

CRITICISMS AND ANSWERS

BY

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From time to time
 I have laid my heart bare before you
 And you did not like it.
 So I must point out to you
 It is *my* heart, not yours.
 My wrongness, perhaps,
 Is dearer to me
 Than your rightness.
 Yet you must not think
 That when I disagree with you
 I dislike you.
 On the contrary:
 I love you for having ideas of your own.
 I know how you came to have those ideas,
 And they are precious to you.

*"The Tolerator" from "Translations From the Chinese",
 by Christopher Morley.*

I.

Actuarial science has been practiced in the field of casualty insurance for less than twenty-five years. In this comparatively brief period, actuaries have labored valiantly to overcome all manner of difficulties. They have made progress; but, speaking frankly, their accomplishments are not to be compared with those achieved in the field of life insurance, where such problems as rate-making and the establishment of reserves have been reduced to definite formulæ which have universal sanction.

This failure to produce unequivocal results has irked some executives, who have expressed their exasperation in no uncertain terms. In fact, a feeling seems to exist in certain quarters that the business would be infinitely better off today if actuaries had not invaded it with their clumsy attempts to master problems which might have been solved more satisfactorily by persons endowed with "common sense" rather than a penchant for "the scientific method."

We cannot afford to ignore this attitude, unreasonable as it may be, for our opportunity to continue to work under the best conditions depends upon our ability to enjoy the support and confidence of the majority of chief executives. Once the opinion prevails that our efforts are fruitless, we shall be discredited and

the important tasks upon which we are now engaged will be delegated to others.

If those who would arraign the members of this Society were required to furnish a bill of particulars, their criticisms would fall into two classes as they have to do, first, with the actuary himself and, second, with the results which he produces. It may be instructive to present these criticisms and then to attempt to formulate answers to them. At least it can do no harm to see just where we stand in this important matter.

II.

If all the criticisms of casualty actuaries were rolled into one and reduced to a cartoon, the result would resemble the popular conception of the absent-minded professor. The actuary is pictured as functioning in an intellectual vacuum quite removed from every practical phase of business activity. He is surrounded by charts, tables, calculating machines and mathematical equations.

The experience of the carriers comes to him, not as a dramatic, living record of success or failure in measuring the insurance cost of individual industries and risks, but as a collection of dry, statistical facts. From these facts, he makes certain deductions and by a process just as mechanical as that of his calculating machines, he grinds out rates. Emotion, inspiration, imagination—these have no place in his professional conduct.

Everything he does is done according to plan or formula; each fact fits precisely into the scheme and results are inevitably produced by logical reasoning which dictates an inescapable conclusion. Mathematics is his god; logic, statistics and the Hollerith machine are his handmaidens.

He can, with impunity, give free play to his experimental inclinations. As one who is a friend, as well as a severe critic, has said in discussing the proceedings of this Society, "Here we can gather together with our *a*'s and our *b*'s and our *x y z*'s and our graphic outlines to postulate the cost of this and the incidence of that, and if our calculations happen to go awry, we, individually, are not a penny the worse."

After the actuary has deliberated, set up his equations and proclaimed his results, he retires to the seclusion of his study,

there to receive, in due course, a new set of statistical facts and to repeat the process of rate-making. Agents may howl, policyholders may become hysterical, state supervising officials may issue edicts, executives may rave—a veritable storm may threaten to tear the business asunder—but there the actuary sits unmoved in the midst of confusion and impending catastrophe, serene in mind, unwilling to discard theory, confident in the scientific integrity of his results, and thoroughly satisfied with them.

A queer, unfathomable person, if you ask me!

III.

Just what kind of results may a person so thoroughly insulated against the stern realities of business life be expected to produce? Our critics also have plenty of ideas to contribute on this subject.

Having been produced by the light of “the lambent fires and coruscations that play about the aurora borealis of abstract mathematics,” rates cannot be expected to take account of those practical considerations which make for successful application. The rating system is too complicated: it is too difficult to obtain the rate for an individual risk and well nigh impossible to explain it satisfactorily to the policyholder, once it has been determined. And, after all this rigmarole, the rate is usually wrong; that is to say, it does not accurately measure the hazards of the risk.

No concessions whatever are made to expediency. Doing the right thing at the wrong time seems to be the proper procedure. Just when the good will of the community is required, an increase in rates is imposed upon them; when they are prepared for an increase, rates are reduced. The individual policyholder is told that if he maintains his injury record on a certain level, he will be rewarded by a lower rate; he has an almost perfect year and his reward is a higher rate!

There is too much experimentation. Producers are handed a rating system, which is heralded far and near as the best ever; next year this system is discarded and another, diametrically opposite in theory and operation, is promulgated. Classifications, rates, merit rating plans, and all the paraphernalia of rating change so frequently that there is no keeping up with them. In January of this year the rule says, “Do this”; next August a new rule on the same point will say, “Do that”. Today a particular

group of risks has its own classification; tomorrow this special classification will be abolished and these risks will be thrown into a broader classification whose wording only indistinctly describes them, if, in fact, it describes them at all.

But that is not all! Because the actuary is unwilling to attempt to predict the future, his rates fail to measure trends. They reflect only the past, when "common sense" dictates the inescapable conclusion that the future will be far different. The rating system is not flexible in other respects. It takes too long to introduce changes made necessary by the impact upon the business of current developments in politics, economics, sociology and other similar factors. The result is that rates never exactly measure the conditions at any time.

A very, very sad and deplorable situation, if you ask me!

So much for the criticisms; now for the answers.

IV.

The criticisms of the actuary himself might have been in order at one stage of the game, but they are no longer tenable.

Early actuaries were required to pioneer in a field which had produced little or no statistical experience. They necessarily resorted to empirical methods and it must be admitted that they were somewhat antagonistic to the ideas of "practical" people. I well remember one influential actuary who seemed to be physically wounded when some pragmatic person proposed to discard a formula or to modify a result produced by a logical, painstaking actuarial process.

I maintain that actuaries have changed with the times. They are older in experience. As the business has expanded, their horizons have also expanded. Many of them are now executives with broad responsibilities. They share today—financially and otherwise—the successes and failures of the business so that if rates are inadequate, they suffer in a tangible way. Long years of contact with executives, state supervising officials, legislative committees, producers and policyholders have impressed upon them the absolute necessity of recognizing all these elements in the solution of rating problems. They realize that they must keep in touch with developments outside the business, since medi-

cal, legal, legislative, political, economic and social factors may radically affect the problems which occupy their attention.

They are not ready to discard entirely actuarial science, mathematics and logic as working materials; but they are far less prone to insist that these shall be used exclusively and that no concessions whatever shall be made to practical considerations. In short, they have progressed. They cannot claim perfection—but in the present stage of development of a business which is itself still young and in the process of growth, they are as competent as any set of technicians that could be gathered together to cope with the problems in their particular field.

Without desiring in any way to “pass the buck”, it may be noted that there never was a time when actuaries had an absolutely free hand in rate-making. The actuarial committee has always been a subsidiary committee. The real and final power has always resided in committees composed primarily of executives and underwriters. It is not unreasonable to demand that these executives and underwriters, who, no doubt, would wish to be classified as practical men, should assume their fair share of the criticisms directed against rates.

To be sure, actuaries have supplied much of the procedure of rate-making and the practical men, with final authority, may claim that thereby their decisions were necessarily restricted. This is a fact; but I venture to say that without the logical structure of rate-making erected by actuaries, our rate-making process today would be in far worse condition than it is. The practical men not only used the structure; they demanded it and would have been lost without it.

At one time, a clever person, equipped only with a blank piece of paper and a pencil and endowed with a logical mind, might have produced a set of empirical rates. Today this is impossible. A great mass of data is available and the practical man knows better than to tackle the problem of rate-making until someone has analyzed and interpreted these data which constitute the great inescapable background of rate-making. After that has been done (and the actuary is particularly well qualified for this important task), it is a fact that very little remains to be done to produce final rates. Let the practical man make the most of his opportunities if he will! The actuary will not stand in his

way, provided there is a definite understanding at the outset as to where the responsibility will rest for justifying the final results.

If the experiment were not fraught with grave danger for the business, it would be extremely illuminating to gather together our severest critics, incarcerate them in an institution where their activities could be observed, and demand that they assume the entire burden of rate-making. I venture to say that some very queer results would be forthcoming. And I predict that the group would gladly forego the privilege of rate-making after a short trial. They might even promise to refrain thereafter from criticism if the responsibility of producing rates were taken off their hands. They would discover that it is far easier to criticise than to occupy the position of one who is the target of criticism!

V.

Criticisms of the results produced by actuaries fail to take into consideration the nature of the problem of rate-making in the field of casualty insurance.

The business is new and lacks standardization; experimentation is, therefore, necessary in order that we may discover the best methods of rating. It is a mistake to refer to any plan of rating as a "permanent plan" for, amid conditions which are subject to change, nothing is permanent. It is foolish, also, to insist upon the retention of the *status quo* and to resist innovations, since this can only result in the maintenance of rating plans which are hopelessly out of line with modern trends of thought and present day conditions. Pioneering is always an exciting business; but it has its hardships as well and one of these is the necessity of accommodating oneself to changes until the time comes to establish a relatively permanent order of things that can endure.

Not only is the business itself developing so that it may normally be expected to present different aspects as time passes; it is particularly susceptible to sudden changes because of external factors which affect conditions generally. Often a combination of circumstances within and without the business produces extremely radical changes which no amount of study and fore-

sight could predict. One has a feeling that the problem of rate-making is never quite the same twice in succession.

No final program of rate determination can be formulated under these conditions. Nor can anyone guarantee that the rates promulgated today for use during the next twelve months will accurately measure the conditions which will determine the cost of that period. This does not detract from the value of our accumulated experience, nor should it cause us to discard orderly methods of procedure; but it very clearly explains our inability to duplicate the achievements of our life insurance friends, who are dealing with a problem that stays put reasonably well, whereas ours is as active as an over-zealous flea (and just as annoying).

More and more the demand is for correct rates, not in the aggregate or for broad classifications, but specifically for individual risks. When broad averages are discarded and an attempt is made to establish even an approximation to the proper rates for individual risks, many difficulties are encountered. Those who hope for greater simplicity in casualty insurance rating are doomed to disappointment, for the trend is obviously in just the opposite direction. Merit rating, graded expense loadings, sliding scales of commission and similar expedients seek to do greater justice to individual risks and all must inevitably result in greater complexity of the rating process.

Finally, there is no branch of the insurance business where rate-making is so thoroughly subject to state supervision. This is an established condition which cannot be evaded; in fact, the influence of state supervision will increase, rather than diminish. With state supervision, everything that is done must be susceptible of complete analysis and justification. Guessing contests with state officials will usually result in a victory for the state. This has forced greater use of facts and formulae and has reduced the opportunities for the employment of personal judgment in rate-making.

We are counseled not to treat supervising officials "like children to be circumvented, rather than seriously minded adults to whom the problem and its solution should be demonstrated". That is exactly how we do treat supervising officials. But we must recognize that the official occupies an unenviable position

in that he is the buffer between the carriers and the insuring public. Assume that the carriers request an increase in rates, which does not rest upon an absolute statistical foundation: if the state official gives his approval, he is placed in the position of "playing a hunch," which he is unable to justify to his constituents, who invariably, nowadays, demand a very careful accounting of every decision requiring increased expenditures on their part.

No one who has attended rate hearings and has heard the loud protestations of attorneys representing groups of policyholders, would relish the thought of attempting to justify increased rates on the plea that various generalizations pointed to a higher cost next year. Even the practical man must recognize the impossibility of doing this. The public has become rate-minded and demands to know exactly *why*. Hunches and illusory expectations will not satisfy this demand for particulars.

Then there is always the possibility that rate questions may get into the courts. We have had little or no experience with this aspect of the problem; but I am bold enough to predict that the very first time the carriers resort to the courts to enforce their right to charge higher rates based in whole or in part upon the exercise of "judgment," they will fail to establish their case. There are too many facts available and the nature of the problem is too uncertain to make it possible either to ignore past experience entirely or, accepting its indications, to seek to modify them so that they will represent the probable cost of an obviously unpredictable future.

Furthermore, it is an unfortunate fact that our record for guessing has not been such as to inspire even our own confidence. The best we can hope to accomplish is to prevail upon supervising officials and the courts, if necessary, to grant us a margin of safety in the form of a contingency factor as a defense against the uncertainties of the future. This consideration, I believe, we are entitled to receive, provided we adhere in all respects to the indications of past experience—a concession on our part which involves disadvantages because of the great difficulty of ascertaining accurately the experience of the immediate past. But that is another story which has been told so often that it requires no further repetition.

VI.

What attitude should the casualty actuary maintain under the conditions which now confront him? The following suggestions are offered for what they may be worth.

So far as possible, he should maintain an open mind and be willing to consider any and all suggestions, for many years will elapse before we develop a rating structure that will stand the test of time and, in the interim, every new idea is entitled to its day in court. At the same time, he should constantly strive to perfect his methods and render his materials and equipment more efficient.

He should develop a broad interest in all phenomena that even remotely affect the business of casualty insurance, for it is not improbable that the clue to important factors affecting rates will be found in statistical facts outside the usual "experience" which today provides exclusively the materials for rate-making. Particularly should he seek to comprehend and cater to the requirements of supervising officials, agents and policyholders, for a rate that is timely, intelligible and justifiable, as well as actuarially sound, is an achievement to be devoutly desired.

He should be willing to accept responsibility for his results and should seek to attain greater accuracy in measuring the hazards of individual risks.

His platform may well be that of a scientist like Sir James Jeans, who says in "The Universe Around Us":

"Science advances . . . by providing a succession of approximations to the truth each more accurate than the last, but each capable of endless degrees of higher accuracy. . . . Guessing has gone out of fashion in science; it was at best a poor substitute for knowledge, and modern science, eschewing guessing severely, confines itself, except on rare occasions, to ascertained facts and the inferences which, so far as can be seen, follow unequivocally from them."

Thus equipped with a purpose, supplemented by adequate machinery and a proper mental attitude, I venture to prophesy that the casualty actuary will one day place the problem of rate-making upon a basis which will be beyond criticism.