

## Do Books Make the Man?

**T**HE LATTER HALF OF THE 19TH CENTURY saw the emergence of the actuarial profession in North America from its ad hoc beginnings to the organization of a professional society. The names of that era's actuaries still echo down the halls of insurance history: Shepard Homans, Emory McClintock, David Fackler, William Bartlett, Charles Gill, Elizur Wright.

Some of the writings and books of these men found their way into the archives of the Mutual Life Insurance Company of New York, and when a general housecleaning destined them for the dustbin, I exercised a sort of *droit du seigneur* vice president and took them home.

They languished as decoration on my bookshelves, along with giant handwritten ledgers of the Mutual Life's agencies, until an invasion of housepainters mandated their removal and afforded the opportunity to renew acquaintance with the books our predecessors read and wrote.

The earliest volumes belonged to Charles Gill (no relation), who served as actuary of both the Mutual Benefit and the Mutual Life in the 1840s and 1850s until his sudden and untimely death at age 50. Gill's library must have been handsome in his day—matched brown leather-bound volumes with red title bands and paisley endpapers. But now they're crumbling. Opening one means estrangement; a cover in one hand, pages in another, and a lap full of moldered leather dust. On some you can do little more than read their titles.

But what titles! And what authors:

- *Exercices de Mathématiques*, Augustin Louis Cauchy, on angular analysis.
- *Traité de Mécanique Céleste*, P.S. LaPlace. On one page of this book there's a marginal note in Gill's elegant script, "By mistake second term is placed before the first ..."
- *Traité de Mécanique*, Simeon Denis Poisson.
- *Mécanique Analytique*, J.L. La Grange.
- *Philosophie des Sciences*, Andre Marie Ampere.
- *Calculus de Probabilités* and *Calcul Différentiel et Calcul Intégral*, both by La Croix.

**ARDIAN GILL** IS PRESIDENT OF GILL AND ROESER LIFE INTERMEDIARIES INC. IN NEW YORK CITY.

Nothing like getting it from *la bouche du cheval*.

Gill's library contained books on the principles of hydraulics, astronomy, celestial navigation, chemistry, physics, natural history, and a six-volume set of *Mathématiques, Pures et Appliquées*, the last volume of which is devoted entirely to *Remarques Nouvelles sur L'Equation de Riccati* (a certain differential equation analyzed by a 16th-century Italian mathematician).

There's also *Gill's Analysis* (1848), a slim volume published while he was professor of mathematics at St. Paul's College and subtitled, *Angular Analysis of Indeterminate Problems*.

Most of the books are in French, but the earliest volume is in English, *Theoretical and Practical Chemistry*. The latest that clearly belonged to Gill is in French, *Théorie des Intérêts Composés et des Annuités*.

This isn't surprising; the French dominated mathematics for more than a century, and in those heady antebellum days U.S. congressmen still hurled Latin and Greek epithets at one another across the House floor, let alone an occasional *cochon*!

But Gill was clearly a polymath. According to Jack Moorhead's fine history of the actuarial profession, *All Our Yesterdays*, a later actuary of the Mutual Life, Emory McClintock, said that "Gill had genius as distinguished from talent . . . He might have been a poet, but was merely a mathematician."

McClintock also speculated that "a contributing cause of Gill's death may have been his unpleasant relationship with the company's irascible president, Frederick S. Winston." And therein hangs a tale.

For this we must move ahead to Gill's successor, Shepard Homans, best known for the American Experience Mortality table. Homans took his library with him when he was dismissed (or resigned) as a result of a conflict with Winston. More than merely irascible, Winston was a con- niver who had engineered the ouster of his predecessor by having the agents solicit proxies, which he then voted. In future years he continued to use those proxies not withdrawn to replace trustees who didn't bend to his will.

In 1870, Winston altered Homans' dividend formula in a particularly egregious way. He insisted that only sur-



plus earned between the policy's anniversary and the end of the calendar year would be distributed in the following year, whereas Homans counted surplus to be earned up to the next policy anniversary, when the dividend was payable. Winston thus cut the overall payout roughly in half.

But the next year was worse. In 1871, those policies with a Dec. 1 anniversary, for example, would receive only one-twelfth as much as those policies with a Jan. 1 anniversary. Nothing Homans could say would persuade Winston to correct the inequity. Indeed, Winston put the arm on the company's chief counsel, Richard A. McCurdy, who opined that it was contrary to the company's charter to distribute surplus in any other way.

The dispute didn't end there. It grew so rancorous that the company's board asked two West Point professors, Bartlett and Church, to examine the question.

The result was a small volume from McClintock's library, handwritten with this title page:

*Letter on  
Life Insurance  
to  
Fred J. Winston, Esq.,  
President, Mutual Life Insurance  
Company of New York*

*By Prof. Wm. H. Bartlett, 1871*

Bartlett set forth formulae for surplus distribution, including those needed to use Winston's method, but extending it to calculate each dividend in two pieces, those earned both before and after the policy anniversary in the fiscal year, thus correcting the inequity after another year had elapsed. Homans protested that this would require months if not years of extra work and dug in his heels.

The next step was for the board to create a committee composed of Elizur Wright (see below), a Yale professor and a future United States Supreme Court justice, to referee. They recommended a change in the company's charter to permit Homans' method as far simpler and more equitable.

Winston's response? He caused the dividends calculated by his method to be increased by 80 percent, coming close to restoring the overall payout but compounding the inequity.

The history of this saga is set forth in another of the rescued volumes, a book by Elizur Wright, *Politics and Mysteries of Life Insurance*. Wright comments: "Poor plodding actuaries have a dull time of it and an occasional joke of this sort does them good."

The flyleaf of the volume containing Bartlett's "letter" is inscribed: "Prof Wright with compliments, Prof Bartlett." This is surprising and puzzling. Wright blamed Bartlett for the defeat of nonforfeiture legislation in Massachusetts, Bartlett having written another long dissertation to the insurance commissioners justifying full forfeiture on withdrawal. Wright devoted much of *Politics and Mysteries* to excoriating Bartlett and his mathematics.

My favorite book among these ancient tomes is a thin, day-



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to-day journal in a fine hand, recording conversations, premium formulae, dividend calculations, and the like. The only clue to authorship is a pasted note in the flyleaf, "J.J.R. Pease. Send word of vacancy, Oct. 11/76." The journal begins in 1871 with formulae for a change in surrender values and ends in 1879. In between, the owner reveals a great deal about himself and about actuarial "work" of the era.

Interspersed with records of complaints from agents ("too many changes at once") and the sale of foreclosed Milwaukee real estate is an array of formulae: "Extension of Taylor's Theorem (Why did not Roberts do it?); applications of Gompertz' and Makeham's laws; "best approximations to  $\mu$  and  $\delta$ "; "Boole's remarkable form." Elsewhere he calls on MacLauren, Woolhouse, DeMorgan, and LaPlace, apparently all in a day's work when giants walked the earth.

The year 1872 is particularly rich: "July 19. Mr. Smith, returning from California satisfied that business is impractical there . . . on present rates of Com'n . . . California being full of single and rather reckless men, who will have endowments."

*All Our Yesterdays* includes reference to a mortality study Gill had done in the

1850s where the company's deaths in California were 448 percent of expected and the average age at death was 28! Wild and reckless indeed. Gill's figures prompted the company to cease writing business in California, so Mr. Smith may have been examining possible re-entry.

Elizur Wright notwithstanding, the author of the journal found that actuarial work was not without its thrills:

"September 17. Discovered wonderful formula for getting 'Gain from Mortality.'"

"October 8. Equations for Archimedes Spiral (figures for two weeks back)." This occupies several pages testing from four to eight decimal places. Its relevance to actuarial work escapes me, but perhaps he was examining the well-known assessment spiral, recently called "re-entry term."

The last journal entries appear in 1879:

"May 29 p.m. Rainy.

"May 30—Decoration Day—Dr. W to Sheboygan . . . After inquiry on May 31, received explanation—stiff neck." Suggesting, I guess, that Fred Winston was not the only pain in the neck in that era.

What happened to all these men whose books give us some insight into their lives?

We know that Gill died early. Bartlett

was rewarded for his support of Winston by being appointed actuary after Homans departed, a post he held until he retired at the age of 84. Elizur Wright became famous for nonforfeiture legislation, which was eventually enacted despite Bartlett's math. Ultimately, though, Wright was ousted from his post as insurance commissioner of Massachusetts.

Wright's daughter became the first woman actuary in North America. McClintock and Fackler waited until Bartlett and Wright had died ("not actuaries in any proper sense of the word," Fackler averred) to spearhead the formation of the Actuarial Society of America. Homans became its first president and Fackler vice president.

So much for the actuaries. McCurdy, Winston's chief counsel, succeeded Winston as president of the Mutual Life. And Winston? In another famous flap with Homans, he ended up in the slammer for cooking the books, Homans having been an important witness against him.

Ah, for the bad old days; corporate life ain't what it used to be. Or is it? With scandals extending from Wall Street to Houston, from Miami to California, from currency trades to energy sales, from mutual funds to health insurance, maybe it is what it used to be. ●

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