

RECORD OF SOCIETY OF ACTUARIES 1978 VOL. 4 NO. 1

EXPANDING ACTUARIAL HORIZONS

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A discussion to include important challenges to the actuarial profession that result from current social and economic changes, opportunities for actuarial input in a political process, and expanding horizons for today's actuary.

MR. ROBIN B. LECKIE: There is probably no satisfactory concise definition of the actuarial profession that will satisfy everyone. However, I look upon the profession as assigned the responsibility for the management of risk. Our two actuarial societies joining together at this meeting are separated only by the risk we deal with. Both groups are faced with a number of problems and very considerable opportunity as the geometric increase in complexity of our society seems to increase the complexity of our profession exponentially.

I'm afraid I mistakenly think of myself as a younger actuary. We probably all do - in spirit anyway. However, when I became an actuary, the rules of the game were much more clearly defined and more subject to the laws of mathematics than they appear to be at the present time. Risk classification was a science based on experience and judgment and not clouded by social and political issues. Experience studies could be reasonably extrapolated for the development of current premiums. There was a clear need for the private coverages that were designed and offered by our companies and less competition from other industries and from the public sector. Social, economic and political issues were factored in at the executive level but they generally did not touch the work of the actuary. However, now with the impact of price disclosure, of regulated risk classification, privacy rules, investment restrictions, changing tax positions, solvency rules, revised financial reporting and the debate of public vs private pension plans and public vs private health care, actuaries are required to consider far more than the mathematics of premium setting. They must consider the social, economic and particularly the political considerations. The central discipline remains the same, there's just additional and often non-precise factors entering into the process.

The theme of this two day joint actuarial meeting is Expanding Actuarial Horizons - at least I think it is because on one of the materials that came around to me, the theme had been reduced to exploring actuarial horizons. I believe this limitation is scope was unintentional. I asked our panelists this morning what kind of word expanding was - adjective or verb? I think of it as an action verb with the initiative resting with us. If you take it as an adjective then it is our reaction to an emerging need.

The subject that will be dealt with at this meeting includes the overlapping of social and private insurance, the greater responsibility of actuaries in preparing actuarial certifications, investment portfolio management, risk classification, capacity and solvency, all lines insurance, the changing nature of underwriting and many other subjects, not the least of which is the educational process which will be needed to prepare the actuary for the future.

To kick off this meeting, we have gathered together three prominent and provocative actuaries to set the stage for our theme. They will be covering the actuarial involvement in the political process and the recognition of specialties. They will explore actuarial horizons for the consulting actuary. They will examine the future outlook arising out of current social and economic change. I expect our three panelists to ask us to consider the role each of us should be playing now and in the future. Our discussion is intended to stimulate you, to challenge you, perhaps even to change you.

MR. STEPHEN G. KELLISON: It is a sincere pleasure for me to be part of this keynote panel at this historic first joint meeting of the Casualty Actuarial Society and the Society of Actuaries. This joint meeting is a clear testament to the growing recognition by both societies of the increasing commonality and, yes, identity of interests of actuaries in all areas of specialization. The wide variety of important topics of common interest which are to be discussed at this meeting clearly indicates that much more binds us together than separates us.

The overall theme of this meeting is "Expanding Actuarial Horizons". I know my fellow panelists will cover this topic admirably in the private sector. However, there are also immense opportunities for "expanding actuarial horizons" in the public sector. During my brief tenure in Washington, D.C. I have discovered that actuaries are prospectors in a very rich vein when it comes to the number and variety of issues with which we could legitimately become involved. Very simply, we find that the number of opportunities for actuarial input in the political process simply outstrip our capacity to explore them all.

Many of you probably have your favorite definition of an actuary, which is likely to be both humorous and unflattering. I will attempt a serious definition which most of you will probably think too broad:

"Actuarial science involves the evaluation of the probabilities of uncertain future events, often over long periods of time, and the current financial impact which these events involve."

If you accept the definition as stated, the opportunities for expanding actuarial horizons are almost infinite. Although actuaries probably cannot lay exclusive or even primary claim to much of the territory encompassed by this definition, our opportunities for expanding horizons are nevertheless enormous.

However, exciting as new possibilities for actuarial involvement may be, it is well to remember that more can also be done on familiar, conventional turf. As a very small and poorly known profession, it is inevitable that we will continue to be confronted with many situations in which work that we would like to call "actuarial" is being performed by others such as accountants, economists and operations researchers.

One of the agenda items for this panel listed in your program is entitled "opportunities for actuarial input in a political process". It is important to relate this to the major topics for this meeting. In reviewing my program, I discovered major emphasis on the topics of social insurance and risk classification. No more critical issues confront the actuarial profession today than these two. The current structure, future direction, and

balance between private and social economic security programs are in a state of flux for a variety of reasons and are approaching a critical crossroads in our history, while the issues involved in risk classification are fundamental and go to the very core of actuarial science.

The scope, direction and even identity of the actuarial profession will be significantly affected by the course of events involving social insurance and risk classification during the next few years. Decisions on these issues will, of necessity, be made by the public in the public arena; in other words, in the political world by a political process. Will the actuarial profession be an effective voice as these issues are debated and resolved? If we are not, then we have failed on perhaps the most important challenges facing us today.

In considering the question of actuarial input in a political process, we need to ask ourselves what our objectives are.

Is our input as actuaries to be limited to rather narrow technical actuarial matters or do we wish to speak out on broader social issues?

Are we content as actuaries to talk only about derivable consequences of various possible courses of action or do we wish to assume positions of advocacy on major social issues?

When is it appropriate for the actuarial organizations to speak on behalf of the actuarial community and when should comments be confined to those of individuals?

And, finally, how do we resolve situations in which the public interest and the economic self-interest of our membership appear not to be compatible?

These are very difficult questions which we must consider as actuarial science moves from its origins as a private, scientific discipline to a true public profession with accountability to the public. This transition to public profession is relatively recent, but is accelerating and is probably irreversible if we are to survive and not atrophy. However, the actuarial community at large may not yet have arrived at the answers to these questions and a consensus as to the role of the actuarial organizations in the public arena.

A good example is the Manhart case. As most of you know, the Society of Actuaries and the American Academy of Actuaries jointly prepared a brief to the United States Supreme Court last November on this case. The issues involved in the Manhart case are quite pertinent to a major topic at this meeting, namely, risk classification, in that the case involves sex classification in pension plans. The Society of Actuaries and the Academy in their brief presented an extensive amount of material to aid the Court in considering the issues in the case as well as broader ramifications in pension and employee benefit plans. The brief was unusual in recommending neither affirmation or reversal of the lower court decision. Despite the lack of any recommendation for a specific judicial decision, several members of the Society of Actuaries believe that the brief is nevertheless an expression of opinion and that the procedures used violate Article X of the Constitution of the Society of Actuaries. Although I do not intend to

discuss the merits or demerits of these arguments, I do feel that the discussions involving the Manhart case are useful in focusing the attention of the actuarial profession on the fundamental questions posed above.

In dealing in the political world we must learn to accept the inevitability of failures and partial successes. Here our training as actuaries is against us. The actuary in day-to-day work generally has significant control over his work product and the uses to which it will be put. However, the political arena is another world entirely. Here the actuarial element is often only a small portion of the total picture, controversy is normally present, and the end result is generally out of our control. In many cases the best we can hope for is to influence the course of events in a positive direction.

If the actuarial profession is to have more clout in the political arena, then we must find answers to the questions posed above, as well as overcome some obstacles in our way. I would like to briefly mention seven such obstacles.

The first three involve identity problems.

The first is our lack of identity. Although I think actuaries have a more visible profile with the public than when I entered the profession (longer ago than I would like to believe), much more needs to be done. In recognition of this need the Academy hired a communications specialist just over a year ago and the Society of Actuaries has just hired one within the last month. Helpful as these steps are in increasing public awareness, the real key to success still lies with you in the audience. How many of you have given a speech to a non-actuarial audience during the last year or written an article for a non-actuarial publication or contacted a local newspaper or reporter to build a contact and be a source of information or been on a local TV or radio talk show?

The second is an identity crisis. We have not really succeeded in defining for the public, or even ourselves, just what actuarial work really is. Unfortunately, the domain of actuarial work is much more difficult to define than for other professions such as law, accounting and medicine. A narrow definition of actuarial work may be largely devoid of really important social issues. A broad definition of actuarial work will involve other disciplines such as law, accounting and economics. In the absence of a licensing law defining actuarial work, actuaries cannot claim sole or even primary expertise in many areas we might like to.

The third is a mistaken identity. The actuarial profession still is identified in the minds of many as an arm of the insurance industry, or as a special branch of accountancy, or as an area of applied statistics. To minimize these misconceptions we must continually stress our role as an objective, independent profession whose discipline involves concepts from all of the above, but which is contained in none of the above.

The fourth obstacle is our size. It is clear that the actuarial profession will always be too small to play the political game with money and votes, nor would we want to play that game. If we are to succeed, it must be because of professionalism of our work, the usefulness of our work product, and the objectivity of our advice.

The fifth problem involves standard of practice. The Academy has become active in recent years in developing such standards. It all started in the early 1970's with the pronouncement of financial reporting principles relating to the life insurance audit guide. Next to come were the first pension plan recommendations and interpretations two years ago. At the present time, an enormous effort is being devoted by both the Academy and the Casualty Actuarial Society to develop statements of opinion and methodology for casualty loss reserves. Initiatives to develop standard of practice have not been universally acclaimed. Many actuaries do not like any restrictions on their freedom to perform professionally as they see fit. On the other hand, if the actuarial profession is to achieve credibility with the government, other professions, and the general public, then we must stand for something. We cannot grant carte blanche to our members and still achieve professional stature with outside audiences. One of our major challenges is to find the right balance of standards of practice which do not stifle legitimate professional judgment and innovation, and yet require an appropriate level of professional performance.

The sixth obstacle is the shortage of actuaries in governmental services. We are continually hampered because so few actuaries choose governmental careers. Existing actuarial departments in government are woefully understaffed. Agencies which wish to expand staff or hire an actuary for the first time are unable to do so. Only one actuary is located on Capitol Hill. As a result, actuarial input in the governmental process at all levels and in all branches of government is less than it should be. Contrast this with the legal profession. The young lawyer comes to Washington, spends three to five years with an administrative agency or on Capitol Hill, and has a great career upon return to private practice. The young actuary goes to work for the government and his peers wonder what is wrong with him.

Finally, seventh and last, I would be remiss if I did not mention reorganization of the actuarial profession. Although a half dozen or more actuarial organizations formed for various purposes may be a nice luxury for a private, scientific group, it is untenable for a public profession. Any group of fewer than 10,000 individuals, by even the most liberal count, which wants to have a cohesive and effective voice will continue to be frustrated with the current structure. The best we can hope for in the public arena is increased recognition of actuaries and greater reliance upon our input. We cannot expect external audiences to appreciate the nuances of difference among the various organizations or, moreover, much to care.

I would like to close my remarks with a brief description of one way in which the American Academy of Actuaries is addressing such concerns as I have discussed here today. All of you should have received a letter dated March 24, 1978 from Ed Boynton, who is the President of the Academy. Enclosed with this letter was a copy of a major speech given by President Boynton on the subject of membership requirements and recognition of specialties in the Academy. Since these proposals are thoroughly spelled out in this report and since time is short this morning, I will not attempt to describe the proposals in detail. Briefly, in their present form, the proposals cover 4 points:

- 1) return to a single class of membership

- 2) education requirement to be met by:
 - Associateship in the CAS or SOA
 - Fellowship in the Faculty or Institute
 - Joint Board examination for enrolled actuaries, or
 - any other recognized set of examinations.
- 3) experience requirement to be no more restrictive than those of any governmental body whose examinations are excepted
- 4) where needed, the Academy would be prepared to identify publicly those Members who have satisfied the requirements to practice in a specialty field.

I would like to quote briefly from a background report on membership requirements which I think summarizes the rationale for these proposals.

"Whether we like it or not, the world does not see "Fellow" and "adequately qualified to practice" as equivalent characteristics. In particular, people in government do not. We have been increasingly unable to persuade government that FCAS or FSA should be minimum standards of admission to practice. The trend to broaden access to professional practice is gaining strength. History and reason argue strongly that it is not in our power to reverse this trend.

If the Academy is to meet its purpose, it must admit everyone who is recognized legally to perform specific actuarial functions for a public. We must encompass everyone who is, or reasonably should be, recognized to practice. Moreover, we must acknowledge that we do not have exclusive dominion over the definition of this class. We can and should contribute to the definition, but we cannot control it.

Admitting all recognized actuaries may be seen as conflicting with the goal of promoting high standards of competence. It is really a pragmatic acknowledgement that we cannot always achieve that objective to the degree we would like. Moreover, this approach advances the goal of maintaining high standards of conduct.

An organization can only impose standards on its members. If we are to influence the practice of actuaries, we must have these actuaries within our membership.

It seems clear that at least some actuaries will have to be identified externally by specialty . . . as Enrolled Actuaries already are. This appears irrefutable: it is embodied in federal statutes in the case of Enrolled Actuaries, and other instances seem inevitable. Logic argues for acquiescing in this public fragmentation, whether or not we regret it."

If these membership proposals are adopted, then the Academy would become more of a "foundation" organization than an "umbrella" organization. Academy membership could then be equated with the minimum threshold of competence required to hold oneself out of the public as a qualified actuary in some area of practice. At the same time, this would not diminish the significance of other professional designations, such as FCAS and FSA, which would be unaffected by these proposals.

The Board of Directors of the Academy intends to foster full discussion of these proposals during this year and to defer development of any implementation steps until the October 1978 Board meeting. Any proposals will be submitted to the membership for ratification.

We encourage all of you to read President Boynton's speech carefully and to enter the debate on these proposals. Written comments should be addressed to the Membership Committee, c/o the Washington office of the Academy.

MR. FRED KILBOURNE: On the plane the other day, the man in the seat next to mine asked what I would be doing in New York. I told him I would be giving a talk entitled "Expanding Actuarial Horizons." Rather than drifting off to sleep, as often happens in such circumstances, he expressed great interest, then left to tell the stewards of my plans. Soon the whole plane was abuzz with conversation about the actuary and his talk, so when we landed I moved to the front to be able to face the admiring audience. Imagine my shock when I found I faced a hostile mob, convinced that I represented a plan by actuaries to take over the world. I escaped unharmed only through the intervention of the airport security police, who sized up the situation and concluded that I was the only non-hijacker on the plane.

We laugh at my fellow-passengers - yet an actuarial study recently completed indicates that their fears may be well grounded. The data are these. At the turn of the century, one American in a million was an actuary. By 1950, over ten in a million were actuaries, and today our population teems with actuaries to the tune of nearly fifty parts per million. The search for the best curve fitting these data led to the conclusion that, when another 75 years has passed, 38.71% of our population will be actuaries. Worse yet, by the end of the next century there will be far more actuaries than people!

One way that we actuaries can and should expand our horizons is to look beyond the narrow experience data of yesteryear in making our projections. I don't mean to denigrate the statistical analysis of that data, for it should form the foundation of our projections, and we ignore history at great risk. But future workers' compensation costs are not independent of even pending legislation for new benefits. And future pension costs depend on salary history in the given industry, and maybe on the outcome of the coal strike. And auto insurance claim frequency is not unrelated to the availability of oil in this country, and thus to events in the Middle East. And the fact that age and sex may no longer be used as classification variables for auto insurance in California. One area for expansion of actuarial horizons is in the search for input to the analysis process for which we are justly notorious. This is not to say that we should be uncritical of data that is offered, nor that we should deny our birthright by accepting it without quantification as well as qualification. But I do suggest that we need perspective, and the recognition that times really are changing, and not always without discontinuity. It may not come to pass that every futurist is an actuary - but every actuary should be a futurist, for the future is where we work.

Futurism may be a profession of tomorrow, but there have long been a few futurists in our midsts. Ambrose Bierce was a 19th Century writer whose "Devils Dictionary" showed he had his eye on the future. For example, he foresaw our pollution problems when he defined "air" as that negligible residue of the atmosphere of a city once you remove the soot, dust, and smog. He clearly was attuned to the demands of ecology for things biodegradable when he defined "edible" as good to eat and wholesome to digest; as a pig to a man, a snake to a pig, a toad to a snake, a worm to a toad, and a man to a worm. Finally, he

knew of the population explosion when he defined "mankind" as that species of animal which has multiplied with such ferocity as to occupy the entire habitable earth - and parts of Canada.

What is an actuary? Someone once proclaimed an actuary to be the offspring produced when a demon-seed computer has its way with a gypsy fortune teller. Others claim an actuary is one who collects credible data to draw incredible conclusions, or one who gathers vast data to produce half-vast conclusions. In Canada, it appears an actuary is by legal definition a member of the Canadian Institute of Actuaries. I hope we may be moving toward the day when an actuary in this country is a member of the American Academy of Actuaries, in addition to other actuarial organizations. My own preferred functional definition of an actuary, however, is the following: An actuary is that professional who is trained in evaluating the current financial implications of future contingent events.

The expansion potential of that definition is apparent. Note that I did not necessarily restrict our field to insurance or benefits. I claim there is a need for such a profession, and that we actuaries are best trained to start it (though our training itself certainly needs expansion). Consider New York City. If it cuts back too much on employee benefits, its civil servants will stop being civil. If it boosts taxes too much, its taxpayers will move to Newark, or beyond. If it does nothing, it will become a subsidiary of Washington. What the city needs is an actuarial study to minimize its chance of ruin by making optimum adjustments to solvency parameters (such as benefits and taxes) based on thorough analysis of the current financial implications of various future contingent events.

The heart of our expanded profession can continue to be expressed in the simple expression A·V·Q, with complications. Q represents the probability of the contingent event, such as of death or claim frequency. V reflects the time value of money, which has often been overlooked by casualty actuaries and politicians. A represents the financial implications of the event, such as amount of coverage or claim severity (variability in severity has sometimes been overlooked by life actuaries and politicians, which may indeed be the central problem of ordinary life insurance). Insurance will probably continue to be the actuarial motherland, for it is an industry and a concept based on the current financial implications of future contingent events (ideally, fortuitous ones). But the actuarial field can unite and expand under the banner of the proposed definition.

Another growth area for actuaries is the field of communications. How many fine actuarial studies have gone unheeded because their message, even if delivered, was not received? Did you hear the one about the actuary who was demoted to Associate for speaking English? My favorite cartoon of the year is the one of the fellow listening to the TV commentator tell him, "Meaningless statistics were up 1.5% this month over last month." There is a need for actuaries to communicate with policyholders, stockholders, employees, employers, regulators, legislators, and the public - as well as each other. Our training process should better reflect this need. If we do a better job, perhaps that commentator one day will be able to say, "Meaningful statistics were up 1.5% last month."

Perhaps a better example of actuarial communication needs can be given in terms of the currently popular balloon anecdote. A hot-air balloonist is lost in a cloud when he suddenly swoops into clear air directly over an open-air actuarial

convention. He calls "Where am I?" One actuary answers "You're 637 feet above sea level." Our futurist actuary, on the other hand, might call, "You're in East Newark, but may I offer my professional services to help you understand where you are headed?"

I've spoken of where I hope we are headed. But how do we get there from here, and first, where are we now? I submit that we are now members of a fragmented tribe that is more than a club, yet less than a profession. In the first place, a profession must have at least 47,512 practitioners, according to a recent actuarial study. Further, a profession must have a unified and unique core of knowledge and inquiry, such as proposed earlier. But we have achieved a measure of success within the employee benefits and casualty insurance fields, and a considerable degree of success within the life insurance industry. I think we have gotten there primarily by reason of the simple fact that our competitive exam process turns away anyone who is not both reasonably intelligent and unreasonably committed to hard work. This, plus an extraordinarily high level of membership involvement in our organizations and their meetings, has permitted our success in spite of training that is sometimes narrow perspective that is sometimes parochial, and fellowship that is sometimes tribal. Yet, we progress. Witness this meeting, which can fairly be described as un-narrow, un-parochial, and maybe even un-tribal.

The process of getting there from here has already begun, of course. I'd like briefly to describe a few consulting actuarial assignments I'm aware of that have moved an inch or two in the direction I hope we are headed:

A local bar association was selected by the national bar to develop a pilot program of prepaid legal services to be offered as an employee benefit. The consulting actuary designed the plan, set the rates, and drafted the contract provisions.

An all-lines insurance group wished to offer innovative personal lines coverage. The consulting actuary designed and drafted simple, plain-language life insurance products, and a property-liability package which didn't specifically mention by name either automobiles or houses.

A state legislature directed the auditor general to determine the level of insurer profits on medical malpractice insurance written in the state. An actuarial study was commissioned which concluded that severe industry losses had been sustained over several years.

A private investment syndicate wished to start an investment insurance company to guarantee a minimum return on a mutual fund program held for ten years. Pro forma statements were developed which showed the need for substantial capital investment in the company (in spite of statistics showing no losses from 1900 to 1970).

A committee of chief executive officers of insurance companies sponsored a management consulting study of industry research operations and government relations. The consulting actuary served on the project team and review committee to contribute knowledge concerning the research and other needs and activities of the insurance industry.

A state employee association contracted with insurance companies to provide life, health, auto, and homeowners coverage to members. The consulting actuary was hired to arch an eyebrow at carrier claims of insecurity and poverty.

A state insurance department proposed requiring actuaries to avoid sex, as well as age, while setting premium rates. A consulting actuary testified, in non-technical terms based on technical analysis, that this was contrary to the public interest, if not taxation without representation or embezzlement.

A state insurance fund sponsored an actuarial audit to determine whether it suffered any actuarial deficit. The consulting actuary concluded that the deficit ran to ten digits and was afforded the opportunity to recite original verse to an elected public official:

Higgledy piggedly
 Senator Throckmorton
 Promises everything
 Voters may wish;
 But, if his programs are
 Unactuarial,
 Can he make do with five
 Loaves and two fish?

Thus, the area contained by our horizons is indeed expanding - but it does have limits. Ours is too small a profession to be afforded the unprofessional luxury of poaching in territory claimed by others with superior knowledge - to say nothing of superior power. We are not accountants, we are not lawyers, and we offer services better provided by others at our peril. We are actuaries, however, and we do have the right and duty to define and defend our territory.

So I claim that there is or can be an actuarial profession. I further claim that the foundation of any profession is the interest of the public, even though this interest is imperfectly represented by the tolerance of the public. It is this interest which imposes the duty that we define and defend our profession - and at the same time that we respect the fields occupied by other qualified professions. We have several correlary duties as well:

- to refuse assignments that we believe, in our heart of hearts, to be contrary to the public interest
- to designate and respect areas of specialization within our profession
- to promote and practice continuing education

My primary goal in delivering this sermon is to provoke discussion at lunch, including at least 1.3 fist fights, concerning the definition of an actuary as a professional trained in evaluating the current financial implications of future contingent events. Whether you like or dislike that definition, I think we can agree that we want to avoid waking up tomorrow to find that the future has already happened - and has left us behind - as museum pieces. Perhaps the most important thing for us to remember is that the horizon doesn't necessarily have to mean the end of the world.

MR. ROY R. ANDERSON: There is a fascinating article in the current issue of "The CoEvolutionary Quarterly" by Dr. W. C. Ellerbroek titled "Language, Thought and Disease". Dr. Ellerbroek sprinkles his article with interesting quotations from the scholars of history. One of these quotations is:

"Discovery consists of seeing what everybody else has seen, and thinking what nobody has thought."

That quotation comes very close to what I have found to be one of the most fundamental and essential features of "futurism" -- or of being a futurist. It is the ability to perceive and to interpret the realities of the present -- especially when those realities are potentially threatening to your present system.

I will be offering you my views on our business of insurance from the perspective of a futurist. So I should tell you a few other things about this relatively new form of art that will help explain how I have come to have the views I hold today.

One view that is shared by most futurists is that mankind is now confronted with a goodly number of problems that are global in scope. Here are some of them:

- the population explosion
- dissipation of the world's resources -- and, especially, the non-renewable fuels
- the pollution of the atmosphere and the seas
- world-wide unemployment and economic inflation
- the loss of faith by people in institutions -- and the lack of leadership
- and so on.

Note that these global problems tend to be interrelated and to impact each other. If we lump them all together, into one great cosmic issue, we get what was defined by the Club of Rome as "the World Problematique". It was the view of the members of the Club of Rome -- which was founded ten years ago this July -- that no one nation or combination of nations was adequately addressing this problem. The actions of the Club have done much to stimulate world-wide attention on the need to address these global problems.

The magnitude and the complexity of the World Problematique may also be the genesis of another perception held by most futurists: that is, that our civilization is now going through a period of historic transition. Futurists do vary greatly in their views as to the depth and breadth -- the nature -- of this transition. The following is one view. It is an adaptation of the content of TAP Report #12 that was released in 1975. ("TAP" stands for the Trend Analysis Program, the "futurist" research function of the American Council of Life Insurance.) I quote:

"Our world society is now in a period of transition. Something like 15 years ago -- say, 1960 -- we left what had been known as the Western Industrial Society. In about another 15 years -- say, 1990 -- we will enter an entirely new society, with different values, different beliefs and different institutions."

The concept that our major institutions are now undergoing systematic change is of direct bearing on our business of insurance in two important ways. First, our business is on the cutting edge of change. Virtually everything of significance that happens in society has a direct -- and sometimes immediate -- impact on our business. For example:

- the imposition of price controls
- riots in the cities
- the gasoline crisis and the 55 mile per hour speed limit
- the women's movement
- the consumers movement and changes in life style
- and so forth.

The second impact that a changing civilization has on our business is that our systems of insurance have increasingly encountered difficulties because the underlying systems they insure are themselves in trouble. This is a concept that is new to our business - at least in the massive degree with which it is now effecting us. This is the reason that we so often fail to find solutions to the problems of our business that seem to arise with ever-increasing force and frequency.

One more word about futurism before I get to the business of the business of insurance. Futurism is often more an art, than a science. Futurists are more inclined to look at problems from a broad, holistic viewpoint -- a process of viewing the operation of systems in their entirety. This is in contrast to the Cartesian logic, analytical thought process that is identified with the left hemisphere of the brain -- a process to which we actuaries are accustomed. The holistic approach is identified with the intuitive, right hemisphere. Incidentally, this is another intriguing facet of futurism -- the study of how the mind works and of new levels of awareness of consciousness.

Now, I'll use the holistic approach in offering some observations on our business of insurance -- but first, I'd like to give you another quotation cited by Dr. Ellerbroek in his article -- this one from Aristophanes:

"First listen, my friend, and then you may shriek and bluster."

That quotation should give you a clue that what Dr. Ellerbroek has to say in his article departs greatly from the conventional wisdom of the medical profession. And, my friends, you may have a similar reaction to my following observations.

First, let us look holistically at how our system of liability insurance has been operating -- over time -- in relation to the system of Tort Law. Let us review what their symbiotic relationship has been -- as they have merged together, over time, to become a system of Tort Law/Liability Insurance.

Simplistically, Tort Law originally served two purposes. It compensated a victim who had suffered loss due to the fault of a negligent person. And it punished the person who was at fault by requiring him to pay the loss.

From its very beginnings, Liability insurance served to vitiate one of these two purposes. No longer was the at-fault person, who was insured, required to pay the damages. Instead, the cost of the damages was spread over society by way of premium charges.

But -- over time -- an even greater mischief has been done to the other, original purpose of the Tort System: the compensation of damages. Because the system of Liability insurance made the funds available, the legal profession has succeeded in wrenching the concept of fault beyond all reason. In fact, we reached the point some years ago where this system of Tort Law/ Liability Insurance came to be regarded as primarily a system of compensation. Unfortunately, it has proven to be a system of compensation that bears no sensible relationship to all of the other myriad systems of compensation that we have established in our society. And -- further -- as a compensation system, it serves the profession of law in greater measure than the suffering victims.

Now let's take a holistic look at the way that the system we call Health insurance has operated -- symbiotically -- with the system of medicine. And what we find is that -- over time -- our system has laid down a trail of dollar bills that has caused the medical profession to depart further and further from a system that concerns itself with health. Instead, medicine has become a highly technical -- highly specialized -- and highly expensive system of sickness. This has been due in very large measure to the fact that the system we call Health insurance has contained a fatal flaw: there has been no means of controlling physicians as to how they choose to treat their patients -- or where they choose to treat them -- and neither the physician nor his patient has immediate concern as to the costs of this treatment at the time the treatment is being rendered. The Governmental systems -- Medicare and Medicaid -- have suffered from this same, fatal flaw.

This holistic look at the interactions of the system of medicine and the system of Health insurance should include the recognition of two other factors of an economic nature that helped to produce a hospital-oriented, high-technology system of sickness. First, the Hill Burton Act that built the hospitals. Second, the grants to medical schools and research organizations that fostered specialization. These two factors -- operating, over time, in conjunction with the rapidly growing systems of Health insurance (Governmental and private) -- have created the climate we find today, where there is general agreement that the primary challenge of our system of medicine is that of controlling costs.

There is a lesson to be learned here. When you try to direct the efforts of a great profession such as medicine by laying down trails of dollar bills and by trying to achieve goals through economic incentives, you can expect to lose something in the process. We do recognize that we have lost control over the rising costs of medicine. But, I submit, there is an even greater loss that our society has sustained: we have lost sight of the goal we wanted in the first place -- the state of good health. Even worse, we have lost sight of the fact that responsibility for our own state of good health rests not with society, but is in our own hands.

At this point, we have arrived at the periphery of what I believe to be a major fallacy in the way we perceive and interpret how our society operates. We persist in trying to describe the operations of society in economic terms -- and to interpret these operations in accordance with some form of economic theory. Perhaps we in the insurance business are among the most captive of the illusion that the value of all things can be stated in terms of dollars.

Clearly, there are things for which there is no meaningful dollar equivalent. For example, the loss incurred by a crippling injury -- and there are countless such examples included in what we have come to call "pain and suffering" in Liability insurance. Or, the damage done to ecology by pollutions -- including damage not only to property, but also to health and to beauty.

I must tell you that I am still struggling with this concept that we seem to be trapped in a system that constantly tries to define issues in economic terms. Increasingly, we are finding that this approach doesn't work. A good example is the one that now confronts the people of the West Coast where they are attempting to decide whether stands of Redwood trees should be cut down to provide jobs for loggers and wood products for society -- or preserved for the people. And the issue concerns not only preserving the beauty for today's society -- but for generations to follow.

Mentioning the rights of future generations to enjoy the beauty of the Redwoods is an unusual subject at a meeting of actuaries. But I've done so for several reasons. First, I said earlier that in this period of historic transition, people are searching for new values and new beliefs -- and these changes are going to have a great impact on our business and ourselves as individuals. Chief Joseph of the Nez Perce who lived among the Redwoods would have told us -- I believe -- that the Redwoods themselves have the right to life and that God has made us their custodians. There is a growing number of people among us today who share such views.

Second, I wanted to underscore the point that we need to think differently about how our systems are operating. We need to broaden our perspectives and our understanding of how systems are operating in relation to each other -- and especially when those systems are clashing and conflicting, as has been happening with ever-increasing frequency.

Third, I wanted to introduce the concept of trying to achieve fairness and equity from generation to generation.

This brings me to what I believe is a great injustice that exists in our society today: the burden that the older generations (of which I am a member) are trying to place upon the shoulders of the younger generations (of which my children are members). Each of you in the audience can decide which of the two groups you would like to identify with -- but you can't remain neutral or unaffected.

I believe we have failed to recognize adequately this injustice among generations because we tend to study each societal issue -- each system of insurance or security -- in a vacuum. For example, we try to identify the way in which our system of Social Security operates by studying the financial results that would emerge over decades -- for as much as 75 years into the future -- based on complex models that involve myriad demographic and actuarial assumptions. In my own view, this is an exercise in mathematical nonsense. We have no realistic idea of what our society will be like in the

Year 2000 -- and projections to the Year 2050 belong in Alice's Wonderland. Such projections only serve to conceal the truth and lend themselves to gross misunderstandings. Witness President Carter's statement last Fall -- after the 1977 Social Security law had been passed -- to the effect that the problem of financing Social Security had then been solved for decades into the future.

Earlier, I described all of the global problems that made up "the World Problematique". Among that list of problems, the one that perhaps most clearly affects our economy and our business today is that of world-wide unemployment and inflation. In large measure, this problem of inflation will continue to be exacerbated by other problems of the World Problematique. I see no way that our society can escape the burdens of continued, heavy inflation.

Because of inflation, the younger generation has a hard time getting a job -- and when they do find jobs, frequently, both husband and wife have to work -- not so much from choice, but because they have difficulty in making ends meet. For most young couples, the possibility of owning their own home is rapidly becoming an illusion.

Meanwhile, my generation sits comfortably in homes that we bought years ago -- paying them off in cheap dollars with mortgages at low interest rates. We have attempted to provide ourselves with pension plans that will permit us to continue to enjoy our affluent standard of living. And so that we may avoid the effects of the inflation that we have created, we have indexed our system of Social Security -- and wherever possible, our pension plans. And most recently, we are trying to eliminate the mandatory retirement age -- so that we can continue on our jobs into old age at full salary -- and also deprive younger people of jobs or the opportunity to advance. And with all of this, we acknowledge that younger generations must expect to pay ever-increasing taxes to support these systems we have constructed.

In the New Testament of the Bible we find the parable of the prodigal son. It occurs to me that -- at some future time -- the parable that would be appropriate for our age would be that of the prodigal father. And I think the parable would also show that the father was finally called to task for his greed and that the son was the final judge of what was equitable.

At this point, let me say to you that -- as a futurist -- I am an optimist. I believe that new values are now being perceived -- and that new institutions are being developed. And I believe that both those new values and those new institutions will prove to be better for mankind than the ones we have known in the past.

Let me offer you one concrete example of such new values and new institutions. It has to do with the rapidly developing movement of holistic health. The word "holistic" when applied to health means the totality of physical health, mental health, emotional health and spiritual health. Moreover, it means that these variously named types of health are inseparable. They are intertwined and combined into one system of holistic health.

Another major characteristic of holistic health is the belief that each of us -- as individuals -- is responsible for our own state of health. We do not try to transfer this responsibility to society.

This concept of individual responsibility for one's own health is consistent with some of the rapidly growing movements we have seen these past few years -- the growth of natural food stores -- the increasing rejection of junk foods -- and objections to the marketing of candy and sugar-laden breakfasts to children. The myriad movements aimed at achieving inner peace and relaxation -- such as EST and Transcendental Meditation. The "self care" movement -- or, being your own doctor whenever possible.

All of those are related to the holistic health movement. But perhaps the most encouraging movements have been those aimed at achieving physical fitness -- especially, running, jogging or walking. One of the most fascinating things that I have learned from the leaders of these movements is that they have found that the most effective beginning for a program of achieving holistic health can be a program of physical fitness. When physical fitness is achieved, mental, emotional and spiritual fitness seems to follow naturally.

All of which would come as no surprise to the Greeks of more than 2000 years ago. They said it: "A healthy mind begins with a sound body".

But -- to be frank -- these movements that relate to holistic health do seem to come as a surprise to the medical establishment and to us in the Health insurance business. The nearest we seem to be able to come to the concepts of holistic health is to talk in terms of the need for "preventive medicine". But this is a negative concept. It relates to a state of non-sickness. We need to turn the coin over and think in the positive terms of attaining health: physical health, mental health, and spiritual health.

Our inability to perceive the implications of the holistic health movement brings me back to the observation that I made at the beginning of this talk: that is, that the essential feature of futurism -- or seeing what lies ahead of us -- is to be able to perceive and interpret the realities of the present. That -- I submit -- is the nature of the challenge that confronts you in your discussions during the remainder of this Joint Meeting.

MR. LECKIE: The theme of this meeting is Expanding Actuarial Horizons. I wonder if I could just take a moment on a personal perspective of what that means or could mean to actuaries. We have a body of knowledge that we have acquired, our profession has acquired over the years, which we feel to be a part of us. We work with that body of knowledge. It is necessary to look out beyond that body of knowledge to see what is going on in the rest of our society, to evaluate what is going on and to evaluate the inevitable consequences of what's taking place. We then must draw that information or those conclusions back into our body of knowledge to see whether our body of knowledge is relevant. We must look at the way in which we utilize and expand that body of knowledge and how then we can perhaps influence what is taking place in that society. That's what I would consider my concept of Expanding Actuarial Horizons, that's what I have heard developed by this panel this morning.