



SOCIETY OF ACTUARIES

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1949 – Instituto Actuarial Argentino
Buenos Aires

1952 – The Israel Association
of Actuaries
Tel Aviv

1953 – Actuarial Society of
The Philippines
Manila

1967 – Actuarial Association of
Hong Kong
Hong Kong

1967 – The Society of
Icelandic Actuaries
Reykjavik

1969 – The Actuarial Institute of the
Republic of China
Taipei

1976 – Singapore Actuarial Society
Singapore

1977 – The Institute of Actuaries
of Australia
Sydney

1977 – New Zealand Society
of Actuaries
Wellington

1979 – Association of Greek Actuaries
Athens

Institute seeks insurance specialist

The Harvard Institute for International Development is seeking an experienced insurance specialist to act as a resident advisor for one of its assistance projects in Indonesia.

The Indonesian government adopted new legislation regulating the insurance industry. The resident advisor will work with the Ministry of Finance to draft regulations, create a training program, and provide technical advice on insurance to Ministry policymakers.

Candidates for the position should have at least 10 years' working experience and relevant professional qualifications in one or more of several fields. Those fields include actuary, insurance accountant, state insurance examiner or underwriter. The job requires the advisor to live in Indonesia for one to two years.

For more information, call or write Ellen Seidensticker, Assistant Director for Professional Recruitment, at the Harvard Institute for International Development, One Eliot Street, Cambridge, MA 02138, (617) 495-2161.

Information technology could overturn actuarial concepts

Information technology may change the very concept on which the actuarial profession is based. The result could be the reduction of all risk categories to a category of one." John Diebold, chairman of the Diebold Group of management consultants, told a luncheon audience at the Centennial Celebration.

Diebold said computers have the ability to handle all genetic code information becoming available in the late 1990s when genetic mapping will be completed. While the amount of information in each individual's DNA is perhaps equivalent to 2,000 pages, processing it is a trivial job for a computer. He said this development could eliminate the concept of class of risk consisting of a large number of people and their probabilities, reducing the risk of class to only one.

If this actually happened and privacy issues did not prevent its use, it would turn upside down the most fundamental concepts with which actuaries deal, said Diebold.

Information technology also permits insurance companies to innovate in new fields. As an example, Diebold cited a new concept of insurance that would cover all the risks of life. Companies can integrate and analyze all the data they and others collect on customers. This was not possible in the past when information about health, casualty and property was each segregated in separate "back offices." This concept could represent an innovative way of responding to consumers just as computers made possible the money accounts covering brokerage and checking accounts, said Diebold, author of a basic book on automation.

Diebold said, "It takes a long time to change organizational structures, but the impact is fundamental. I have always said that the first thing to happen with computers is that they will do yesterday's business more efficiently. That has happened. The second thing is that one will start to do new things using the computer, and that is happening. Third is that

the society in which the business exists will be changed by the computer, and that is where major business opportunities lie now and in the 1990s. As leaders in your field, you must think about the impact on all three levels.

"Actuaries were one of the earliest users of the technology, and you know that you can learn from testing. You have built a reservoir of knowledge of model building. Now you must recognize that information technology is changing not only routine processing, but your world.

"Americans are successful innovators. In the 1990s you will be called upon to innovate in your profession as much as we do in technology."

Information technology is also changing the definition of the problems actuaries address. Diebold summarized some of the consequences to be:

- Insurance will have to be priced before there is a risk experience in the area.
- The function of providing protection will be changed.
- American insurance companies can get into Europe and Japan by innovating in the difficult insurance problems produced by EDI systems, traffic control, smart highways, etc.
- An insurance perspective can be brought to the design of these systems. Actuaries with their analytical perspective could contribute greatly.
- All risk categories could be reduced to a risk category of one. Whether privacy laws would permit this is a different issue that will also have to be addressed.

Diebold concluded his talk with some practical questions for actuaries to ask:

1. How can I use the technology to make a difference in our business?
 - What constraints have I always accepted that I should now question?

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- What insights would allow my company to offer attractive products at a reasonable risk?
 - What new approaches or methodologies are now possible?
2. How are my competitors using the technology? What should be my company's response to these initiatives?
 3. What is my role in adapting the technology to new users?
 - How can I take a leadership role in adapting the technology to improve actuarial support?
 - What should I expect of our IS (Information Science) organization in this regard?
 - What is the best technical solution for my needs: PC or mainframe approaches?
 4. How do I forecast further investment in information technology?
 - Is our ROI a valid criterion when benefits are "soft" compared with "hard" costs?
 - How are innovative users of the technology justified in other areas of the business and in other companies?

Clark gives epilogue

Kenneth T. Clark closed the Centennial Celebration with a few inspiring and thoughtful words about the years past and years ahead for the actuarial profession.

Today, Clark said the task of the actuary is more difficult than it was 100 years ago. However, actuaries now have greater means to carry out that task. "Our actuarial ancestors were given one talent but, unlike their counterpart in the Biblical parable, they behaved like the man with ten talents. We have been given ten talents and we must behave accordingly."

The "moral" of the Centennial meeting was neither new nor surprising, but remarkable because it has been so forcefully, so repeatedly, and so eloquently expressed: "the lonely, hard and narrow path of public service is our only path to glory and prosperity," he said.

Clark concluded, "...Let us now go forth from here, strengthened in professional spirit and technical lore, and make our second century worthy of our first."

Descendant of Elizur Wright

Jack Moorhead alerted us to the passing of Christopher Wright, a great-grandson of the noted 19th-century American actuary, Elizur Wright. Christopher Wright, besides pursuing an illustrious career of his own, was helpful to Jack in assembling information on Elizur Wright for the book, *Our Yesterdays: The History of the Actuarial Profession in North America, 1809-1979*.

Christopher Wright's education included a bachelor's degree with high honors from Harvard University, a master's degree in philosophy from Harvard, and two years at Oxford University, England, studying philosophy on a Fulbright scholarship. His working career included a stint at Los Alamos, New Mexico, on the Manhattan Project (which interrupted his college study of physics when he was 18). He also taught at Williams,

Harvard, and Columbia; conducted research at the University of Chicago Law School; headed the Council for Atomic Age Studies and, later, the Institute for the Study of Science in Human Affairs, both at Columbia; and worked on the staffs of the Rockefeller Foundation, the Office of Technology Assessment (of the U.S. Congress), and the Carnegie Institution of Washington. Since 1984 he had been a private consultant in science policy and science affairs.

Mr. Wright died at his home in Washington, D.C., on May 9 at age 62. Survivors include his wife, Diana Gilliland Wright, and two children. His extensive collection of Elizur Wright papers and letters is being donated to the Library of Congress, whose Manuscript Division already has 4,000 Elizur Wright items.

Mortality trends of males and females

Historically, male mortality rates were below those of females. However, that trend has been reversed within the last 100 to 150 years, causing revolutionary changes in the role of women.

This subject was examined in a paper on "Mortality Trends of Males and Females Over the Ages" by Barnet N. Berin, George J. Stolnitz and Aaron Tenenbein, presented at the Centennial meeting.

In the paper, which covers millions of years of history, the authors reviewed the consequences and changes that resulted from the differences in male and female mortality rates.

Since the beginning of the human species, the authors said, low life expectancy along with high maternal and infant mortality rates caused low population growth. Women had to conceive early and often if populations were to survive under the conditions of shortened life expectancy. Therefore, females were forced to care full time for their children. Until recently, that pattern continued worldwide for millions of years.

The authors wrote, "From the beginning of human existence, group

survival must have required maximum attention to childbearing and child rearing; hence, to sex-defined divisions of function...As a result, by default, men were to be the 'natural' leaders." But as life expectancy increased, those sex-defined divisions tapered off.

The authors said the overall improvement in mortality over the first 80 years of the 20th century has been both substantial and continuous. Life expectancy at age 0 rose from 46.4 years to 69.9 years for males and from 49 years to 77.5 years for females.

And since life expectancy rates have increased, especially for women, the authors said they expect women's efforts to achieve fully equal status, both inside and outside the family, to be reinforced by women's increasing numerical superiority in the middle and upper adult ages.

The authors concluded, "If males historically could not be challenged in societies which were beset by population-threatening mortality and by needs for survival, it should follow that today's radically transformed vita rate conditions might well indicate ever-rising sociopolitical and economic potential for women."