



SOCIETY OF ACTUARIES

Article from:

# The Actuary

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**Letters***(Continued from page 2)*

of tax law that could legally be used to reduce taxes. Since high taxes are intrinsically unethical, means of reducing them deserve a less derogatory label.

I would describe these so-called loopholes as "areas of retention of the fruits of labor not yet raped by an expansionist tax philosophy."

*Stuart J. Kingston*

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**The Actuary In Court**

Sir:

Like Murray Projector (September issue) I have been a Forensic Actuary, averaging a case a month for the past several years. 95% of these deal with divorce; I, usually working for the wife, testify as to the present value of the husband's retirement pension pro-rated over the length of the marriage. Usually the husband doesn't have expert testimony in his behalf, but occasionally he produces an economist (whose testimony in my view is usually meaningless).

The other 5% of my cases are disputes between an ex-agent and his company on the value of future commissions, the item most often disputed being the interest rate to be used. A difficult question, especially when a jury is present, is when "my" attorney asks me to explain what an actuary is!

I enjoy this challenging work. Among many questions, attorneys and judges always ask for explanations in lay terms of the actuarial principles and even of the calculations. I often feel I've been asked an essay question on one of the later actuarial exams; the consulting actuary "takes" several exams in the normal course of his weekly work.

*G. Eugene Hawkins*

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**Low Loss Ratios**

Sir:

The real question that James H. Hunt and E. Paul Barnhart were debating (January and April issues) applies to several forms that generate low loss ratios—not just cancer insurance but also accident policies and industrial insurance. One school of thought holds that the low loss ratios are justified because the insurance fills a need; the other that the agency force is the pri-

mary beneficiary so actuaries and regulators ought to keep such products off the market.

I wonder if adequate disclosure may afford a middle ground, allowing the public to decide whether low loss ratios are acceptable. Several states require filing of loss ratios now; we should work to improve how these are reported when we find them failing to reflect the ultimate expected ratio suitably adjusted for interest.

*Godfrey Perrott*

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**Another Cue to A New  $q$** 

Sir:

An actuary frequently must choose between expressing concepts on a continuous or a discrete basis. It occurred to me to supplement Paul W. Nowlin's letter (March issue) by fully continuous approach.

His first statement becomes: Let  $T$  denote the time until death of  $(x)$ . If the probability density function of  $T$ ,

viz.  $tP_x\mu_{x+t}$  is constant,

$0 \leq t < 1$ , then its constant

value is  $\mu_x$  (as can be seen by setting  $t=0$ ), and

$$q_x = \int_0^1 tP_x\mu_{x+t} dt = \mu_x.$$

His second statement becomes: If

$$\mu_{x+t} dt = \mu_x dt, \text{ hence}$$

$$\mu_{x+t} = \mu_x, \quad 0 \leq t < 1,$$

then  $q_x$  (denoted  $\bar{q}_x$  for this case) =  $1 - e^{-\mu_x}$ .

Readers can interpret the first statement in terms of a uniform distribution of deaths in the year of age, and the second in terms of a constant force of mortality, with the initial value as determining factor.

*Cecil J. Nesbitt*

*(Continued on page 7)*

**A REQUEST FROM THE E. & E. COMMITTEE ASSOCIATESHIP TASK FORCES**

As part of a long-range study of the mathematical content of the associateship exams, task forces have been established to study (1) Demography, (2) Numerical Analysis and Graduation, and (3) Operations Research and Applied Statistics. The task forces are charged with; documenting the actuary's need for these subjects, recommending specific topics and a course of reading, and preparing an implementation schedule.

The goal is to see that actuaries have the mathematical tools to handle the modern problems they are likely to encounter in their career, such as:

(1) Developing long-range financial security programs in the face of an increasingly uncertain economic future.

(2) Justifying risk classifications with demonstrations.

(3) Entry by statisticians into traditional actuarial areas, possibly with superior techniques.

(4) Establishing minimum capital and surplus requirements for life companies.

(5) Analyzing and explaining deviations from expected experience, and determining corrective actions.

(6) Certifying and validating loss reserves in casualty and health insurance.

We seek your help. Please tell the appropriate task force chairman (listed below) what problems you face as a practicing actuary and what mathematical tools you feel would help in solving them. Comments on other topics in the associateship syllabus would also be welcome. Use our Year Book addresses, except Mr. Tilley who is now at Equitable Society in New York.

<i>Subject</i>	<i>Task Force Chmn.</i>
Demography	Judy Faucett
Numerical Analysis & Graduation	Walter B. Lawrie
Operations Research & Applied Statistics	James A. Tilley

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**DEATHS**

Gerald B. Anger, F.S.A. 1964  
 Will D. MacKinnon, F.S.A. 1927  
 James R. McDonnell, F.S.A. 1947  
 Alex C. Wellman, A.S.A. 1926