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New Era— New Rules— New Risks

by Carolyn Pitts Corbin

(Ed. note: The following article contains concepts from Carolyn Corbin's new No. 1 Business Bestseller, *Strategies 2000*, Eakin Press, Austin, Texas, and adapts changing socio-economic conditions to the actuarial profession.)

It is common knowledge today that we have entered into an information-based, service-oriented civilization, the third such restructuring of societies since the beginning of humankind. Alvin Toffler in his book, *The Third Wave*, popularizes the idea of civilizations overlapping in long waves. If indeed we have entered into an entirely new civilization, it means that in many instances we are sailing uncharted waters. Rather than applying hard and fast statistics to predict outcomes, we are being called upon to use our "best guess" based on trends. The evolution of this new civilization can have a profound effect on how the actuary does his or her job because this third civilization will introduce new and undocumented risks.

The Third Wave Civilization

Beginning in approximately 1973, North America entered the Third Wave Civilization.* In that year more people were in white collar service

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The First Wave civilization was predominantly agricultural and occurred from 8000 B.C. to the early 1800s. The Second Wave came about during the War of 1812, with the U.S. beginning to manufacture many of its own products.

Major Issues Facing the Society of Actuaries

The *Actuary's* features editor, Deborah Poppel, visited with Harold Ingraham, Jr., President of the Society of Actuaries, to discuss several major topics characterizing his term in office: the actuary of the future, the FES/FEM proposals, and the unification of the profession.

Poppel: *How will the actuary of the future be different from the actuary of the present?*

Ingraham: The actuary of the future will be less of a technician and more of a business person or general manager. The successful actuary will need to be good at the things that good managers do; that is, leading interdisciplinary task forces, doing more conceptualizing, and above all, being an effective communicator.

Poppel: *What external forces are driving the change?*

Ingraham: Actuaries used to think that when they achieved Fellowship they had it made, that they had a glorious route to retirement which would pay good money and they'd be the kings of all financial areas they surveyed. What's happening now is

that many companies are restructuring. They're abolishing the chief actuary's position as they reorganize from a functional to a line-of-business operation. Each line of business has a product and marketing champion, and the actuary now serves in more of a controller's role within the line of business. The actuary's role has been redefined and, in some instances, downgraded.

Another force changing the role of the actuary is the widespread availability of computers. Much of the commutation-based life contingencies in Jordan, and Spurgeon before that, was directed toward ingenious mathematical shortcuts. But consider the valuation of liabilities today—it's done seriatim; you don't need shortcuts. Our horizons have broadened, but we're also playing on a field that others can play on too. We've got to be better than the others or people aren't going to use us.

Poppel: *Have we lost our edge?*

Ingraham: The walls are down; we're not able to practice our arcane craft in an ivory tower, so to speak.

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jobs in America than in blue collar manufacturing jobs. Since then, more than three million jobs in the United States have been displaced in manufacturing, and more than five million jobs have been created in service industries.

As North America undergoes a major transition, a general uneasiness seems to exist. This is only natural since we are undergoing challenges unknown in nine previous generations. Five social shifts which occurred in the early 1800s are now recurring in the Third Wave Civilization, but in a different manner. As we examine them, we will review their possible influence on risk analysis.

1. Power Shift

The United States and Canada are becoming global countries, sharing their power with Japan, Great Britain, West Germany, France, and Italy. As foreign countries locate some of their business operations on North American soil, employee benefits might be based on their social and corporate culture rather than our own. For instance, in Japan it is important to base employee benefits on lifetime employment guarantees. In contrast, in the United States, the baby boom generation prefers shorter-term profit sharing plans that can be cashed in many years before retirement. As we figure employee benefit premiums based on different cultures and lifestyles, we will be assessing different populations with different risks. Our predictions will need a more international flavor.

In addition, product and service liability will be governed more by international practices. We will see the eventual creation of a combination of companies; one company producing a product, another engineering it, and a third marketing it. Assessing the actual liability for a product created by three organizations which in the process forms a fourth organizational structure will cause us to figure future risks differently. Also, as trade practices continue to loosen, product liability will have enhanced exposure due to world-wide use.

Insurance companies will become more like financial service organizations and eventually be owned by ten or more major world players. Strict identity of insurance companies, banks, brokerage firms, and savings and loan institutions will be lost.

2. Demographics

As we approach the 21st century, the U.S. will have at least four population characteristics: aging, educated, international, and illiterate. While some of these characteristics seem to contradict themselves, a dichotomy of demographics will be housed on North American soil. The aging population will consist mostly of baby boomers (born between 1946 and 1961) who will begin retiring in 2013. By the year 2000, the median age of the U.S. and Canadian population will be 36.

Baby boomers will have a tremendous influence on North America due to attitude, education, and aging.

Most baby boomers—one-third of the total population—are consumption-oriented, with a buy-now, pay-later attitude. As they begin to retire, a tremendous drain on the retirement system will occur. Because of their present savings rate, most baby boomers will not have enough personal income to supplement their retirement needs. Social Security will replace about 22%, and corporations about 15% of the baby boomers' pre-retirement dollars. However, even if baby boomers wish to replace only 65% of pre-retirement income, a significant financial shortfall will exist. By the time the baby boomers begin to draw benefits, the baby bust following them will be in the workforce, meaning fewer workers will support the bulging Social Security system. In addition, there will be other strains on social and corporate systems and the military retirement system. Companies which have promised unfunded health benefits out of future earnings need to reevaluate their promises. If earnings do not provide those benefits, the aggressive baby boomers will not feel guilty about suing the corporation for perceived promises—verbal or written.

Another demographic impact will be immigration. Between 1987 and 2000, two-thirds of the population growth of the U.S. will be due to immigrants. These individuals will have different life spans. Some of them, with a certain life expectancy in their own countries, will adapt very differently to the U.S., and their life span will change as they immigrate here. New studies will need to be obtained on these transplanted foreigners. Many will not be immune to specific diseases, and it is possible that diseases long stamped out in America will be revived. For example, a large percentage of immigrants will

not have had the polio vaccine, and there could be a recurrence of that disease. The unpredictability of disease in general and the spread of surprise traumatic diseases such as AIDS will make actuarial predictions more difficult.

The dichotomy of educated baby boomers versus illiterate Americans will also pose challenges. As the illiteracy count in the United States exceeds 27 million, and the functional illiteracy rate (not being able to read at the eighth-grade level) approaches a total of 40 million people in the U.S., society will be divided among the "haves" and the "have nots" based upon the educated and uneducated. With more people failing to reach a functional literacy rate, inner city decay and crime will increase, resulting in more homicides, suicides, and drug addictions. These circumstances will indirectly affect health and pension programs throughout North America.

On the other end of the spectrum, we also will have more educated people than ever before. For example, approximately 50% of the baby boomers will have at least a partial college education by the year 1995. The result will be the disappearance of the middle-class as we know it and the emergence of either the well-to-do or the poor based on amount of education.

3. Technoflation

Technology is rapidly increasing. Eighty-five percent of the great scientists who have ever lived are living today, and an individual 70 years of age or older has seen 90% of all the great inventions of the world. With such rapid change, new risks will be introduced with new inventions. For example, McDonnell Douglas and other aircraft firms are currently developing an ultrasonic airliner that can cruise three times the speed of the Concorde. This airliner will be able to make a round trip to Asia in the same day. We do not yet know the physical effects on the passengers, nor do we know the safety rate of these planes, but these are clearly areas which involve actuarial expertise.

In addition to the ultrasonic airliners, robotics will develop as a new field. By the year 2000, it is predicted that there will be 800,000 robots in the United States compared to 14,000 robots today. Just as we do not know the risks involved with

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ultrasonic airliners, it is difficult to determine all the risks involved in human interaction with robots. Safety records have yet to be determined, along with stress levels on humans working with various automation processes. Can you imagine actuarial tables based on machine life rather than human life?

By 1996 humans should be populating space stations. It is predicted that one to three million people will be colonized in space stations within the next ten years. The risks involved in space travel, the physical body changes, and the death rate of such individuals have yet to be discovered. It will be difficult to insure these people for health and life insurance and pensions until we collect statistics on outer space lifestyle.

For property and casualty underwriting, the payload insurance will be a topic of discussion. As billions of dollars are spent in experiments and millions of dollars are spent for shuttle cargo space rental, we will simultaneously need statistics on the risk factors involved in sending this payload out of this world. To determine the premium levels from a property and casualty standpoint will indeed be a significant challenge to the actuarial profession.

4. Industrial Focus

Industrial focus has now moved to service, which is not a *product* but a *process*. When one engages in service, one is highly dependent on human interaction. Since we are just entering a service economy, we have not begun to determine the liability of an organization to its employees. As corporations become more customer-oriented and employee-directed, it is possible that more problems will evolve from individual lawsuits against corporations than from the collective union bargaining experienced in the past. For example, workers are increasingly holding companies liable not only for environmental conditions but for their mental and physical health as well. Customers are beginning to hold corporations liable for both the services being provided and the products being designed and marketed.

However, the more immediate liability corporations will be in wrongful dismissal and age discrimination. Due to the future aging workforce, employees might begin to introduce class action suits against the employer to prevent downsizing through layoffs.

Potential liability also will occur in the area of employee mental stress, depression, and anxiety. Several lawsuits have already been cited where the plaintiff tried to hold the corporation responsible for a nervous breakdown. One recent example involved a case where a widow sued her husband's employer for \$6 million. She claimed that the company was directly responsible for her husband's death because it did not respond to his repeated complaints of overwork, thus displaying a "callous and conscious disregard for his mental health." Corporate liability insurance premiums will probably rise more rapidly in the future, just as they have already with professional liability insurance.

5. Social Institution Dominance

In the third civilization more emphasis will be placed on individual responsibility. We will witness this phenomenon in the amount of entrepreneurial activity which will occur and in the growth of small businesses. Much of the insurance written will be calculated for small growth businesses rather than for the larger, mature businesses, the latter being the historical precedent.

Also, because of the emphasis on individualization in the new economy, there will be more need for niched underwriting. People will be grouped into smaller homogenous designations, and insurance will be written specifically for them. That trend has already started with smokers and joggers. It could extend to lifestyles, such as whether or not one works at home in isolation or in an environment with social contacts. Eventually 35% of the workforce will work in the home. While this phenomenon might increase isolation, it might also lower stress and the number of accidents on highways, thereby affecting the death rate and casualty underwriting standards in North America.

Conclusion

A new civilization is dawning! We are witnessing unprecedented changes in lifestyle, leisure, labor, and learning. Continuing to apply rules of the 1950s, 1960s, and 1970s might be counterproductive. We must extract risks from new trends and relevant conditions in order to again be able to predict in a changing world.

Carolyn Pitts Corbin has her BA and MA degrees in psychology and business from North Texas State University. She is President of Carolyn Corbin, Inc., an international research, training, and consulting firm.

Nonroutine Actions of the Board of Governors, May 27, 1987 – New York City

1. The Board approved a policy to reimburse expenses of Officers, Board or Committee members under circumstances involving unusually frequent meetings, particularly important (to the Society) assignments or circumstances where members' expenses are not reimbursed by a member's employer.
2. The Board approved retention of the law firm of Peterson, Ross, Schloerb & Seidel to review the activities of the Society in order to limit possible exposure of our membership to litigation.
3. The Board received a report that the vote by the members on the proposed constitutional amendment with regard to the office of the Director of Publications had been 2,076 in favor and 74 against. Since the Constitution requires a majority of 2/3 of those voting, the amendment carried.
4. The Board approved the Executive Committee recommendation of a task force, appointed by the Council of Presidents, to explore the structure of the organization of the actuarial profession with a view to strengthening the profession, and it authorized the President to appoint two representatives to such a task force.
5. The Board authorized the exposure to the membership of a revised draft of life insurance company valuation principles developed by that committee.
6. The Education and Examination Committee reported that it would implement the Flexible Education System for Fellowship examinations beginning with the November 1988 examination.
7. The Board approved the report of the Committee to Recommend New Disability Tables for Valuation and authorized its submission to the NAIC for consideration as the valuation tables for group long-term disability products.
8. The Board authorized the new Investment Section to collect dues.

Richard V. Minck
Secretary
May 1987