develop its short- and long-range strategic plan. The plan must include:

- A mission statement. It can be very brief but should at least state the business that the company is in, its intended level of service to its customers, its philosophy toward its employees, and its position in the marketplace.

- General objectives. They should include statements about growth in market share, improvement and efficiencies, community involvement, and diversification.
- Specific objectives. These actions to support the general objectives might address introducing new products by a specific month and year, consolidating offices, implementing an employee education program, and establishing a foothold in the new market.

A marketing plan to support these objectives provides for continued and expanded services in its current markets and identifies other markets for potential diversification.

Specific goals for each business unit also must be set. They must be documented and include measurable criteria and action steps for achieving the goals. Also, proper reporting and control mechanisms need to be in place to monitor progress.

The strategic plan must be supported by the appropriate human, technological, and administrative resources.

Conclusion

Times have changed. You will no longer find successful managers bogged down in paperwork and administrative details. They have recognized that business survival in the 1990s depends on their taking leading roles at the strategic planning table. A strategy must be periodically re-evaluated to ensure that it is still relevant to the company's mission and long-term goals.

Strategic planning is an ongoing process, not a one-time effort. It should not be undertaken only as a reactive measure to remedy immediate problems. In fact, it is the cornerstone of successful management in leading-edge companies. Senior management must be responsible for the plan; it cannot be delegated.

For those who want to know more about strategic planning, some books you might want to check out are:

- *Managing for Turbulent Times* by Peter F. Drucker, Harper & Row
- *Top Management Planning-Studies of the Modern Corporation Serial* by George Steiner, Macmillan
- *Competitive Advantage: Creating and Sustaining Superior Performance* by Michael Porter, Free Press

John O. Nigh is with Tillinghast/Towers Perrin and is a member of the Committee on Continuing Education.

Dear Editor:

Amendment should have had more discussion

A recent mailing to the Fellows asked them to vote for a constitutional amendment to change the discipline process.

The Fellows are supposed to have the opportunity to discuss and debate proposed amendments before they are asked to vote on them, as we are now doing for the proposal to let ASAs of more than 10 years have the right to vote. The only exception is for amendments that are "non-controversial," e.g., technical or conforming changes.

Yet, this proposed amendment removes three important safeguards from the present disciplinary process:

1) The right to be heard by the whole Board, who then makes a decision

2) The right to appeal a suspension or expulsion to the Fellows, which provides protection from disciplinary action based on mere disagreement with the Board or a committee, rather than actual misconduct

3) Protection from future arbitrary changes in the disciplinary process by the Board, rather than the Fellows

Under the proposed amendment, the final decision on a member's future in the Society and the opportunity to practice could be determined by as few as three people, the majority of a tribunal of five.

These major changes deserved a full airing before voting, including a statement of pros and cons.

The Board should act in the best interest of the members and follow their wishes. I am sure it tries to do so. Sometimes, however, it is easy to lose one's perspective when serving in a leadership position. For example, would the Fellows have voted to invite the American Society of Pension Actuaries (ASPA) to become a full partner with the Society through joint sponsorship of meetings, coordinated directory, etc., if they had been given the opportunity to do so? The result may be more congenial joint meetings of the various boards, but was it really in the best interest of the Fellows? This is one of the reasons the Society has a constitution, and why the Fellows, not the Board, should decide when and how it should be changed.

The Fellows deserved the opportunity to substitute facts for appearances and demonstrations for impressions, rather than to be asked by the Board to "trust us." The Board should recognize it did not consider the rights of the Fellows and should withdraw the amendment so the pros and cons can be fully aired before a final vote is taken.

Peter W. Plumley

Editor's Note: The constitutional amendment to incorporate the Actuarial Board of Counseling and Discipline (ABCD) into the Society's disciplinary process passed in March, with 92% of the Fellows returning ballots voting in favor.

Reply by David M. Holland, Vice President and Secretary:

At its March 26-27 meeting, the Executive Committee of the Board of Governors carefully considered the issues raised by Peter Plumley. The so-called safeguards he mentioned being removed from the process have existed since the formation of the Society in 1949. At that time, most members knew each other, and the election of officers was conducted at a meeting, and not by mail. Now, the Society has more than 13,000 members and what was contemplated to work for a small professional organization no longer works.

The responsibility of the 28-member elected Board is to manage the affairs of the Society. Although disciplinary proceedings are very important, proper consideration of such matters is very time consuming and could overwhelm the Board should the number of cases increase. The Board has a responsibility to ensure that disciplinary matters are handled fairly, with appropriate due process rights available to a member complained about. The amendments to the disciplinary process proposed by the Board ensure these important rights.

Plumley states that "the final decision as to a member's future in the Society...could be determined by as few as three people...." Before the final action referred to, three stages are taken:

1) A complaint against a member is initially investigated and handled by the ABCD. If it decides to dismiss a complaint, the matter ends at that time.

Continued on page 16 column 1

Dear Editor cont'd

2) If the ABCD is of the view that a member should be subjected to discipline, it makes a recommendation to the Society's Committee on Complaints and Discipline that a member should be subjected to discipline. The committee consists of not less than 10 members, and a disciplinary determination, other than dismissal of the matter, can be made only upon the affirmative vote of at least two-thirds of the whole committee.

3) Thereafter, a member can appeal an adverse disciplinary determination to the Appellate Tribunal of the Society. The tribunal consists of five members of the Board and the chairperson must be an officer of the Society. The tribunal may, by the affirmative vote of at least a majority of the whole tribunal, affirm the disciplinary determination of the Committee on Complaints and Discipline or reduce or set aside the penalty determined by the committee.

Thus, up to three groups (ABCD, Committee on Complaints and Discipline, and the Appellate Tribunal) may be involved before a final decision to discipline. Not counting the ABCD, a minimum of 10 of 15 members of the Society must have agreed to the final action. Also, at all stages of the process, a member has the right to appear personally and/or be represented by legal counsel.

The second of the three safeguards Plumley mentioned involves an appeal of a suspension or expulsion to the Fellows. Such an appeal could be very expensive. A member is required to deposit with the Society the cost of transcribing and printing the transcript of the evidence and copies of any and all exhibits that are to be mailed to every Fellow of the Society. Depending on the amount of material involved, the printing cost could easily range from $10,000 to $50,000. The deposit will be returned to a member if an appeal to the Fellows at a meeting is successful. Does this costly procedure, which has never been used in the history of the Society, afford members an important safeguard? Would the vote of members attending a Society meeting reflect a more thoughtful and detailed consideration of the evidence than a decision of a tribunal convened expressly for such a hearing? Plumley apparently thinks so; the members of the Board believe otherwise.

Plumley's third point is that allowing the Board to amend the disciplinary process subjects the members to "arbitrary changes in the disciplinary process by the Board...." With ABCD's implementation, future administrative changes may be required. It did not seem reasonable to the Board to require a constitutional amendment for every change. The Board is mindful that fairness and due process are essential elements of any disciplinary process. Any needed changes in the process would be made only after careful consideration and a review of any proposed change by the Society's legal counsel.

In summary, the Board does not agree with Plumley's view and takes strong exception to his statement that "the Board should recognize that it failed to properly consider the rights of the Fellows...." The Board carefully considered the rights of all Society members in recommending changes to the disciplinary process.

Reinsurance may be part of solvency solution

The increasing attention being given to the solvency of insurers is understandable. Reinsurability is more likely to lead to the simplest and most widely acceptable solution.

Reinsurance should be triggered automatically, and before the market value of the insurer's assets available for the reinsurance becomes less than the reinsurance reserve of the business when determined on bases that are expected to result in little or no loss to the would-be reinsurer.

The appropriate regulatory authority would be responsible for triggering the reinsurance based on the insurer's annual or interim statement to the authority showing the requisite market value and reinsurance reserve. Cooperation of regulatory authorities with the would-be reinsurer should result in agreement from time to time on the methods and bases to be used in the determination of such market values and reserves. Where an insurer proposes to introduce a policy providing benefits of a type for which the amount of the reinsurance reserve could be in doubt, introduction of the policy might have to be deferred until the doubt is resolved to the satisfaction of the would-be reinsurer.

Triggering reinsurance before it can result in loss to the reinsurer should reduce, if not actually remove, objections automatic reinsurance in full frequently attracts, particularly the objection that it can fail to deter insurers from engaging in practices that invite insolvency.

Put briefly, the criteria should not be whether an insurer is solvent, but rather whether its assets are sufficient to permit reinsurance of its business in full without loss to the reinsurer.

Reginald Barnsley

Las Vegas helps break stereotypical actuary image

The March 18, 1992, edition of the *Wall Street Journal* ran an article about the Society of Actuaries' spring meeting in Las Vegas. What captured my attention in the article were the comments made that some actuaries were concerned that having a meeting in Las Vegas was "not good for our image," and having a meeting in Las Vegas is "inappropriate for such a risk-averse profession."

Are you kidding me? Bad for our image? If the profession wants to perpetuate the stereotype of an actuary as a stodgy, boring, narrow-minded individual (i.e., nerd-like) then I would agree. However, I thought the Society was trying to recruit broad-based, flexible, and innovative students into the profession and to enhance our image in the public eye. Apparently, some of the members have missed this message.

Besides, what is wrong with mixing a little pleasure with business? I am sure other professional associations would not hesitate to meet in Las Vegas. In the words of Bobby McFerrin, "Don't worry; be happy."

Kevin J. Crowns

Youngest successful exam candidates

The January and March issues of *The Actuary* refer to the youngest successful exam candidates. I qualified as an FSA in 1978 at the age of 22 years and 10 months. I obviously was very proud of this until *The Actuary* mentioned in 1984 or 1985 a few actuaries who successfully completed all examinations before they turned 20.

Michel Tardif

A look at past elections

While looking at this year's first ballot for the election of Society officers, I became curious about the previous service as officers of those who become President. I wondered how much time typically elapses between the end of the term of a Vice President and election to President-Elect/President?

Using the *Yearbook* as a resource, the accompanying table shows the number of years between the end of the latest term as Vice President and the beginning of the term as President (1951-60) or President-Elect (1960-91). We elected one of each in 1960, the year the Society created the President-Elect position. As you can see, I also have shown the figures separately for the years 1951-79 and 1980-91.

A distinct change occurred in 1979 or 1980. The change is somewhat greater than shown by the table because, starting in 1986, three Vice Presidents completed terms each year, compared to two in prior years, thus increasing the pool of eligible candidates. However, other than making the obvious statement that we have recently chosen several Presidents-Elect without recent experience in the governance of the Society, it is hard to interpret the data. At any rate, I thought it interesting.

Another point worth mentioning is that only two of the six persons completing Vice President terms in 1991 and 1992 were on the ballot. One possible conclusion is that the duties of the President-Elect/President have become too time-consuming. If that is the case, we need to do something about it.

Harold J. Brownlee

	Elapsed Years									
	0	1	2	3	4	5	6	7	8	9
1951-91	20	10	5	2	1	1	0	1	1	1
1951-79	16	8	4	2	0	0	0	0	0	0
1980-91	4	2	1	0	1	1	0	1	1	1

Readers need more proof

I would like to comment on the proof that 2 = 1, offered by Edward Scher in the March 1992 *Actuary*.

It is true, as Scher suggests, that n^2 = the sum of n addends, each equal to n.

However, the proof seems to assume that if the base n is increased by Δn, then $(n+\Delta n)^2$ = the sum of n addends, each equal to $(n+\Delta n)$.

Actually, $(n+\Delta n)^2$ = the sum of $(n+\Delta n)$ addends, each equal to $(n+\Delta n)$, or $[n\times(n+\Delta n)] + [\Delta n\times(n+\Delta n)]$, that is, $n^2 + [(n)\times(\Delta n)] + [(\Delta n)\times(n)] + (\Delta n)^2$.

Therefore, $(n+\Delta n)^2 - n^2 = [2\times(n\times\Delta n)] + (\Delta n)^2$.

The derivative of the right-hand side of Scher's equality equals

$$\underset{\Delta n\to 0}{\text{Limit}} \frac{[2\times(n\times\Delta n)]+(\Delta n)^2}{\Delta n} = \underset{\Delta n\to 0}{\text{Lim}} (2n+\Delta n) = 2n,$$

which is indeed the derivative of n^2.

David H. Berne

* * *

I have a proof for "one more proof" in the March issue of *The Actuary*.

$n^2 = n+n+...+n$ (n addends. Note that this n is a variable too. The mistake in "one more proof" is that this n was considered as a constant when taking the derivative.)

We rewrite:

$$n^2 = n+...+n = \sum_{i=1}^{n} n \qquad (1)$$

Using the well-known formula:

$$\left[\int_{a(u)}^{b(u)} f(u,x)\,dx\right]'_u = \int_{a(u)}^{b(u)} f'_u(u,x)\,dx + f(u,b(u))\,b'_u(u) - f(u,(a(u))\,a'_u(u)$$

we have:

$$\left[\sum_{i=1}^{n} n\right]'_n = \sum_{i=1}^{n} (n)'_n + n\cdot(n)'_n - n\cdot(1)'_n = \sum_{i=1}^{n} 1 + n = 2n$$

Taking the derivative of both sides in (1),

we have: $2n = 2n$

$1 = 1$

Peijian Sun

Comments on risk aversion article

I must take exception to the conclusions drawn by the authors of "Risk aversion rational insurance purchase in the long run" in the April *Actuary*.

First, the analysis incorrectly assumes the contract will always be made for the greatest amount that buyer *C* is willing to spend. Unless *A* is omnipotent and *C* is absolutely ignorant, the contract for each period will be made for a premium between *A*'s minimum of 50% of remaining wealth and *C*'s maximum of 75%.

The authors conclude that their model represents a "diabolical process" and that *C*'s behavior is irrational because the expected value of *C*'s wealth when the risk is transferred to *A* is always less than if *C* goes bare. But maximizing the expected time until ruin also is a legitimate economic goal.

The expected wealth after five periods for risk-loving *B* is $3.125, while risk-averse *C* will be down to $0.0976. But this masks the fact there are only two possibilities for *B*: $100 or $0, and the probability of $0 is 96.87%. *C*'s future wealth, though relatively meager, is certain. The expected number of periods before insolvency is only two for *B*. *C* will never become insolvent.

C does not have to be "sold" this arrangement. Though *C* will quickly spend down the initial wealth, *C*'s decision is a rational one that guarantees long-term solvency.

Also, without a contract between *A* and C, the expected long-run value of the three-person model is $100. If *A* and *C* contract each period (premium = 75% of *C*'s wealth), then the expected value of this economy is $133.33. By engaging in this "diabolical process," the value of this little society is increased. In both cases, the total wealth is expected to reside entirely with *A*, simply because the model has been contrived by the authors such that (1) *A* is never at risk of a total loss, (2) *A* is the only one of the three who is providing a needed service, and (3) the model does not allow wealth to be created, only lost.

Jonathan Close

Responses to math rediscovery

John H. Cook's letter in the April 1992 *Actuary* presents a charming algorithm for finding a root of a polynomial under reasonable conditions.

Continued on page 18 column 1

Dear Editor cont'd

The algorithm relies on the following observation: if we set up a recurrence relation with the same coefficients as the equation we are interested in, the original roots also will be roots of the indicial equation of the recurrence relation. Now we are in a situation that resembles the theory of ordinary differential equations with constant coefficients. Cook's result amounts to a trick for computing one of the eigenvalues of an associated matrix, and it can be made rigorous without too much work.

The algorithm is known, but perhaps not as well as it should be. It most often crops up in discussions of the Fibonacci sequence. It is well known that the ratio of successive Fibonacci numbers converges to the golden ratio, which is one of the roots of the indicial equation for the recurrence $F(n+2)-F(n+1)-F(n)=0$.

The algorithm also appears in Edouard Lucas' nineteenth century studies of the divisibility properties of sequences that are solutions of recurrence relations. Lucas' theory has some interesting modern applications in number theory, computer science, and cryptography.

Unfortunately, the algorithm has error-propagation characteristics. A careful analysis is required before it can be used safely in any case. This may be the main reason it isn't more widely known. Those interested in pursuing this subject may enjoy reading *Computation with Recurrence Relations*, by Jet Wimp (Pitman Publishing Ltd., 1984).

This does not contradict the well-known result of Abel and Galois, that the general polynomial of degree $>=5$ has no algebraic solution. In this context, an algebraic solution is one that is expressible in closed form, produces an exact answer in a finite number of steps, and uses only the operations of addition, subtraction, multiplication, division, and extraction of roots. The quadratic formula, for example, satisfies these conditions. The algorithm described by Cook doesn't, because it takes an infinite number of steps to arrive at the exact answer.

John Kahila

* * *

Great minds travel along similar paths. I believe that the method John Cook discovered is closely related to one published in 1728 by Daniel Bernoulli.

I will use a slightly different notation. Start with the polynomial equation

$P_n(x)=x^n+a_1x^{n-1}+...+a_n=0$,

and the related recursion relationship

$u_k=-a_1u_{k-1}-a_2u_{k-2}...-a_nu_{k-n}$.

You can start with n arbitrary initial values of u_k. The ratio u_k/u_{k-1} will approach the largest root of the polynomial equation. Let r denote the largest root and form $P_{n-1}(x)=P_n(x)/(x-r)$ and repeat the process on the reduced equation of degree $n-1$.

You can find developments of the Bernoulli method in numerical analysis books. For example, read Section 10.1 of *Introduction to Numerical Analysis* by F. B. Hildebrand, published in 1956 by McGraw-Hill and Chapter 25 of *Numerical Analysis* by Francis Scheid, Schaum's Outline Series published in 1968 by McGraw-Hill, at one time required reading for actuarial students.

It's great to have a retired actuary following the trail of the giant Bernoulli.

James C. Hickman

Solution to chess study

1. Q-N5 K-K3ch (If 1...BxP, then 2. N-B4 threatening 3. B-R5 mate)
2. K-N1 (If 2.K-K1 KxP 3.N-B5ch K-B1 4.Q-K5 Q-R3) 2...KxP
3. N-B5ch K-B1 (If 3...K-B2, then 4. N-K6ch wins the Queen or if 3... K-Q3, then 4.Q-KN3ch K-K2 5.Q-K5ch K-B2 6.B-B4ch K-N3 7.B-Q3ch)
4. B-R6ch K-N1
5. Q-N3ch K-R1
6. B-N7ch BxB
7. N-Q7 Q-Q1
8. Q-QN8ch QxQ
9. N-N6 mate.

Fantastic – as if some mysterious force had piled up Black's pieces in the corner of the chessboard so that White's Knight triumphs over Black's armada.

Here is the solution in Algebraic Notation, the official notation recognized by the World Chess Federation:

1. Qg5 Ke6+ (If 1...Bxd7, then 2.Nf4 threatening 3.Bh5 mate.)
2. Kgl (If 2.Ke1 Kxd7 3.Nc5+ Kc8 4.Qe5 Qh6) 2...Kxd7
3. Nc5+ Kc8 (If 3...Kc7, then 4.Ne6+ wins the Queen or if 3...Kd6, then 4.Qg3+ Ke7 5.Qe5+ Kf7 6.Bc4+ Kg6 7.Bd3+)
4. Ba6+ Kb8
5. Qg3+ Ka8
6. Bb7+ Bxb7
7. Nd7 Qd8
8. Qb8+ Qxb8
9. Nb6 mate.

Welcome to new editors

This issue is the first under the editorial direction of *The Actuary's* newest associate editor, Michael B. McGuinness. He is with Eckler Partners in Don Mills, Ontario, and is well versed on professional issues. He served on the Society of Actuaries' Board in several positions, most recently as Vice President (1987-89). He begins his second stint on *The Actuary's* editorial board, previously serving from 1979 to 1983. McGuinness replaces Associate Editor Stephen Radcliffe, who developed many interesting issues during his years on the editorial board (1989-92).

We are pleased that several individuals answered our request for a puzzle editor, and Julian Ochrymowych has been selected. John Keller had taken on that responsibility temporarily a year ago, and we are grateful for his willingness to do the work until we could fill the position permanently.

Employed at Metropolitan Life in New York, Ochrymowych brings professional puzzle experience to *The Actuary.* He solves and constructs crosswords, cryptic crosswords, acrostics, and European crossword puzzles. He has placed in the top 10% in the U.S. Crossword Open and placed first in his division in the Stamford Marriott Crossword Tournament. He has had puzzles published in *The New York Times*, *Dell Magazine*, and *Games Magazine*, among others, and is a member of the National Puzzlers League. Ochrymowych will begin as puzzle editor with the September *Actuary.*

ACTUCROSSWORD

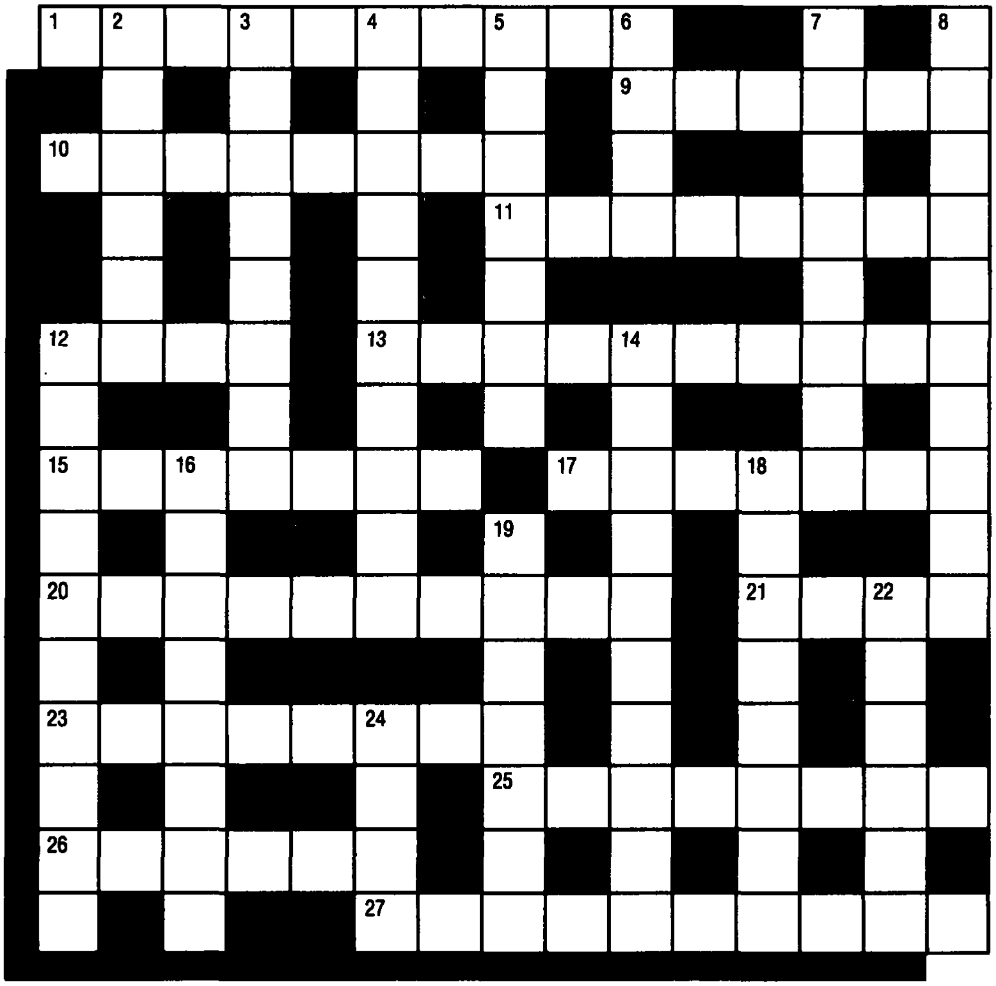
by Bob Hohertz

Across

1. Hold up your head a moment for the fabulous serpent (10)
9. Dowson's artichoke (6)
10. *Demanded to be dressed around a saint* (8)
11. Point in accustoming onesself to preparing for hydriotaphia, per Browne (8)
12. The church I had censured (4)
13. Gibbon's work, for instance? No lie (10)
15. Nuts! Bad weather in the Mideast (7)
17. Ethiopian in Abadan: a killer of crocodiles (7)
20. Remove diamonds and it would still be conspicuous (10)
21. Fiber tones, back and forth (4)
23. *Knock out note on faulty zither key* (8)
25. To treat malaria by taking a salt solution (8)
26. For example, William Penn: "I'm returning about a horse." (6)
27. Bufflehead in a goat dance (10)

Down

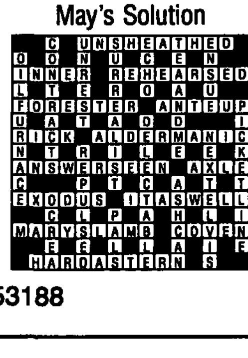
2. Love, a student in desire, like some in Lear's beard (6)
3. Knock out two states, or a Hungarian dog (8)
4. Resolve pure intent to get thinner (10)
5. Goddess in a state? Just the opposite (7)
6. There's usually some crude source of color (4)
7. Herb is the third in making one (8)
8. Notes to impair Whitney's machine, a returning distress (10)
12. Conveyance in the middle of Suffolk, always a form of restlessness (5,5)
14. Too few in our time establish a balanced relationship (10)
16. Popular variety of chop, the first in a mixture (8)
18. Classic film, like "All About Eve" (5,3)
19. In line with a move against (7)
22. Convey enjoyment with a half-nelson? (6)
24. A doctor in front, me foot! (4)



100% Solvers - March: J&M Accardo, W Allison, E Broge, G Cameron, R Fleckenstein & P McEvoy, G Horrocks, S Keys, J Lewin, R Miller, J Schwartz, G Sherritt, B&J Uzzell, M Vandesteeg & A White, F Zaret.

April: W Allison, J Grantier, V Hosler & T Luker, R Makin, R Martin, B Mowrey, G Sherritt, B Tomper, F Zaret.

May's Solution



Send solutions to: Competition Editor, 209 N. Comanche Lane, Waukesha, WI 53188

ACTUCROSTIC

by Pete Hepokoski

A. A safe investment (2 wds).
4 19 32 47 62 88 106 170 171 213 227 233

B. Fonda and Hepburn won Oscars for this (3 wds).
43 48 77 127 140 158 172 185 195 206 14 85

C. Clementine's father.
30 75 146 108 173

D. Upset.
31 65 110 150 166 200 225 237

E. Blue-green.
10 51 125 133 212 142 180 218 40 98

F. Calculus that can be painful (2 wds).
177 231 16 69 86 198 46 78 145 203 103

G. Viewing aid (2 wds).
18 74 80 97 114 153 165 197 214 229 235 242

H. Taught.
50 82 162 1 89

I. Reversion to an earlier time.
192 9 26 210 119 132 3 63 223

J. Accident type (hyphenated).
2 25 55 99 122 135 176 202 222

K. Sign on some doors.
20 58 90 121 8

L. He's known for saving the day (2 wds).
28 53 159 220 230 209 81 136 152 215 7

M. Exceptional effort (2 wds).
42 72 124 163 226 234 23 94 141 6 184 240 107

N. Mire; sediment.
59 67 186 204 38 27

O. Teller.
17 138 149 155 169 194 217 147 232 239

P. Provide gratuitously.
13 87 130 179 224

Q. Like Nolan Ryan and Orel Hershiser (hyphenated).
33 91 41 120 115 64 156 134 205 96 49

R. Mr. Rogers, but not well (2 wds).
83 92 101 111 109 148 196

S. Nineteen ________ was the year for B (hyphenated).
22 39 56 79 104 123 201 207 241

T. Next after Hawaii? (2 wds & 1 number).
24 60 131 143 175 191 57 117 34 73 238 182 181

U. Progress beyond.
160 128 167 199 35 190 95

V. A certification requirement (3 wds).
105 118 129 139 151 93 174 193 216 11 68 84 183 36 189 243 221 45 76 161 61 211 54 113 236

W. Hanger-on.
100 15 29 21 154

X. Any member of a 1940's quartet; disease affecting aspen (2 wds).
116 137 71 102 164 66 187

Y. Menu item at Mama Leone's.
178 188 208 219 52 126 144 157 168

Z. Bridge tactic (2 wds).
5 37 70 12 228 112 44

	1 H	2 J	3 I	4 A		5 Z	6 M	7 L	8 K		9 I	10 E	11 V	12 Z	13 P	14 B	15 W	16 F		17 O	18 G		19 A	20 K
21 W	22 S	23 M	24 T		25 J		26 I	27 N	28 L	29 W	30 C	31 D	32 A	33 Q		34 T	35 U	36 V	37 Z	38 N	39 S	40 E	41 Q	
42 M	43 B	44 Z	45 V	46 F		47 A	48 B	49 Q		50 H	51 E	52 Y	53 L	54 V	55 J		56 S	57 T	58 K	59 N		60 T	61 V	
62 A	63 I	64 Q	65 D	66 X	67 N		68 V	69 F	70 Z		71 X	72 M	73 T	74 G	75 C	76 V	77 B		78 F	79 S	80 G	81 L		82 H
83 R	84 V	85 B	86 F	87 P		88 A	89 H	90 K	91 Q	92 R		93 V	94 M		95 U	96 Q	97 G	98 E		99 J	100 W	101 R		102 X
103 F	104 S		105 V	106 A	107 M	108 C		109 R	110 O		111 R	112 Z	113 V		114 G		115 Q	116 X	117 T	118 V		119 I	120 Q	121 K
122 J		123 S	124 M	125 E		126 Y	127 B	128 U	129 V	130 P		131 T	132 I	133 E	134 Q	135 J	136 L	137 X		138 O	139 V	140 B		141 M
142 E	143 T	144 Y	145 F	146 C	147 O	148 R		149 O	150 D	151 V	152 L	153 G	154 W	155 O		156 Q	157 Y	158 B		159 L	160 U		161 V	162 H
163 M	164 X	165 G	166 D	167 U	168 Y	169 O	170 A		171 A	172 B	173 C	174 V	175 T	176 J	177 F		178 Y	179 P	180 E		181 T	182 T		183 V
184 M	185 B	186 N	187 X	188 Y	189 V		190 U	191 T		192 I	193 V	194 O		195 B	196 R	197 G	198 F	199 U	200 D	201 S	202 J	203 F	204 N	
205 Q	206 B	207 S	208 Y		209 L	210 I	211 V		212 E	213 A	214 G	215 L		216 V	217 O		218 E		219 Y	220 L	221 V	222 J	223 I	
224 P	225 D		226 M	227 A	228 Z		229 G	230 L	231 F	232 O	233 A		234 M	235 G	236 V	237 D		238 T	239 O	240 M	241 S	242 G	243 V	

Solution for May Actucrostic: Imagine the law as the ship and the regulations, the circular letters, opinions, practices, formal and informal precedences, etc, as the barnacles that adhere to the bottom of the ship. Over time we have a ship which has acquired on its underside large amounts of crustaceans which get in the way of its ability to perform as a ship.

— McCarthy, "Compensation Issues"