



SOCIETY OF ACTUARIES

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BOOK ON BABBAGE

Ed. Note: We are indebted to Patricia L. Shapiro, F.S.A. for lending us her copy of a biography of Charles Babbage (1791-1871), much of whose life was devoted to inventing and constructing machines to free actuaries and other sufferers from the drudgery of repetitive arithmetic. Maboth Moseley's Inscrutable Genius: The Life of Charles Babbage (1964) was published in the U.S.A. in 1970 by Henry Regnery, Chicago.

It is written that, while a Cambridge undergraduate, Babbage, with a book of logarithms open before him, said to a friend, "I am thinking that all these tables might be calculated by machinery". He set this idea aside for many years, during which time he was asked to organize and manage a life insurance company, and did get as far as to construct a mortality table and to compose a small treatise on the nature of life insurance.

At about age 30 he visualized a machine that would "compute tables by differences", and shortly afterwards succeeded in building one that would produce any tables whose second differences were constant; its first exercise was calculating values of $(x^2 + x + 41)$ too rapidly for its results to be copied down.

It being evident that a general-purpose "difference engine" would be a formidable undertaking, Babbage turned to the British Government for financing. Arousing the personal enthusiasm of even the hero of Waterloo, the Duke of Wellington, Babbage got the backing he sought, which turned out to be the beginning of his troubles because the practical engineering difficulties of producing the instrument proved immensely greater than he or anybody else had foreseen.

Babbage was eventually to gain recognition and a measure of material benefit during his lifetime devoted, to the point of destroying his health, to the difference engine and other more advanced calculating monsters.

This is a fascinating book, encouraging to actuaries who themselves experience frustration in bringing exciting ideas to fruition. Though why the word "inscrutable" is in the title escapes this reader; the inventor surely displayed astonishing patience and consideration for others throughout his years of trial. Photographs of Babbage's machines are displayed—there is also a memorable re-

mark by his mother when her son was in understandable depths of despair:

"My dear son, you have advanced far in the accomplishment of a great object, which is worthy of your ambition. You are capable of completing it. My advice is, pursue it, even if it should oblige you to live on bread and cheese."

Babbage might have been, perhaps indeed can be claimed to have been, an actuary. And so might Augusta Ada, Countess of Lovelace, who thoroughly understood what he was doing, even down to the details, and rendered essential support and inspiration.

E.J.M.

THE E. & E. CORNER

Ques.: Examination results for the November 1981 Parts 7 and 9 arrived early in January, 1982. Can we expect them to arrive about the same time in 1983?

Ans.: The 1981 Fellowship exam results arrived early because Part 7 (EA-2) was an all multiple-choice exam, and Part 9 had only 62 candidates. In 1982, essays were added to Part 7, and the number of candidates sitting for Part 9 increased greatly. It is therefore likely that Fellowship exam results will be received a little later in 1983 than they were in 1982.

Ques.: How does the Society handle questions that were not printed correctly or are otherwise unsatisfactory?

Ans.: If there is more than one correct answer, credit is given for any correct response. If a question has no correct answer, the question is eliminated from grading.

In one recent Part 7 exam, the order of two questions was switched—candidates near the pass mark had their question books reviewed, and were graded on the work that was shown. In a recent essay exam, an annuity value needed to answer the question was left off—candidates who recognized the problem were given full credit, as were those who completed the question in terms of commutation functions.

We give as much credit as possible, particularly for candidates close to the pass mark. If a problem is significant enough to change a failing to a passing grade, the candidate is given the benefit of the doubt. □

HOW THE COMMITTEE ON DISCIPLINE DOES ITS WORK

by John M. Bragg

Since the Committee On Discipline was formed in 1976, eleven disciplinary actions have been taken by the Society. These arose out of 28 complaint cases logged by the Committee, three of which are still outstanding. This article's purpose is to throw light on these facts, and to clear up some of the mystery that surrounds the Committee's work.

An essential characteristic of any true profession is possession of a code of ethics, and of the means for enforcing it. The Society does possess such a code, i.e., the Guides to Professional Conduct and the Opinions as to Professional Conduct. It also possesses the means of enforcing its code of ethics; enforcement is the work of this Committee. Such instruments are essential for any profession; furthermore, its members and the public at large need to be aware that a code of ethics exists and is enforced.

The Committee on Discipline consists of a chairman (who must be a Society past-president) and at least 14 other members—at present there are 20—distributed by geography and specialty. Its past chairmen have been Edwin B. Lancaster, Charles L. Trowbridge, and John M. Bragg; E. Paul Barnhart has become chairman in the fall of 1982. The Committee operates under the detailed provisions to be found in Article VII of the Society's Constitution, supplemented by its own written guidelines.

The Committee considers complaint cases which are submitted in writing, but it may also generate cases on its own initiative; both forms of initiation have occurred. A two-thirds vote by the entire Committee is needed to impose any of the six constitutional sanctions: warning, admonishment, private reprimand, public reprimand, suspension, and expulsion. In the case of any of the last three of these, the Committee's action must be ratified by the Board of Governors which has power to downgrade a recommended sanction, but not to upgrade it. A member against whom a charge which might result in reprimand, suspension, or expulsion has been made, has the right to appear before the Committee and the Board—in person or by counsel. The Committee works closely

(Continued on page 8)

Committee on Discipline

(Continued from page 5)

with the Society's General Counsel, Alan E. Lazarescu, on all disciplinary cases.

Our Committee operates under a rule of confidentiality which is required by our Constitution in all cases except those resulting in public reprimand, suspension, or expulsion. One purpose is to prevent harm to an innocent person's career through innuendo. Another is to prevent permanent harm to a career from a minor infraction. The Committee has been well impressed by the wisdom of this rule of confidentiality, though the opposite side to that coin is that the Committee's work becomes cloaked in mystery.

What kinds of case come before the Committee? They may be arbitrarily classified as "Business Ethics" or "Alleged Cheating on Exams by Associates". (Cheating by examinees below the Associate level is the E. & E. Committee's province.)

The business ethics cases cover a wide variety of situations, ranging from frivolous to serious. Many are dropped because the matter is not within the Committee's purview, or is withdrawn by the complainant. Comparatively few, but some, cases involve alleged malpractice of actuarial science; these are the ones on which the Committee can render an especially useful service to the profession.

A final word about the other actuarial bodies on this continent. They all have disciplinary procedures similar to our own. Is there any kind of jointly conceived disciplinary action on a particular case? *No!* Each body must take, and does take, its own independent action. □

Fellows Views

(Continued from page 1)

dent or as a member of the Board of Governors. (There is already a ban against repeating as President).

Our Committee has been given three jobs to do, for which see the Report of Non-Routine Business in this issue.

A complete compilation and analysis of the results of this questionnaire, consisting of about 130 pages, is available from the Society office in Chicago for \$10 a copy. □

Three Strikes

(Continued from page 1)

present, the hurdle he didn't surmount. The opposition came from a group of younger men who had just passed their examinations and were resolutely against anyone bypassing the rigors they had endured.

Evans remained active in the Society, and also in the American Institute in which he'd become a Fellow other than by examination in 1919, a member of the Board of Governors in 1921, and President in 1924.

Strike Three (1928): In the light of Percy Evans' service to the profession, Society President Edward E. Rhodes sent a letter to all Fellows asking whether or not he should be made a Fellow. That informal survey turned up 16 negative votes, more than enough to veto nomination. News of this made Evans decide to get along without Fellowship in the Actuarial Society of America.

Last Laugh (1949): In June 1949 all Fellows of either the Actuarial Society or the American Institute became of equal status as Fellows of the Society of Actuaries. Percy Evans, by then four years into his retirement, must have chuckled about that. □

MYERS HONORED AT OCTOBER ASSEMBLY

A symposium on the theme, "Checks and Balances on Social Security" drew nearly 50 authorities for a day's animated discussion on the campus of the American College in Bryn Mawr, Pa. on October 29th. The event's organizer, Yung-Ping Chen, Ph.D., Research Director of the McCahan Foundation, presided.

The occasion, marking Robert J. Myers' distinguished career dating from U.S. Social Security's early days, opened with a dinner the previous evening, at which many personal anecdotes were told and warm tributes paid. Three generations of the Myers' were present.

Formal papers were discussed and informal presentations made on seven session topics ranging from historical to forecasting. Ten F.S.A.'s participated.

Dr. Chen announced that the papers and discussions will be printed in due course. When they are, this newsletter will tell our readers of their availability and cost. *E.J.M.* □

Myers Serves

(Continued from page 7)

tends to serve as a stabilizing device insofar as the future costs of the OASDI program are concerned . . .

"The specific procedure . . . can be illustrated by considering what would be done in the initial adjustment. In 1985, when the 1979-81 Life Table will be available, the age would be determined in such table at which there is the same expectation of life as at age 65 in the 1969-71 Life Table (15.0 years). Although the 1979-81 Table is not yet available, a preliminary table for 1980 indicates that the equivalent age is 67.0. Thus, life expectancy at the current NRA increased by 2.0 years. The new normal retirement age would then be the current age (65) plus 50% of the 2.0 years increase in life expectancy, yielding a new normal retirement age of 66."

Automatic Changes In OASDI Tax Rates

"... (T)he OASDI tax rate for 199 and after, as prescribed under present law would be left unchanged (at 12.4% for the employer and employee combined) until the defined 'adequate fund ratio' (of fund balance to one year's benefit payments) has been built up. This ratio is defined for purposes of illustration as being between 50% and 55%.

"When the fund ratio first equals or exceeds 60.0%, the combined employer-employee tax rate for the next calendar year would be *reduced* by 4%." (Thereafter, the action as to the tax rate for a particular year would be determined by a procedure that Myers described, depending on the direction in which the fund ratio moves.)

These excerpts have but scratched the surface of Myers' memoranda to the Commission. Apparent advice in them reflects not necessarily his personal beliefs, but rather hypotheses on how stabilization might be accomplished. There ample evidence of the respect accorded his actuarial knowledge and judgment, and the solid trust that this Executive Director and actuarial consultant has earned in the eyes of the Commission members. □