SOCIETY OF ACTUARIES

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From Wordsmith to Actuary

by Efrem L. Epstein

I'll never forget the rush of excitement as I stared in disbelief at the SOA exam slip. "This is amazing," I thought to myself, "I scored a 1!"

I'm not sure there are many other people who have ever been so happy with a "1" on an actuarial exam. Then again, there probably aren't too many people who were masochistic (or foolish) enough to sit for an SOA exam 10 weeks removed from a roughly 8th-grade mathematical aptitude.

Many, if not most, credentialed actuaries I have met have always known that they were destined for a profession that was heavy on quantitative analysis. Me, I was a sociology major who spent over a decade as a public relations executive and freelance journalist. I also nearly failed Calculus II in college.

For years I was unsatisfied in my career but I stayed with it because, quite frankly, I couldn't seem to come up with a plan that was much better. People often suggested that I apply to law school, which would have been a great idea if I had even the slightest desire to become a lawyer. Then one serendipitous day I was at a luncheon and I happened to overhear someone talking about the actuarial exams. A bulb went off in my head! I had loved math puzzles when I was younger. I had always been interested in statistics and probability. I … nearly failed Calculus II in college.

I spent the entire following Sunday researching the actuarial profession, virtually memorizing the SOA and BeAnActuary Web sites. At the end of the day, I decided to order the Actex Review Book for Exam 1 (now Exam P) and figured I had nothing to lose in the process. Going through the lessons, I found myself understanding the mathematics on a level that had escaped me years earlier. Even though the sitting was just 10 weeks away, I seriously thought I had a chance to pass. I decided to save the practice exams until the week before my sitting and it was then and only then that I realized what it meant to sit for an SOA (or CAS) exam. "How does anyone pass these things?" I asked myself. Since my money was already paid, I went through with my plan to sit for the exam and figured "Who knows, maybe they'll ask 40 questions on Venn Diagrams." (*Author's Note: Venn Diagrams were dropped from the syllabus a year later.*)

So, as you already know I scored a "1" on that exam and was very excited. I decided right then and there that I was going to stay on this road and see it through. There were times that I felt like a poseur, like someone who had no business sitting for actuarial exams, but then I would speak to some wonderful actuaries and grow more and more enthusiastic about my potential career. I had also become rather addicted to the "Math High," a term coined by actress turned mathematician Danica McKellar. The "Math High" as McKellar describes it is "The feeling that comes when you solve a problem and you get filled with adrenaline. It feels great and you go, 'Oh yeah!'"

Ultimately, I did pass Exam P and have since passed Exams M, FM and completed my VEEs. I have had the opportunity and pleasure to meet actuaries on all levels and have been amazed by the collegiality that exists within the industry. The effusiveness has rubbed off on me as well, and I am very excited to contribute to our profession.

My path may have been less than traditional, but my goal is not: I want to help 21st century actuaries to be the best

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that we can be. To that end, I hope to utilize many of the skills that I have learned in the worlds of marketing and journalism in my new profession as well. Often an actuary has to communicate a vast amount of complex quantitative data to an audience of non-mathematicians. Recently I was having dinner with a group of friends, most of whom do not consider themselves "numbers people." At one point, I was asked about my exams and the syllabus for Exam C. I could have taken the easy way out and just named a few of the topics, but I decided to see if I could successfully explain a complex topic such as Maximum Likelihood Estimation to the random sample of non-actuaries at my disposal.

"Maximum Likelihood Estimation is kind of a fancy way of saying 'What is your best guess?'" I began. "Suppose you have a show every Sunday and you wanted to estimate the number of people that would show up this week. If you knew that on average 150 attend, then your best guess might be that the number would be 150 this week as well and, in fact, quite often maximum likelihood is the simple average.

"But what if you are including data from one week where the person who staffs the theatre box office arrived late, so only 90 people attended, but undoubtedly there were more people who showed up but never bought tickets because they assumed the show was cancelled? Those people would represent "truncated data." And what if the aforementioned average of 150 included all the times when the theatre reached a capacity of 200 and no additional tickets were allowed to be sold? We would then have "censored data" since we'll never know what the true number of attendees would have been if theatre capacity had been larger.

"So once again, what's our best guess for how many people will show up for Sunday's show? Once we know the simple average as well as the parameters of the truncated and censored data, we can then use a formula for maximum likelihood and know our 'best guess' of how many people we should expect."

The actuarial profession is very exciting and we owe it to ourselves to share the value of our work to non-actuaries as well. I am proud to be your colleague and hope to work together in making our field the best it can be for years to come. ☆

Call for Papers–Living to 100 Symposium IV

The Society of Actuaries will present its fourth triennial international Living to 100 Symposium in January 2011 in Orlando, FL. We encourage anyone interested in preparing a paper for the symposium to get an early start on pursuing the research and analyses. We are seeking high quality papers that will advance knowledge in the important area of longevity and its consequences. To learn more, visit *www.soa.org,* click on Research, Research Projects and Calls for Papers and Data Requests.