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**PROFESSIONAL DEVELOPMENT—
NON-TRADITIONAL
ROLES WITHIN THE LIFE COMPANY
ENVIRONMENT**

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This discussion focuses on non-traditional employment for actuaries. The panelists are all employed in non-traditional roles. They discuss how they got involved in their current employment and the rewards of it.

MR. PETER PATTERSON: Welcome to this session. We are going to look a little bit at the actuary's normal habitat. I must say that I am surprised to find us in a theatre. When I saw 'cinema room' I had visions of a room where they had pictures of stars on the wall. I did not expect to find a theatre. Maybe, it is the Society's way of saying when we were planning the session we were too narrow in focus. I am reminded that the only time I have seen an actuary in a movie was "Sweet Charity" some ten or twelve years ago. Shirley McLaine was starring in this movie and her beau was an actuary. I think he was a very dull fellow and that he worked for a large New York Mutual company. He was a real cad, and at the end of the show he ended up jilting poor Shirley at the altar.

We are going to talk today about actuaries doing work that isn't traditionally theirs. In discussing this, we are not implying that one has to leave one's current employer and find that kind of a job somewhere else. In most cases, this sort of opportunity will present itself with any one company. In fact, when Monica Hainer and I were planning this session three or four months ago, both of us were working in what would be described as a traditional actuarial area. We were both in market support. Both of our positions have changed radically since then. I am now responsible for an area that includes such actuarial pursuits as personnel, office services and data processing. I have a lot to learn to function properly in those areas.

Monica is sitting somewhere in the audience, patiently waiting to deliver twins early next year. She is in for a lot of training too - mostly toilet training!

We will split today's program in two parts. For the first half we will hear from the four speakers who are engaged in non-traditional work and each will outline something of what he is doing, how he got to be there, what he feels are the rewards and challenges and perhaps will comment on the appropriateness of his training for the work that he is doing. The second half of the session will be open to the floor and we will welcome questions to the panelists. Comments from people here who have themselves worked or are currently working in non-traditional areas will be quite appropriate and welcome at that time.

MR. IRWIN VANDERHOOF: I would like to make a couple of things perfectly clear. It is true that I work for a large eastern Mutual, but I have never stood up Shirley McLaine or anyone else at the altar.

When Monica called me up and asked me to be on this panel and said I should talk about my career in planning or in top-management or something like that, I laughed a lot. I do not represent that I am in top management. It is difficult for me to find a capsulated phrase describing what I do. I will go through a little bit about what I do. You can decide if there is a convenient label for it and then I will talk some about how I got there and see what messages and morals this can bring for younger people.

Basically at the Equitable now, I am doing three different kinds of things:

- 1) Pension Business: Pricing of Big Deals - that is a normal pricing responsibility. Primary responsibility for doing whatever is necessary to rectify certain problems that show up in the GEC business. I also handle new products for pensions. This is generally a traditional actuarial responsibility, except to the extent that I have an overall responsibility for the management of a particular segment of business that passes beyond normal actuarial boundaries.
- 2) I am involved in the reinsurance operation - for historic reasons. I started the company in the retrocession business about 8 or 10 years ago. We are one of three companies on the North American continent that has out a sign that says "Retrocessions only, no direct reinsurance accepted". We were the first, I believe, that took that specific marketing approach and I have been responsible since its inception for marketing. We market to reinsurance companies. This is a fairly good business. Another guy and I, Dennis Loring, will produce about \$4 billion face amount this year - which is a fair production. Dennis and I are the only members of the Billion Dollar Round Table producing consistently a billion dollars of face amount a year. There may be some up at ManuLife, I am not sure.
- 3) I have some kind of a peculiar general corporate responsibility also. I spend a fair amount of my time doing international work for the company on a sort of ad-hoc basis. I brought the company's group operation into an international benefits network. I worked on the pension plan. I was also involved in the great days when the Equitable, Prudential, and the Metropolitan found it necessary for the safety of policyholders to reinsure all or substantially all of their individual life business with Transamerica Life Assurance Corporation formerly known as Country-wide. We did a lot for protection of policyholders.

I recently have also been involved in the restructuring of the investments of our own pension plan, which is interesting because properly viewed, we suddenly found that our pension plan was overfunded, that is legitimately. A year ago we didn't know that.

How did I get here? I graduated from college with the lowest average of anyone who ever graduated. I decided that I had to do something to start over again and I heard about the actuarial exams and said that I could pass

any kind of exams any clown could put together. So I set out on a new career and started out at Metropolitan Life. I worked there for a little while, in group life and health. I found the computers fascinating and this was in the early 1950's. I loved the machine rooms. I used to go down and read through all the manuals and how you wired the boards on all those 602A's and 604's. I decided I wanted to work more in that area and got involved in the experience studies. That was fun!

I finally passed a couple of exams and became an Associate of the Society. There was then a crossroads in my career. I was offered two jobs. One was programming for the computers I loved and the other was an opportunity to be involved with management, which I didn't like very much. About six months previously, I was told that I would never be offered a job in management because of my obvious incapacities in that area. So obviously I took the job in management and supervisory work. I tried to do some things at the Met with programming. The timing wasn't too good though. I got involved with programming the Univac. I put in a great suggestion that we should do all the group dividends by using computers rather than using the 50 clerks, supervisors and team captains. The guy that was the head of that unit presented all sorts of reasons why it was absolutely impractical to do these calculations by computer, that they needed to be done by clerks. It seemed time to look at the want ads.

I found a company, U.S. Life, that was interested in an actuary interested in computers. I worked for U.S. Life for four or five years. I got to understand the international links with the insurance business. We did business in 23 currencies. I finally passed the rest of my exams and became a Fellow. Obviously, if you are a Fellow of the Society of Actuaries you are competent to set up your own company. It seemed like the thing to do at the moment so I knocked on doors and listened to whisperings of those shady sort of characters, until I found a company that was just being set up in New York and I promoted myself to being an Actuary of a brand new company so I could show everybody how to do things right. I set the company up myself. I don't know if I did it right or not, but I was there for fourteen years and there is still a company there. They tell me now that it has got about \$200 million of assets. I think when I was starting there it was about \$2 million of assets. This was a very enlightening experience. I learned a lot about the management of people during that fourteen year period. At the end of the fourteen years, I had run out of ideas. There was nothing more that I could contribute to a small company. I couldn't see spending the rest of my life cutting term life insurance rates by another nickel. They needed an administrator.

The people at the Met were correct, I am not an administrator and should never be involved in the management of large numbers of people. So it seemed time to look for another job and in this case it was the Equitable. Interestingly enough, getting a job at the Equitable was in part dependent upon people at the Equitable reading the various contributions I had made to panel shows at the Society, papers and that sort of thing. If you want to make yourself acceptable for some jobs in the future, it would be helpful if you made contributions to the Society in the form of discussions. People will read it and judge you from it. If nothing is there they will make a judgment that you are a zero. Well it is fair, if

you have contributed nothing, you should be regarded as nothing. If you make a contribution to the Society, you have a right for it to pay off.

I joined the Equitable and was in control of individual life insurance business. I eventually got moved into some kind of a generalized planning area. Planning involved the production of about four inches of paper a year which nobody read, including me. So that didn't seem to be going any place. That is when I got involved with reinsurance. I met a couple of people from my friendly reinsurance companies and they needed somebody else to handle excess risks. So I decided I would rather sell reinsurance than produce four inches of planning paper that nobody was interested in. Eventually, the reinsurance business developed into what I have described to you.

Among the different kinds of work that I have done in the Society are publications in connection with asset liability management. I eventually received responsibilities in the pension area. I guess just hanging around the Equitable and having ideas created the situation I described in the general corporate area. If there is any moral, it would only be that I can now, looking back, see that there was a pattern to my life - that I was destined to work at these kinds of things. This was essentially being a deal maker of some sort and being in financial work. The value of Society education is difficult to assess. Everything I've done really has been based upon my initial training as an actuary. On the other hand, I have never felt it possible to stop and say that the training I've received is adequate. I am always taking all sorts of exams. I am a CFA and have other such designations. I just finished my orals for my PhD in finance. I feel all of this is necessary, you have to keep learning all the time. The Society education is never adequate for the full development of any career. But as far as I am concerned it is a great start. Thank you.

MR. RICHARD WHITE: I am involved in sales of life insurance products. As an agent, I divide my work up into basically two parts. The sales and servicing of employee benefits which I look on as a traditional actuarial role, and I also do what a lot of consulting actuaries do but for smaller companies. I look on my market as 50 to 200 employees with emphasis on the 50 to 100 group. I consider that I do most of the things that consultants do in the sense that they discuss the company objectives and try to design a plan around that. I implement the plan, do market surveys, and generally assist the company in any way I can to set the plan up.

The other side of my work is on the individual projects side. This is a little non-traditional, although a lot of the actuarial background helped me. I am doing estate planning work which is where the sale of life insurance is involved for things like estate creation and liquidity. An example would be when assets need to be protected in a family business. I also get involved in special situations like collateral term insurance, and buy-sell agreements.

Another side of the individual part is annuities where retirement planning comes in. This involves dealing with people on how to plan their retirement, when they want to retire, how to use tax shelters to the best advantage and dealing with projections of income that may be as far as 30

to 35 years down the road for people who want to provide that far in advance. The areas here require a little extra training beyond what the actuaries are doing, and I don't think that the actuarial program should really provide this. You should be getting into areas like chartered life underwriting exams, chartered financial planners, etc.

The remuneration is largely on a commission basis, although I do some fee work. If you are sufficiently well-trained you can get into some very interesting fee work. For example, I did some work for a major corporation when they were doing an early retirement program. When cutting staff, they hired me along with a sociologist to counsel people on how they were going to handle this retirement and what resources they would have at their disposal to do that. The sociologist was talking about what are you going to do now, what hobbies do you have, what you do on vacations, etc. I was dealing more with what is your company pension plan going to provide for you? Do you have other tax-sheltered money? Is there other money that is going to help provide income? Can you afford to retire? That was done on a fee-for-service basis, paid for by the company to help these people, in some cases, through a rather traumatic adjustment.

I don't do too much fee work for employee benefits, but this is also a possibility. The estate planning part of it on individual counselling for individuals is becoming more and more of a fee-for-service situation. Even where there may be no need for the products that the insurance industry offers, the service might be of value to these people and they are prepared to pay on a fee-for-service basis if this is set up at the beginning of the session.

My background is a traditional actuarial one. I took mathematics at a university and started getting somewhat interested in actuarial programs. I worked at Manufacturers Life as a summer student and soon realized that if you wrote these funny little exams that you got more money. That is how I started to write them. Basically I got trapped, like a lot of us did, by having to feel that I better finish them. So that is what I did.

While I was at ManuLife on a full-time actuarial basis, I stayed away from the traditional corporate jobs and concentrated on marketing and worked in the pension area. They had a pension consulting arm at that time. I learned to do actuarial valuations and certifications. I had some client contact at that point. I also worked on the individual side and priced annuity and insurance products. I also dealt with the marketing people to a fair degree and thereby learned a lot about the tax shelters that were available, how they worked and the actual structures of the products themselves. This was a good background for me to go into the selling side of things.

My reasons for going into selling were rather diverse. I like dealing with people and couldn't see myself in a corporate job where I dealt with a few people. I wanted to deal with a large number of people. I found people and their problems much more interesting than dealing with things. I was very interested in self-employment and the freedom that it offered. I realized that the consulting route does have a fair degree more freedom than the insurance company route; however, I wanted to be self-employed and run my own business if I could. I felt that the traditional consulting

role was not appropriate, since the competition was too great from the larger firms to really establish myself as a market force in that small way. I was also very interested in the self responsibility, in other words, the direct risk-reward approach of the sales game. You, through your own efforts, developed a clientele and were paid accordingly. It was a very direct relationship, which appealed to me. I also was quite happy to get away from the corporate structure. I think that it is becoming more and more a jungle.

There was a time when security was inherent in larger corporations, but I don't think that is true any more. You can create your own security in this job. It is a little bit more difficult at times but it is there. Of the challenges of this job, the main one is marketing. This is what I have to face on a day to day basis in finding the proper sort of customer and client for my services. I had to learn a lot of sales skills to do that. I think that has got to be the number one challenge and also may be the number one frustration. People in general, are apt to not treat you too well if you don't qualify them properly to begin with. Therefore, this is the key to this job and the technical work that goes behind it. While the technical aspects may be of interest and sometimes difficult it is not the main part of the job.

I would like to address what benefits my actuarial training gave me in this job. There is no question that the degree lends a fair amount of credibility to my efforts in this area. I was amazed at how many people knew what an actuary was, not only the professional people but even the small businessmen who might be running a company with 15 or 20 employees. We might have a larger public profile than we sometimes think. Furthermore, when you're dealing with the more sophisticated business person, and you begin to deal with his other advisors, his lawyer and his accountant, they certainly know what an actuary is. It really elevates me in their eyes, because they feel they are dealing with another professional person. It also provided me, and this is really a personal thing, with a tremendous background of what I was selling and how it was used. I didn't have to go through reading rate books to try and figure out what the product was and what I was really selling.

The third thing that the actuarial training provided was that it enabled me to deal with people who are more sophisticated and older right from the beginning. I didn't go through a stage where I sold a lot of policies to young married couples. I was able to move into the more sophisticated tax areas and estate planning situations right away, because of the knowledge I gained, not only through the actuarial exams but also through the work that I did with the marketing area at that time.

Finally, the interest and the life contingency part of the actuarial program had a very direct application on the individual side when projecting people's retirement income and estate plans. This was a great benefit to me and I could do this sort of thing very quickly, often without the help of a computer. Therefore, when I moved into this area, I had to learn the sales part of the business and there are lots of courses around to do that and most of them are pretty good. I don't think that is something that the actuarial profession should be providing to actuaries. I also had to learn some of the technical side of estate planning, such as

wills and trusts. I had to advise individuals on how things might be done in that area. There is peripheral knowledge that has to be gained to do this.

As a rewarding experience, I have been very happy doing this work. I think the freedom of it is a big factor. I am my own boss and I don't have too many employees - in the sense that I basically have a secretary - so that you're not hassled with people problems. Your remuneration is based on your own performance. So if you don't work -- you don't get paid. This gives you incentive to work. The other appealing part of this job is that I really enjoy working with people.

My recommendation to others who are interested in trying--I think you need three or four things to make it work. I think you need a genuine interest in people and their problems. There is a psychological part to this business, and I think you have to enjoy that and enjoy the contact with people before it's going to work for you. I think you have to be somewhat outgoing, too. You're obviously not going to be able to make the social contacts that are required to open and close business if you are not outgoing. I think you need a certain entrepreneurial spirit. This is not the same as setting up a small consulting firm, for example. You don't have the risks that the sole practitioner has in renting office space and maybe buying a computer and setting up an office staff. With the tremendous overhead, you have to run very fast to keep up every month. The insurance companies will finance you and if you're prepared to work hard, then the risk to you from a financial point is a relatively small one.

The last thing that I want to mention is, I think as in starting any business, you have to be prepared to accept possibly a lower standard of living for awhile in order to get the business off the ground. Then hopefully in the later years, you will pick up on the upside that which will compensate for the sacrifice.

MR. ROB STAPLEFORD: My job this afternoon is to talk about my position in the Investment and Finance Division of the Mutual Life as a non-traditional actuarial role. When I was first approached by Monica to participate in this panel, I was a bit reluctant because I did not view this position as either unusual or non-traditional. Given the need for consistent asset and liability strategies, it is my belief that the concept of actuaries working within the investment departments will become much more traditional in future years.

It is a pleasure to serve on this panel, particularly with someone like Irwin Vanderhoof. I feel like a novice in this area given the fact that Irwin has written several papers and study notes on investment topics. I am sure that he can add something to this particular area in the question and answer period.

I might add that the position that I will describe is a position that I performed up to the middle of 1983. I have subsequently moved to another position within the investment and finance area. The position that I will describe was filled by an actuary who would be speaking to you today, if he was not involved in the program already.

General Background

Before I address the specific duties that I performed within the Investment Division, I will make a general comment about the role of actuaries at my company. It is a company located in Kitchener - Waterloo which is about 60 miles from Toronto. It has approximately \$5.7 billion in assets and has undergone rapid growth in recent years. Much of this growth is attributable to our success in the individual annuity savings market. I believe that it is a general policy of our company to utilize people to the best of their abilities in areas not necessarily related to their formal education. During my ten years, actuaries have worked in such diverse areas as Computer Systems, Group Sales including a Group Pension Sales Representative, Planning and Personnel. Within the Investment Division, actuaries have performed positions as Senior Vice President in charge of investment operations and headed our Western Canada Investment Office involved in debt and equity financings in the oil and gas sector. Actuarial students were rotated through the Investment Division for much of the 1970's. Hence, the role that I will describe this afternoon is not revolutionary but quite evolutionary and natural within our company.

Accountabilities

The first position that I held was as an actuarial student within the Investment Division. There were two students in Investments at that time. Some of the duties that I performed included return on investment calculations, analysis and projection of source of investable funds and computerizing various management reports. After approximately two years in this area, I moved to more traditional actuarial areas. This included the Group Life and Health and then the Group Pension area.

In the middle of 1980, I was given the opportunity to return to the Investment Division. I accepted the challenge for several reasons. One might have been that I was tired of doing pension valuations but that is not true. I recognized the growing popularity of the interest-sensitive products. This had been the area where the major portion of our growth had occurred. It was crucial to obtain a competitive investment yield to be successful in this market. In 1980, interest rates were showing signs of the extreme volatility that would soon follow. I felt that it would be very challenging to work in such an environment. The interest rate volatility created risk but it was a risk to be managed and hopefully utilized to the company's advantage. Hence, I accepted the opportunity because I thought it would be a good chance to apply the skills that I had acquired and, at the same time, to develop new ones and learn about an area of the company that was becoming more important all the time.

I will now describe some of the accountabilities that I had within the Investment Division. While in that job, I changed accountabilities part way through my tenure so what I will describe was not all performed at one time.

1. Managing Eastern Canadian Private Placements

This involved the sourcing and analysis of proposals in the private placement market. Although the private placement market in Canada is not as extensive as it is in the United States, it along with the

mortgage placement system are the vehicles by which we are able to offer competitive annuity rates. The 1980-1981 period with high interest rates was not an active time in this market as borrowers were unwilling to take on obligations at such high rates. However, it was a good exposure to the challenge facing the Investment Division to put out cash flow to support annuity obligations.

2. Pricing

I worked with pricing actuaries in the Individual Annuity and Group Pension areas to price our interest-sensitive products. These included short term accumulation, longer term accumulation and payout annuities. In addition, I worked on a corporate project to develop systems and procedures to assess the degree of matching of assets and liabilities. The matching project involved significant organizational and operational changes for the Investment Division.

3. Managing Health Branch and Daily Interest Account

It was my responsibility to develop and implement an investment strategy for two main account portfolios. The first was our Health Branch which is a mid-term fixed income fund to support our Health Branch liabilities which are primarily long term disability liabilities. The other fund was the Daily Interest Account which consisted of shorts and floating rate bonds, preferred stock and mortgages. This fund was established to support our floating individual annuity liabilities. In retrospect, I think that the opportunity to manage these funds was extremely valuable. It helped my acceptance within the Investment Division because I was not working on actuarial matters but on pure investment problems. As well, I think that it enabled me to provide better recommendations to the pricing actuaries because I was having to deal with such considerations in the portfolio responsibilities.

4. Direct Investment Analysts

I was involved with directing our pool of investment analysts. This team consisted of a manager, four to five analysts and two stock traders. They followed the companies listed on the Toronto Stock Exchange to support the trading activities of our main account stock managers and pension fund managers.

5. Administration

I had certain administration responsibilities and realized the great challenge to support an active securities trading operations. I had not realized the complexities of ensuring that the appropriate securities and/or cash are on hand to ensure that transactions are completed.

As well, we embarked upon a project within the Investment Division to make greater use of technology. We have complex systems producing reports to managers at the end of each month showing their portfolios and movement. However, we wanted to make greater use of technology to give managers information from databases and files that we created to help them be better traders, thereby hopefully creating a competitive advantage.

Peter asked us to consider whether the actuarial training was helpful in our positions. My answer to that question is yes, it was helpful. However, I would describe the day to day experience as even a greater teacher. During that time, the markets were extremely volatile, and this caused many people who had made investments a permanent career to go through a learning stage.

The examination and rotation process that most actuaries are exposed to provided me with an opportunity to learn about different parts of the company. It was an advantage to have that knowledge and be able to apply it to solving investment challenges. As well, the rotation program forces actuaries to be adaptive and flexible to meet new challenges, in particular, working in new areas. Having an ability to work with figures, compound interest and computers was also an advantage on several occasions.

There are a lot of facts to be learned, and I was left with three general impressions that I will share with you.

As I indicated earlier, I had not realized what a great challenge it was to invest large cash flows. It is one thing to simply invest the funds. It is totally different to invest them to generate a competitive rate of return with the right term and risk exposure. On the deposit gathering side, we face severe competition from banks, trust companies and savings and loans. The actuarial training on product design prepared me to understand some of the advantages that can be created by appropriate product design. However, I did not appreciate the challenge to place the funds in appropriate investments. The same banks, trust companies and savings and loans are competing for the available investments. There is a limit to the number of attractive investment opportunities. It has caused me to look at our company in a somewhat different light and recognize the two distinct operations. Those are the deposit taking side and the management and placement of assets.

Another impression that I have maintained is that hindsight is 20/20. This may seem rather obvious so perhaps an example would be useful. I can laugh about it now but I remember the 1981 period when government bonds were yielding nearly 20%. We were not sure as to whether things were going to get a lot worse before they got better, so we invested some funds but we certainly did not go overboard. Six months later, I was asking myself why we did not invest as much as we had for as long as we possibly could. We saw the results of our actions in a very short period of time. We had to report these results to our Finance Committee on a regular basis. It certainly taught me that one is not always going to be right. When you are wrong, it is important to get up the next day and come back and do the best job possible. I noted a spirit of entrepreneurship and personal challenge in most of the investment managers. I think that this results from the ongoing assessment of whether your decisions were right or wrong, and I found these characteristics stimulating.

The more factual items that I had learned were the factors affecting the market. As I indicated earlier, an understanding of compound interest was valuable. Much of the actuarial training is logical in nature, but not all of this can be applied to dealings in the investment markets. Many of the factors affecting the market are not logical at all. In fact, a little

knowledge can be dangerous if it causes you to be wedded to a position when everyone else is moving in a different direction. I also developed a greater recognition of the interdependence of Canada and the United States which I consider to be a valuable lesson.

I am very happy with the change that I made back in 1980 and would certainly consider going back into a position directly involved in the investment operation. I felt that it was very rewarding and certainly helped to broaden my horizons on how I looked at our company and industry. I wish I could report that I learned lots of lessons on how to make money but that is not really the case. If I was asked to provide advice to an actuary considering such a career, I would say that investments are becoming a more important part of the life company operation, and, if you enjoy that particular area, then go for it.

At the start, I said that I thought that the concept of actuaries working within investment areas would become more traditional. In closing, I would like to support that statement with a few facts. In the 1980 Canadian Institute of Actuaries Professional Survey, 3 out of 522 actuaries surveyed indicated that investments was their chief area of accountability. In 1982, 5 out of 635 actuaries surveyed indicated that investments was their primary area. This represents a 67% increase in actuaries working in investments as compared to a 22% growth in the total number of actuaries surveyed. This logically leads to the conclusion that, by the year 2010, the majority of actuaries in Canada will be working in investments.

MR. ROGER SMITH: When Peter asked me if I would come up and tell people about my experiences with computer systems or services, I gave him about a ten minute explanation about what I could add and said that it didn't sound very interesting to me. He begged me to come along anyway.

I started out my actuarial career doing traditional work. I spent seven years in a life insurance company in Chicago and did some pricing, valuation, and financial reporting.

My first boss was an individual who either firmly believed that actuaries were super programmers, just from their makeup or they had to be very good programmers, just in order to get anything done. Consequently, everybody on his staff was a programmer and I did a lot of programming for the first few years.

As a matter of fact, when I started out with the company, the first thing my boss did was to welcome me. He, then, gave me some reinsurance rate cards and a programming manual and told me that he wanted a reinsurance cost analysis done in three weeks when he returned from vacation. With the help of my peers in the department I actually carried this out, and in three weeks time you can analyze a lot of reinsurance rate structures.

We had a little time-sharing system set up. Despite what my boss believed about actuaries being good programmers and being good systems people, he also had a price negotiated with this time-sharing company for a flat charge on usage. I asked him about that once. He said he was just a little bit concerned with occasionally somebody writing an infinite loop and burning up lots of computer time. So I am not sure how convinced he

was that actuaries were truly great programmers, because that shouldn't be a concern if they were.

In this company, data files were essential for a lot of studies. Our situation was probably pretty typical. We had an in-house data processing department to whom requests were sent. The users and programmers would then meet to ensure that the requests were clearly understood. This, however, did not always work. These five or six years that I worked for a life insurance company were a very large part of my experience.

Probably one of the biggest things that I got involved with, came when the company decided that it had to replace the 62 CFO Administrative System. We brought in one of these newer ones, LifeCom 3 System. I was fortunate enough to get the job of being assigned to provide the new system with all the insurance plan information that it required. This included every plan of insurance that the company had ever sold in about 100 years. That was a lot of fun. It kept me busy, really on a part-time basis for about 3 years.

There were three things while at the company that I decided upon. First, was that not all actuaries are programmers. I don't see my first boss in the room here so I don't think anybody will throw something at me for saying that. In fact some actuaries simply cannot and should not program. The second is that writing a single program that does a few things is pretty straightforward and really isn't all that hard. However, putting together some of the larger systems, getting into an administrative system and seeing how it was put together was fairly amazing; especially, that the whole thing basically worked as they said it would. After I had experience with it I knew its value could not be overstated. The last thing was that cursing and making threats of physical violence at either people or machines just do not make things work better.

I became a pricing actuary after this project was wrapped up. We were primarily a term-writing company and it was during the years when there was quite a bit of price slashing. Hopefully you would get the premiums printed and on the street before they were not competitive anymore. The job of a pricing actuary really was, instead of designing rates and measuring profits, that you deduct a nickel at the younger ages, a dime at the older ages and determine your new rates. After that you try to come up with some mortality assumptions, throw in some lapses and then try to figure out just how long the reinsurers and Uncle Sam will subsidize the products. So, that got me thinking that maybe there was something bigger for me to do.

My first choice was a role where I could really combine high pay with short hours. I didn't find that or I couldn't get anybody to admit that that was what they had. I considered other roles in an insurance or consulting company. There just aren't any easy answers and I certainly didn't pick one. I then found my current job, which involves just about all aspects of designing, developing and marketing computer services and systems. We limit ourselves to actuarial applications and don't do any administration packages. I am happy to report that I only program now in absolute emergencies.

I picked up an awful lot of concepts and ideas in terms of system structures and data storage techniques for computer systems and services of the future. This is what is going to separate the cream from the milk. There are going to be many jobs that will be made easier based on how you set things up, what kind of flexibility you have, and your ability to save, retrieve and maintain data. That may sound trite but it certainly is a very important consideration. It is one that is probably the most difficult to communicate to your systems individual working in your company. There is always one more thing that you need that you could not have anticipated.

In my current position, we do things in such a way that we can accept just a wide variety of data sources from different companies and there definitely is this principle called "garbage in and garbage out". You just have to be on the watch for it at all times. Other things you pick up in working with large projects and different companies' data, are subtle differences in recordkeeping systems. There is something that most insurance systems folks would understand is a CFO coded date. They developed a technique where for months and years they calculate the number of months since 1900 which makes it much easier to add and subtract dates and compute durations. I was unfortunate enough to find one company that instead of months since 1900 used number of months since 1901, which, unless you have to calculate a duration, is no trouble at all.

I feel that my actuarial training and going through the exams and passing and failing them and taking them again has prepared me well. Not from that standpoint that many of the cookbook techniques and some of the very specialized applications can be transferred directly, but I think underlying those, if you spend as many hours writing exams as I have you do pick up a good feel for the fundamentals and some of the basics underlying the insurance products. You go back to that and approach a problem in a particular way, you know the Jenkins Formula for calculating premiums may not do you any good in asset liability management but you keep some of the basic concepts and understanding of what is happening, which is really what all the formulas and methods that we use involve.

The most significant challenge to anybody that really wants to be in the computer service business is keeping up with the product revolution that has been occurring in the life insurance industry over the last five years. There are similar changes in the electronic end of things as well. These combined, especially the products, mean that today's computer services aren't going to be worth a nickel tomorrow. You know it is like a deluxe buggy whip. You can have the best one in the world, and you can admire it for its workmanship but it will sit in a museum someplace. The thing that is going to be challenging with these new computer services, I think, really stems from who puts them together. Putting together computer systems is probably not unlike building many other things, e.g. an automobile. The only thing that makes it tough is that many times we try to develop computer systems where the actual craftsman, the person who is doing the work, truly doesn't understand what it is he is trying to do. Anybody who has purchased a car that perhaps wasn't quite right from the day it rolled off the showroom can appreciate that the people making the car maybe had a bad day, but at least they knew where the wheels were supposed to go, and what these seats were for and so forth. In computer

services development, you don't have that luxury and people really do not understand what they are doing.

I was recently doing a job for the computer services area of a company who didn't have any actuaries. I was going through something where the programmer had to calculate a duration and I almost went right by it. I then paused and said, "You do not know what duration is, do you?" So, you can imagine the involvement of putting these systems together. Somebody once computed the odds of reproducing the works of Shakespeare by setting a million monkeys in front of typewriters for a million years. I think that the odds were that one of them would reproduce Shakespeare's works. That approach could work for developing computer systems as well if you had the time to wait for it. The problem is that people aren't going to have that time. I certainly think that actuaries are capable and qualified to fill the role of trying to solve what things people need done.

MR. PATTERSON: Thank you very much gentlemen. We are now into the second part of the program where we will entertain your questions and comments. As I said in the beginning we would welcome comments from any of you who are working or have worked in areas that are unconventional or nontraditional from an actuarial viewpoint and wish to share some of those experiences with us.

MR. FRANK LONGO: I am in the Strategic Planning Department at my company, so I guess that would generally be considered a non-traditional assignment. All of my other prior assignments have been in traditional actuarial spots, including product development, financial analysis and financial projections. I would just like to make a comment and ask for a reaction from the panel. I think that one of the panelists made a remark that the rotation programs that many companies typically have are very helpful because you are required when you move from place to place in a company to pick up the knack of learning new subject areas. I agree with that but on the other hand, I think I found that when I moved to this strategic planning assignment that I needed to break the outlook required to be successful on the actuarial exams, i.e. a situation where you are really being force fed very well defined specific information. I found it very painful, at first, to be placed in an assignment where the rules were just completely gone for the types of things I was being asked to look into. The whole mind set is completely different, so I am curious if there are any comments on my reaction.

MR. STAPLEFORD: Well, I'll start off, there are certainly lots of things in the actuarial exams that you learn from one three hour period in your life and then you do put them aside for a good chunk thereafter. As well, I can remember when I first started as an actuarial student within the investment area, they had one of these return on investment calculations. I sat down and wrote out this great formula. I like to think I was fairly good at compound interest and went through the whole formula, generated the numbers and took it into the investment manager and said your answer is 10 percent. He took one look at it and said, "You're wrong!" I said, "Pardon, you're telling me I am wrong". I showed him the formula, he didn't know anything about it. He said, you don't seem to be right and explained his seat of the pants type of rationale. And sure enough, I went back, checked my formula and found a bug. It was a good lesson, that

experience and common sense are very valuable tools. You have got a lot to learn out there and just passing exams is not sufficient. So I do agree with the comment to a certain point, but certainly the discipline and the opportunity to work in different areas are tremendous opportunities for actuaries.

MR. VANDERHOOF: I certainly agree with what Robert is saying about the value of rotation. You mentioned strategic planning and that is a peculiar kind of function. I was involved about five or six years ago in a unit that was called a strategic planning unit. It didn't work, couldn't work, couldn't possibly work. Strategic management and strategic studies have got to be done with a total interest and support of the CEO of a company. That may be true where you are. If it is, then a strategic planning unit can provide useful services. However, if you have, as I did, the situation where the top management of the company felt that it was good to have a strategic planning unit so they could tell managements of the other big companies who also had strategic planning units that they had one too; then it really is a waste of time.

The non-traditional roles will require non-traditional relationships and non-traditional methods of functioning within an organization. You mentioned the specific one that is particularly difficult. A strategic planning unit as far as I am concerned absolutely must have total support of the top management of the company or you produce, as I did, four inches or four pounds of paper which nobody reads. Everybody goes through the exercise but nobody does anything with it. The only man who can say something is going to be done has already indicated that he is not going to make such a statement or give such an order. It depends, if you're doing sales you have got to have a different kind of relationship with people in the organization, and the relationship is much more important than the technical background or abilities.

MR. HARRY PLOSS: I notice Richard White that you are in life insurance sales. I was wondering if you had diversified into securities or financial planning and what is your motive for selling? Also, do you sell at the clients location or your own?

MR. WHITE: I deliberately stayed away from other areas. I mean there is a lot of talk about selling securities, casualty insurance and similar sorts of financial services. I feel that to be an expert in any one or two areas, if that is even possible, is enough to keep me busy most of the time. Most of my work is done at the client's place of business. I don't bring him to my office very often, although that does happen on occasion. The employee benefits work is certainly done at the client's place of business and the individual estate planning and retirement planning is either done at his home or at his place of business as well.

MR. PLOSS: Do you find that your work is prospect-intensive as opposed to building a network and cross-referrals?

MR. WHITE: The referral part is very important. There is no question about that. The early years are spent prospecting. I started on basically a cold call approach. Because I wanted to operate in my market immediately, I didn't feel that my direct contacts were of sufficient value

to me when I was starting out to be where I really wanted to be. So I wanted to target my market and deal with those sorts of people right from the beginning. Now as you become more established those people give you referrals and you get centres of influence, lawyers and accountants, and similar professionals who have seen your work. They will pass people on to you.

MR. PLOSS: How many years have you been building your practice?

MR. WHITE: I have been selling for six years now.

MR. PATTERSON: Let me just ask the panel a question and that is will your area become a traditional area for actuaries to operate in when you leave it, push on or branch into something new? Will your company replace you with another actuary? Will there be actuaries lining up to take the job?

MR. SMITH: In my situation, I would say yes. In other companies as well, I would see more actuaries getting involved in their own computer services. Just to have closer touch to really what is going on. There is another panel going on about the role of a valuation actuary. Some of the items that certification may entail are a bit scary, especially if you are relying on lay computer professionals who don't understand the overall problem.

MR. STAPLEFORD: I certainly would answer that yes as well. When I move to a different part of our investment and finance area, and start doing more traditional work, the position I described earlier will be filled by an actuary and certainly when you see the development of the life industry these days vis-a-vis the products that we sell, I think it is just natural for an actuary to get involved. It used to be filled by an actuary. A good part of the training is starting to move in that direction. I think that it is very natural to expect actuaries to take a leading role in the investment operations.

MR. WHITE: I would have to answer a definite no to that question. I think that ManuLife would take all the actuaries it could, doing what I'm doing if they could find anybody that was interested. I must say that there were a lot of raised eyebrows at the company when I decided to go into this sort of work. I think a lot of them thought the first person I should see was a psychiatrist. But I think that there is a role for somebody with some training here to play in a more sophisticated area. It is for the people who are not enthralled with the actuarial work per se. It is an interesting place for them to end up. No, and certainly being an actuary is not required to do the job. There is no question about that.

MR. VANDERHOOF: The answer to the question, as far as I am concerned, is yes. But since I have the microphone, I thought I would like to take up a different topic which is of interest to me and might be of interest to you - a question that nobody has bothered to ask and that is, "Is the future development going to be (between the traditional actuarial fields and investment and finance and the kind of work that Bob is doing) growing rapidly among the actuarial profession?" In finance theory there is something called time state preference theory. It is a neat way of proving theorems in finance because you start off by saying that there is a price

for every kind of financial claim that can exist. Then the proof of the theorem is simply the development of the relationships between the prices for these different kinds of financial claims. Now we are familiar with financial claims because those are our investments. We buy bonds. Buying a bond is a kind of financial claim on a corporation. Buying stock is another kind of a financial claim on a corporation. So all of the investments we make are the purchase of specific kinds of financial claims that corporations, businesses or individuals want to sell.

On the other hand, we look at the kinds of businesses, the view of the financial markets that the actuary normally takes. He takes the reverse point of view. He comes around and says what kind of financial claims do individuals want and the nature of the actuarial profession is that we deal in contingent financial claims - financial claims that are not absolute but depend upon the occurrence or non-occurrence of an event. Somebody dies or somebody doesn't die and either of these situations create a new kind of financial claim. The function of insurance companies then is to intermediate. We have the people like Mr. White who go out and develop the needs of individuals for specific kinds of contingent financial claims and then you come into some people in the boiler room of the actuarial department and they somehow work with people like Mr. Stapleford to find a way to move the kind of contingent financial claims we are selling to one market - the public. They massage it around so it can be represented appropriately by the kinds of financial claims, the investments we buy from the corporations. To me the point of this is that this is a paradigm for intermediation, for all the financial intermediates. The creation of one kind of financial claim and the laying it off with financial claims otherwise available in capital markets. This seems to me to imply that there is going to be a tremendous movement of actuaries or people with actuarial capabilities into the understanding of this complex and evermoving interrelationship between markets. We sell contingent claims in one market, we buy other kinds of claims in other markets. Our skill is how fleet afoot we are in being able to match those claims. This is another way of looking at the profession, which implies a tremendous increase in the importance of finance to the actuarial profession, and a perhaps a greater place for actuaries in the world of finance.

MR. LONGO: A very interesting statement! I think those are very good points, Mr. Vanderhoof, but would you also say that while actuaries may have this opportunity to move into these other areas, people who are not trained as actuaries will be moving into those same areas as well? And the contingencies that we have historically dealt with (life and health related contingencies), the trends in those areas are such that particularly in regard to life contingencies with declining mortality rates and possibilities of significant life extension capabilities and so on - these trends cause me to wonder whether the need to really take into account some of those areas that we traditionally dealt with is going to decline. On the health side it's the other way because I think that with health contingencies in the United States and Canada, due to the aging population, the health related contingencies may become more significant. I don't know if I really have asked a question or made a statement.

MR. VANDERHOOF: There will be other people coming into areas that we might think of as actuarial areas or I would argue as areas that the actuary can

become prominent in. However, I remember in the old days at the Metropolitan. Well, you had people sitting around figuring out neat formulas to calculate reserves, you had lots of people sitting at desks punching those machines, and you had a year of calculating reserves. Now you have got some pretty good machines. You can't really develop a career at being the top of the pyramid. The people who do unit worksheets and calculate reserves may not have as much opportunity in the future; nor will the actuary who only can provide traditional services to the life insurance company employers as there used to be. Maybe there isn't a career of going from clerk to supervisor to super-supervisor to unit chieftain to capital pyramid - until you have 200 people reporting to you - a massive empire which calculates reserves! Maybe that used to be a career and maybe that is not going to be a career anymore. With the machines right now you can reduce that to a trivial problem. Set the machine up to do it by trial and error. It's easier than trying to work out a sophisticated formula. That means that the only kind of actuary that will be needed is perhaps a kind of actuary different from the ones most comfortable in the traditional roles.

MR. STAPLEFORD: I might just follow up a comment that Irv made there. You have all these people who are working to generate reserve formulas and then on the other side you have all sorts of people trying to interpret what they mean. It is the actuaries full employment act. Who needed ERISA? Certainly given the pressures on bottom lines these days, I think what actuaries do is going to have to be better explained and better understood. Managements are going to want to know what in fact is happening to their operation and are not going to stand still and simply accept complex formulae. Given the competitive environment that we are in, people are seeing themselves more like banks and trust companies. That breaking down of some of the traditional actuarial areas of responsibility, making sure that managements thoroughly understand what is going on, is going to become more important in the future.

MR. WHITE: I think too, there is going to be an opportunity as actuaries become larger in numbers where they are going to be working for banks and trust companies marrying the asset side to the liability side as things become more volatile in general. I think there is going to be a real place for actuaries in those types of roles which they haven't traditionally played in those institutions. I think you are going to see them there.

MR. DAVE INGRAM: I just wanted to tell of an experience I have had breaking down a traditional actuarial role where in our company, a special group was formed to do special financial analysis for the senior management of the company. They were dissatisfied with the way that it was being done within the actuarial function. It was taken outside. I was one member of that and there were four accountants in the group. I thought that was a process that worked very well in breaking down the actuarial function and spreading it out among non-actuaries. It worked very well there because there were some roles that they were able to perform that perhaps they had better training or experience for than I did as an actuary. There were other roles where they didn't know enough about insurance to do any of the real analysis work. So, they performed some information gathering functions and also helped in working out explanations of technical actuarial subjects to management. I guess if I could explain it to the

accountants, I could explain it to management. But it is just maybe a traditional role with a non-traditional approach to it.

It seems to me that what people are saying recently is that maybe there are some risks to the actuaries in terms of actuaries moving into non-traditional areas. Because now they are dealing in areas where maybe other people have a great deal to contribute as well. Some of the actuarial mystique might turn out to be thinner than we thought.

MR. DON HASSL: I have a question for any or all of the panel. I am curious now that you have jumped out of the traditional actuarial role whether or not you think you could ever go back?

MR. WHITE: I would find it very difficult to go back. I suppose I might have to at some point but that is the way I would approach it. I don't think I would want to. I enjoy the freedom too much and the sense of creating something on my own to go back. So the answer to that would be no I don't think I would and probably don't care to either.

MR. STAPLEFORD: Well, I have moved back to a more traditional role, but certainly not the traditional role in terms of pricing and reserve work and all of that. I have enjoyed the change back and it's an opportunity to apply again some of the knowledge that I picked up in the investment operations and some of the insight that I picked up there. But the thought of going back to pricing and reserve work is not a great area of enticement. That's for sure.

MR. SMITH: I think you would have a rough time keeping me pinned down to the pure traditional roles of pricing and reserve work. You would have to really keep an eye on me all the time or I would be off doing other things.

MR. VANDERHOOF: No, I wouldn't go back. Nobody would have me back, nobody wants me back there. It wouldn't work out. My next move is most likely to be in the area of consulting, teaching, maybe the financial markets. But I have no chance of going back.

MR. RICK MAGRO: I have a question mostly directed to Mr. Stapleford. I also have an interest in the investments and finance-type things. I have a business degree along with my actuarial background. I was curious whether in your environment your actuarial past has changed the interaction within your investments department in, say, a product development role. Instead of just being the investment department that tries to make as much money as it can and the actuarial department trying to price as high as they can, is there some interaction, as to what type of profits will create what type of cash flows?

MR. STAPLEFORD: Yes, I think that given the environment at our company where actuaries have had an ongoing involvement within the investment area, there certainly has for a long time been a substantial actuarial involvement. I noticed a couple of things happened during my particular time there - one of my accountabilities was pricing. So, I would be thinking about what is going on in the markets for my own portfolio and then communicating that information in terms of where current yields are, and directions and such to the pricers. I got a fair amount of my

information from going down and talking to the bond traders - get the phone out of their ear and find out what is going on in the marketplace. But as time went on and if I wasn't available it was quite common to see some of the actuaries from around the company involved in pricing, talking to the bond traders about interest rates and such. I think the interactions have improved. In fact, I think that is in many cases crucial to the attitudes that exist at our company. Now there are lots of areas for future improvement to take place. I feel that in many cases there are two ways in which we can make money. One is to be shrewd traders and trade the market and the other is you can lock into a spread. There is a role to be played in both areas, locking in a spread and being a shrewd trader. The investment side often emphasizes being a shrewd trader. This loses sight of locking in a spread. I think we have done a good job to improve the outlook and the realization of that particular fact. There certainly is a long way to go in terms of the asset liability matching so that the investment managers, not just the senior people, take a look at both sides of the balance sheet. The one thing that you don't want to do is to take away from the entrepreneurial spirit. People are trading their portfolios, they do that very personally, and take a great deal of pride in it. So it is a very fine balancing act between where you start to diminish that individual spirit and drive to be an effective trader and sort of the more passive but very important part of locking in a spread and having a certain guaranteed amount of income.

MR. LONGO: I also have a question for Mr. Stapleford. What is your academic background.

MR. STAPLEFORD: Well, I went to public school.

MR. LONGO: My question is did you major in finance or something like that in college?

MR. STAPLEFORD: I went to the University of Western Ontario which is down at London about 120 miles away. The program there is more of a mathematics degree with a major in actuarial work. It is not as heavy as say the University of Waterloo. We always had a couple of alternates and I took economics and business. Western University has a very good business school so I had a bit of exposure from that area.

MR. LONGO: The reason I asked that question is that I am also curious to know what is the typical background of the people in the investment/analyst pool whom you directed?

MR. STAPLEFORD: Well, most of them would be university graduates, economics. Sometimes they say there are too many economists kicking around. Economics and business would be the key areas. But as Irv referred to the CFA (Chartered Financial Analyst) Program, that would be the examination process that they go through in terms of developing their analytical skills. Their ultimate goal is generally to be a portfolio manager, making their own investment decisions, rather than making recommendations. So most of them would have a university degree and part of the requirements within our company would be for them to take on the CFA Program.