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INSURANCE

A PRACTICAL EXPOSITION FOR
THE STUDENT AND BUSINESS MAN

BY

T. E. YOUNG, B.A., F.I.A., F.R.A.S.

*Ex-President of the Institute of Actuaries; Late President of the International
Congress of Actuaries; Ex-Chairman of the Life Offices' Association;
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School of Economics and Political Science*



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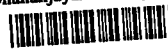
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PREFACE TO THE PRESENT REVISED ISSUE—FOURTH EDITION

THE persistent demand for this book has necessitated the printing of another edition and the opportunity has been taken of revising thoroughly the chapters on Fire, Marine, and Accident Insurance, which have been largely re-written.

Chapters VIII and IX, dealing with the statutory control of Life Assurance, have been revised in view of the new legislation which is pending, but otherwise Mr. Young's text remains the same.

This book has been included among the textbooks of Yale University and the Chartered Insurance Institute.

October, 1927.

PREFACE

THIS book is designed to afford a clear and succinct exposition, in an elementary form, of the principles, theoretical and practical, upon which insurance administration is based and conducted.

Art in every department of executive work naturally precedes science or organized knowledge: actual experience must provide the materials out of which the intellect must educe into generalizations and formulae the scientific principles which the practice implicitly involves; and the rational prosecution of Art into its most manifold and widest forms is conditional upon the clearer and exacter manner in which its intellectual elements are unfolded and systematized.

The art, or practical conduct, of insurance will thus prove to be more readily intelligible to the apprehension of the man of business if the principles which it embodies are explicitly presented; and the scope of this book accordingly comprises, with this object in view, the concurrent description of administration and of the rational methods, derived from experience, on which the actual processes are founded.

In pursuance of this course, an attempt has been made to explain the mode in which the interpretation of the Board of Trade Returns of Companies may be rendered practically serviceable in discerning the financial position of Assurance Offices and the prospects of profits which they are competent to present.

An exposition has also been introduced of the various modes in which the universal and flexible principles of insurance have been applied to provide for popular and commercial needs which the complex development of social and industrial activities demands.

The book, it will be observed, is not intended for the use of experienced experts; but for the student who aspires to the character of an expert, and for the busy practical man, every effort has been employed throughout the volume, though in a rudimentary form, to produce a clear, sound, and intelligible guide to this department of business in its multifarious shapes.

In the Examples furnished in the book, different Tables of Mortality have been utilized according to convenience: and this course introduces no difficulty of perception or result since each illustration is of homogeneous character in itself, and the express purpose, moreover, in every part, has been simply the exhibition of *comparative* effects.

It need hardly be necessary to state that no particular Company or method of administration is recommended or disapproved; where any existing or suggested method, however, required definite comment for its complete understanding, a reasonable criticism has naturally been submitted.

The author, while drawing mainly upon his own experience and thought as a practical manager and actuary, gratefully acknowledges his deep indebtedness to the numerous valuable papers and discussions which the *Journal of the Institute of Actuaries* contains; nor should he omit a special reference to Part II of the *Text Book* which has been issued by that Institute—an Association, it may justly be added, which has signally conferred upon the scheme of life assurance, and incidentally upon the general principles underlying every phase of insurance, a distinctive character as a body of scientific truths.

The author is also greatly indebted to Mr. C. J. Bunyon's admirable works upon the *Law of Life* and *Fire Insurance*, and to Mr. William Gow's excellent *Handbook upon Marine Insurance*; he has also helpfully drawn upon the resources of other writers.

A certain amount of repetition has, unhappily, been unavoidable, since some subjects possess aspects which relate to questions discussed in more than one chapter. This fault, he trusts, will be readily pardoned, and he has endeavoured to reduce it to the briefest extent.

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PRELIMINARY REMARKS

A FEW suggestions may be offered to the student who may peruse this volume, in relation to both his mode of study and his future career.

The primary conditions of success, equally in the earlier and the later stages of his professional labour, consist of accuracy and exhaustiveness of work ; and in no sphere of intellectual and practical activity is this element more imperative than in the actuarial profession. Important financial interests are committed to the actuary's trust—interests not limited in their consequences to the present time or to the immediate future, but ranging in influence and effect over a prolonged series of years. And not infrequently a result of investigation, on which judgment requires to be based, may appear to be valid which a more exhaustive analysis (accompanied by a numerical measurement) will prove to be fallacious.

The student, again, should never be satisfied with simply the symbolical or analytical process of reasoning by which a result may be attained. Analytical language is merely the shorthand expression of the natural modes of induction and deduction which alone retain throughout the process a steady and clear perception and apprehension of the *facts* investigated ; and the student, though he may employ the mathematical method as an abbreviation of mental labour, should always, prior to his decision, translate the symbolic language into ordinary terms, and justify or modify the analytical course and its deductions by the usual mode of reasoning which deals directly, without the intervention of algebraical mechanism, with the realities which the symbols represent. Numerical computation and comparison of results should invariably accompany the mathematical processes. One of the most famous mathematicians has pointed out, from personal experience, the extreme facility of error where analytical reasoning is unattended by rigorous calculation. Speaking of the consideration of a certain problem, he refers to a plausible mistake which would have occurred, *nisi nos calculus aliud docuisset*. The aim of accuracy not alone suggests this procedure : mental discipline and power of

grasp are more adequately evoked into exercise and expression when the method of deduction is conducted with the actual facts of the inquiry ever present to the mind without their complete relegation to conventional and representative symbols.

As the student advances to a higher post of responsibility, he will discover that a primary and essential distinction in competency of administration lies in the circumstance that one actuary will burden himself with the details of his work and thus effectually impede the capacity and opportunity of serene judgment, while another will attain a more substantial result by delegating the minor portions of service to carefully selected subordinates, and thus possess, while necessarily controlling and supervising their labours generally, the time and mental freedom requisite for attention to that wider and more fruitful origination and direction on which achievement depends. This devolution of charge in less important concerns is conditional for its success upon skill and insight in the choice of men; and we thus arrive at the practical conclusion that the student, from the outset, should cultivate, by actual personal intercourse with his fellows, the faculty of analysing and judging human character and its gifts and deficiencies.

At every stage of his career the student should sedulously develop the power of original thought. However limited may be the degree in which it is inherently possessed, it still exists to some extent, and by judicious and assiduous toil and concentration can be expanded. The universe, whether in the practical or the more intellectual sphere, would prove a weary and monotonous abode were the vast majority of voices to consist simply of iterated echoes. This force of originality can be evolved by avoiding servile acquiescence, and pursuing a serious personal investigation, with independency of judgment, into every subject on which the student is required to decide; and, in addition to the value conferred upon the character by the impress of original mental and persistent effort, the student will gradually become a master, and not a mere servant, of his methods and principles, using and adapting them intelligently as instruments instead of simply performing, as a servitor, the work they suggest. The obligation is again enforced upon the student, for the acquisition and expansion of this power, of ceasing to be an occupant chiefly of the study or a dweller in the speculative domain, and of entering into commercial intercourse with men of

business, with a vigilant observation and a tenacious retention of the modes in which he perceives affairs to be actually conducted, and keen, though kindly, attention to the diverse characters of men.

The author may here record a result of personal experience. It is too frequently the fashion, in correspondence, to address all men in virtually an identical form of expression or exhortation or suggestion: by personally mingling with men of different dispositions, diversely responsive to the same appeal, he gained the valuable practical lesson that, for the purpose of securing the most effective support and the most earnest and vigorous efforts of men, he must address them by letter in a mode of special overture, individually adapted to their several peculiarities and idiosyncrasies of character.

The end of all practical life, and the potent instrument of successful administration, consists of Judgment, or the delicate and exhaustive weighing of evidence in favour of alternative lines of action, and a steady forecast of each probable result. This power is naturally an acquisition of gradual growth and widening experience; of serene demeanour in success and teachable humility in defeat; incompetent of cultivation by mere study or speculation, it simply arrives as the slow and finished product of intimate communion with men and affairs, and the patient observance and analysed retention in memory of the varied results which ensue upon different courses and under diverse conditions. The requisite training involves the remembered perception and experience of the causal connexions between actions and consequences, motives and effects, so that, when a novel problem is presented for decision, the memory may promptly revive and supply the analogous example from its storehouse of past instances which is adapted to the circumstances of the case. In every question, the views of capable and experienced men should be sought, but they should be utilized as data only, since, in each critical epoch of life, the individual judgment must be responsibly supreme.

The student should, again, remember that our mathematical conclusions in Assurance, like the premises from which they are derived, are necessarily more or less approximate. The entire range of science enforces this practical lesson; even in the apparently finished analytical sphere of astronomy—frequently cited as the exemplar of strictest mathematical reasoning—approximation is superposed upon approximation. The decimal results of his

work, consequently, and the comparatively tentative nature of his methods should always be borne in mind, and utilized with judgment based upon the circumstances of the problem ; so that an affected and artificial appearance of rigorous accuracy—for example, in the exhibition of Reserves which formerly used to be expressed in decimals—may be avoided. Discrimination and experience will gradually teach the practical value of the degree of minuteness to which results should be conducted—retaining in view the approximate character of all Assurance work—data and processes alike.