"WHAT AM I AND WHAT DO I DO?"

by Carol Moellers*

I know what I am – I'm an actuary. But how many other people know what an actuary is?

At parties, my Canadian accent immediately allows a conversation opening – "Are you here on holiday?". I reply "No, I immigrated". This always leads to the "What do you do?" question. I reply, "I'm an Actuary" – a response guaranteed to baffle most people. So what is an actuary? The problem is very few people know and are too intimidated to ask.

I would estimate there are under 50,000 people who are either actuaries or studying to be actuaries in the WHOLE WORLD!

So how did I find out what an actuary does? – I became one. Perhaps that is overly simplified – so I will take you on the journey that led me from ignorance (of what an actuary is) to becoming a qualified actuary.

It all started in my final year at high school. I had a strong interest in maths and was intent on getting a university degree, but did not know exactly what to do. My school career counsellor suggested accounting and computer science. He suggested the University of Waterloo (the only university in Canada to have a faculty exclusively dedicated to mathematics, as opposed to being included with the sciences) so I enrolled in computer science. After passing the preliminary screening I was invited to Waterloo for a "campus day". It was an opportunity for applicants and their families to see the campus, its facilities and to learn about the maths faculty. At the campus day, a member of each discipline in the faculty gave a presentation. It was as interesting as anything is to a seventeen year old forced to spend a day in the middle of winter cooped up with her parents. Near the end, this rather large man came onto the stage. He started commenting on what chance we had of dying, of living long enough to retire, of being disabled for a year or more before you reaching the age of fifty. It was horrible, it was ghastly, I was appalled at the talk of

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death and disablement, it was morbid, I was hooked. I resubmitted my application for the actuarial science discipline.

I was accepted. My first year courses consisted of algebra, calculus and some statistics. We learned about statistical tables to determine probabilities of events, such as living, dying, becoming disabled, smashing up your car, having your house robbed, etc, in order to price insurance policies and to ensure that the insurance companies had enough money to pay those who bought a policy if the event occurred. We even learned how to calculate some of the simple probabilities ourselves! (Our professor kept telling us how we could go to parties and impress everyone by telling them the probability they would live to graduate! We learned about the history of the insurance industry and how an insurance company operated. I was even more hooked.

Then someone in my class mentioned exams. Not the exams at the end of the school term, but ACTUARIAL EXAMS! You see, to be an actuary, you have to become a member, known as a Fellow, of a professional actuarial body. To become a Fellow you must sit a series of exams. These exams are not part of any university degree and you do not need to attend a university to write them, but it helps a lot to get formal tuition in the exam topics.

To become a Fellow of the Institute of Actuaries of Australia you must pass ten exams. The first six are called A levels and test your general knowledge of calculus, some special actuarial mathematics and economics. These exams can be written twice a year and are between three and six hours long. The later four are called B levels and test in depth specific areas of actuarial mathematics: life insurance, general insurance, superannuation and investments. The B levels are six hours long. Macquarie University offers an actuarial program which is recognised by the Institute of Actuaries of Australia and a minimum grade earns an exemption from the first six exams. Exemptions are given at other universities but few of these teach actuarial maths.

The exams are not easy; many students study for two months for an A level and four months for a B level. This study occurs while working at a full-time job, however, usually 10-20 days study leave is given (paid). The Institute of Actuaries passes only a percentage

of people to ensure a high standard of graduates. The average age of a newly qualified actuary (all ten exams completed) who graduates with six exemptions is around 25 years old. Without exemptions, the average age is around 29 years. Do not let this discourage you; the North American system gave no exemptions when I started and with a bit of a struggle (I failed a few), I still managed to beat the average! It can be a long haul and takes some discipline, but even some of the most dedicated surfers have become actuaries.

Even with exams, I was still hooked! I found that actuarial maths was very interesting and was getting more exciting all the time. We learned practical things, like how to calculate mortgages and how to plan for our retirement. We were taught how to determine the probability that X would die before Y but after Z, or that out of ten people only one would survive to be 100.

Finally, it was time to look for an actuarial job. It was time for another shock. I had a few interviews and the "offers" were coming in. "They are paying me how much?", "This has got to be a mistake!" I can guess what you're thinking: studying and broke, right? WRONG. Actuaries are probably one of the best paid professionals around. And unlike accountants and lawyers, where the pay depends largely on the firm and the arena in which they practice, all actuaries are well paid.

Actuaries do not work exclusively for insurance companies; there are jobs in consulting firms, accounting firms, the government, and some large companies have even started hiring an in-house actuary to manage their superannuation plan. There are a number of departments within insurance companies for actuaries, including computing, marketing and investment. Actuaries do a wide variety of work and often get heavily involved in the management of the company, some even becoming managing directors.

There is also great scope for travel as an actuary. The company in which I currently work employ actuaries from South Africa, Canada, United States, New Zealand, England as well as, of course, Australians. Many companies have offices overseas and allow some mobility. The Institute of Actuaries of Australia also holds bi-annual meetings for its members. This year it is in Hobart while the last two were in Cairns and Perth. Most companies pay for their qualified actuaries to attend.

I have always felt that there was only one drawback to being an actuary. No, it is not the exams, but job location. Actuaries are employed mostly in the head office of organisations, normally located in the main cities of a country. This means there is little opportunity to live anywhere other than a main city. In Australia, probably 90% of all actuaries are employed in Sydney and Melbourne, with a few in Brisbane, Adelaide, Perth and Canberra.

WHO'S SITTING WHERE?

Mr. and Mrs. Davids, Mr. and Mrs. Evans and Mr. and Mrs. Fredericks go to the cinema together. They sit side by side in a row with men and women alternating. No man sits next to his wife.

The men's names are Alan, Barry and Charles, and the women's Mary, Nancy and Olive, in no particular order. The women's occupations are Systems Analyst, Actuary and Statistician, and the three men have the same three occupations, but no wife has the same occupation as her husband.

The Systems Analyst is in one of the two middle seats, next to Charles, who is an Actuary. Mrs. Davids is at one end of the row, with the Statistician's husband on her right. Nancy is sitting between Alan, on her left, and Barry. Mr. Fredericks is not next to Olive, although, given this, Olive is as close to him as possible.

Can you work out everybody's full names and occupations, and who is sitting where?

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