

ANALYTIC RATING.

Principles and Application of Dean Schedule.

The Dean Schedule of analytic rating is likely soon to be applied in Chicago. It was adopted by the Board of Underwriters of that city, some months ago, but its application was postponed pending further consideration. Of late, strong pressure has been brought to bear upon the board, there being a general feeling that Chicago rating is exceedingly in need of revision. The companies themselves are pressing for uniformity in schedules, and it is probable that the local agents will not be able much longer to delay definite action.

Certain criticisms contained in the American Agency Bulletin have called forth another open letter in defence of the Dean Schedule. The following extracts from this letter give, from the standpoint of an evidently ardent exponent, a general ideal of the construction of this schedule now widely used in the Western States:—

The transaction of fire insurance as an industry rests upon the assumption that there is a theoretical average of hazard in every class of risks. But what is a risk but a compound made up of contributing parts? In rating risks as such, we analyze these parts and make a charge which seems commensurate for each part that we can identify. The sum of these charges makes up the rate of each risk as a whole. It is the assembling of these charges that constitutes the work of tariff rating.

LOOKING AT THE PROBLEM IN A NEW LIGHT.

To state as an *a priori* assumption that fire hazard is made up of related parts is a very different thing, however, from the task of establishing these parts, which requires long and careful observation and comparison, careful analysis, classification, experimentation, etc. All these things require time and study, and the final outcome is to be regarded more as a growth than a creation. The important point is that the principle of relativity requires us to regard the problem in a new light, to study it from new standpoints, and promises as the result of this study an organic structure with life and possible growth, in lieu of the rock piles that have been thrown together in past schedules.

A widespread misconception also seems to exist in the belief that a really scientific basis schedule can never be constructed until we have accumulated the data from the combined statistics of our classified experience. On the contrary, the establishment of our coexistent relations, i. e., rate estimates, on a basis of logical and permanent relativity, is a condition precedent to the keeping of reliable classifications of our annual experience. In other words, logical estimates which maintain a permanent relativity are the raw material out of which, from year to year, we can through classification raise or lower our selling prices with intelligence. The reason for this is plain and inexorable. In constructing a tariff we are compelled to deal with parts of risks, and parts of risks are, and probably always will be, ignored in our classified statistics of annual experience. We do not keep a record of our annual experience with deficient walls, vertical openings, wooden cornices, area, flues, etc., because these things are not amenable to statistical treatment. We know that each of these parts constitutes a recognized factor in the hazard of risks as wholes, and rightly assume that each factor is as amenable to average as the risk-

units themselves, but we cannot in the nature of things observe or determine their relative contribution to the total as manifested in the risk-units. We can establish charges for them by observation, comparison, conference, and a reasonable consensus. We know that a charge for a given factor that is unreasonably large will not hold against competition. We know that if unreasonably small, experience or common sense will soon right it. In fine, we establish these charges by our best collective judgment, under the well-known mathematical principle known as the law of error.

UNCHANGING BODY OF RELATIONS.

Nothing is to be gained from concealing or denying this necessity, nor does the fact militate against the scientific nature of estimates so established, for other and most useful sciences are hedged about by similar necessity, as is admitted by every mathematical authority. In this very limitation, however, lies the objection to tariffs which permit an unrestrained license in establishing these charges to meet the whims of persons or localities. Admitting the absence of statistical data for the establishment of charges does not change the fact that there is an unchanging body of relations to establish and maintain, and that this involves a task worthy of our best underwriting thought.

But our theoretical averages have to do with unknown periods of time. Could our relations once established be left alone, as representing the theoretical averages known to exist, there would be no trouble, for they would soon gravitate to a level acceptable to all concerned and stay there, as they do stay in countries where the fluctuations in annual experience are negligible, but on the American continent our experience comes in waves of unknown height, depth and length, and our selling prices must be changed from time to time if we would avoid shipwreck. The exercise of this expedient in the past has destroyed pre-existing relativity; and it is precisely this exigency that has been met so successfully by the Analytic System, and that never could have been met by rating systems based upon fixed charges. The Analytic System stands alone in this vital aspect of the rating problem. No matter how extensively or how often it may be necessary to resort to the expedient of changing our selling prices, it enables us to make these changes promptly and intelligently without wholesale destruction of our mathematical bearings.

NEW ANALYSIS.

While relativity may be called the cardinal principle of the Analytic System, it is far from being the only new principle it embodies. From beginning to end it may be regarded as a new analysis of fire hazard. It recognizes that the real body of hazard exists in occupancy and exposure rather than in structure, which in other rating systems has been the object of chief solicitude. It is its treatment of these two hitherto neglected features of hazard that justifies its title, "Analytic."

GRADED BASIS RATE.

Again, the system gives us a definition of the term basis rate, that mysterious something we have used, or perhaps more properly misused, for generations without an attempt to determine its significance. In its definition as "the residue of unanalyzed hazard" we