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THE EVOLUTION OF ACTUARIAL EDUCATION

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I WAS 16 YEARS OLD when I first heard the term “actuarial science.” Intrigued, I wrote to the Society of Actuaries (SOA)—there was no *beanactuary.org* in those days—and learned that you had to be good at mathematics, and you had to pass some exams. My father had passed away about two-and-a-half years earlier. He left my family well-provided for, and actuaries, I also learned, had something to do with that.

The work of actuaries affects people’s lives. What we do matters in a deep and abiding way to families like mine and, more generally, to society. As I considered whether or not being an actuary was right for me, I thought about a lot of things, but I didn’t think once about what it means to be a professional or, for that matter, what a profession is.

“Professions are occupations with special power and prestige. Society grants these rewards because professions have special competence in esoteric bodies of knowledge linked to central needs and values of the social system, and because professions are devoted to the service of the public, above and beyond material incentives.”¹ We acknowledge our duty to the public in Precept 1 of our Code of Conduct: “An Actuary shall act ... in a manner to fulfill the profession’s responsibility to the public. ...”²

But it is not just individual actuaries who have this duty. We share this duty collectively through our membership in the SOA. Integral to fulfilling this duty as a profession is optimizing how we educate and admit the next generation of actuaries to the SOA. Today, of course, we rely primarily on a self-study educational model enhanced last decade by electronic educational and assessment modules, e.g., the Fundamentals of Actuarial Practice, that most candidates supplement through the purchase of study guides, flash cards, and more. How did we get here?

Founded in 1889, the Actuarial Society of America (ASA), a forerunner of the Society of Actuaries, formed its first examination committee in 1896.³ It set one examination for associateship and another for fellowship. Soon thereafter, the profession began to consider how best to educate future actuaries. In 1905, Arthur Hunter, a member of both the Faculty of Actuaries and the ASA, offered suggestions⁴ regarding how to help actuarial students progress through the examinations and how to better prepare them for their careers, including:

- “Giving them the tools of their profession which include the Transactions of the Actuarial Society ... the Institute of Actuaries’ Text-Books ... and many other volumes.”

- Adding subjects to the syllabus such as finance, banking, pensions and a more thorough treatment of accounting.
- Encouraging actuaries to structure work assignments for their aspiring students as educational opportunities.
- Arranging monthly lectures on subjects not covered adequately in the textbooks. “These lectures might then be published as the ‘Text-Book of the Actuarial Society of America.’”

In 1910, the ASA published its first course of reading. By then, there were four associateship and two fellowship examinations. In short, expanding the course of reading and finding ways to supplement our self-study model of actuarial education has been part of our culture almost from the beginning.

Our self-study model was, then, the only practical approach to educating future actuaries. In the ASA’s earliest days, very few universities offered actuarial programs of any kind.⁵ By the 1950s, a number of universities had taken notice of the actuarial profession and had begun to offer actuarial courses, but even then, relatively few individuals began their actuarial education at university.

By the late 1960s and for much of the 1970s, consideration was given to an “alternate

route” to associateship. In his 1969 presidential address, Wendell Milliman, then president of both the SOA and the American Academy of Actuaries (Academy), described this proposal as granting Academy credit for the first five examinations of either the SOA or the Casualty Actuarial Society (CAS) to individuals who had earned a master’s degree in actuarial science at an “accredited institution” and who also passed a single comprehensive examination covering the appropriate subjects. In his 1975 presidential address, Charles Trowbridge commented on the “very unusual relationship” between the actuarial profession and the academic world. “We put little or no emphasis on academic degrees, and we have no university-connected actuarial schools giving the equivalent of M.D. or J.D. degrees. ... [W]e rely on a professionally run (as opposed to academically run) education and qualification system.” He went on to argue that the alternate route would strengthen the ties between the profession and academia and thereby enhance the reputation of the profession. Two years later, the Advisory Committee on Education and Examinations, which had initially supported the alternate route, withdrew its support, and the debate about an alternate route ended.

The idea of granting exam credit for some university course work has been discussed from time-to-time since then, but it has never been adopted by the SOA.

Other professions take a different approach to determining who to admit as new members. The legal and medical professions, for example, require aspiring lawyers or doctors to take challenging examinations—the Law School Admissions Test and the Medical College Admissions Test, respectively—before they begin their formal legal or medical training. Assuming they score well enough on these examinations, they will spend years preparing

for their careers in highly focused graduate programs. Aspiring doctors in the United States must pass two examinations—the United States Medical Licensing Examinations (USMLE) Steps 1 and 2—by the time they complete medical school. Following that, they participate in an apprenticeship program (called a residency) during which they must pass a third examination, the USMLE Step 3. Only at that point are they able to apply for an unrestricted license to practice medicine. The route for lawyers is simpler. Once they have successfully completed law school, they need only pass a state bar exam to become licensed as a lawyer.

Outside North America, the actuarial profession has moved toward granting examination credit for some university work at accredited universities. The Institute of Actuaries of Australia has offered exam credit for some university work since 1968. The Institute and Faculty of Actuaries in the United Kingdom have accredited entire actuarial programs since 2006. They have offered exam credit for some university work for many years.

In 1973, the Canadian Institute of Actuaries (CIA) became a cosponsor of the examinations administered by the SOA. To a CIA candidate, this meant that a portion of the CIA’s qualification requirements could be met by passing certain SOA examinations. In late 2011, the CIA announced its decision to offer an additional pathway to meeting its qualification requirements. “Beginning September 2012, approved universities can offer courses giving students the option of applying to the CIA to gain exemptions from writing certain Casualty Actuarial Society/Society of Actuaries (CAS/SOA) examinations leading to associate and fellow status in the CIA.”⁶ Among the reasons for offering an additional pathway was “The option of exemptions from exams ... will open up the profession to a broader range of potential

actuaries by increasing interest in actuarial science among students across Canada.”⁷ The CIA clearly perceives that a university-based pathway will better serve the Canadian public by expanding interest and attracting more highly qualified candidates to the profession.

Whether you agree or disagree with the CIA’s reasoning or decision, it is a noteworthy event in North American actuarial education. I encourage you to read more about the CIA’s new pathway in Rob Stapleford’s article found on page 14 in this issue of *The Actuary*. **A**

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ENDNOTES

- ¹ Larson, Magali Sarfatti, *The Rise of Professionalism: A Sociological Analysis*, Berkeley, CA: University of California Press, 1978, p. x.
- ² Adopted by all five U.S. actuarial organizations and effective Jan. 1, 2001, Precept 1 states in full “An Actuary shall act honestly, with integrity and competence, and in a manner to fulfill the profession’s responsibility to the public and to uphold the reputation of the actuarial profession.” Rule 1 of the Canadian Institute of Actuaries’ Code of Conduct is similar.
- ³ Much of the history of actuarial education here is drawn from Chapter VII of *Our Yesterdays: the History of the Actuarial Profession in North America, 1809–1979* by Ernest Moorhead and published by the Society of Actuaries, 1989.
- ⁴ Hunter, Arthur, “Some Suggestions Regarding the Education of Actuarial Students and the Future Activities of the Society,” TASA 9, 26.
- ⁵ The first university-based actuarial courses in North America were delivered at the University of Toronto in 1875. It was not until 1902 that university-based actuarial courses were even offered in the United States—at the Universities of Michigan and Iowa.
- ⁶ Document 211117 of the Canadian Institute of Actuaries can be found at <http://www.actuaries.ca/members/publications/2011/211117e.pdf>.
- ⁷ Ibid.