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THE SCIENCE OF INSURANCE AND THE REAL CHARACTER OF INSURANCE.

INTRODUCTION.

The study of the real character of insurance is nothing but the study of the basic relationship between insurance and our economic life. This article aims, on the one hand, at enunciating the true nature, the true form and the true features of insurance, and at making clear how insurance comes into being, exists and develops in our economic organism, on the other.

In my opinion, the study of the real character of insurance ought to form an important subject of research in the economic science and yet it has hitherto been neglected by economists. The writers on insurance have been blind to the necessity of such research. Their study has been confined to the practical and commercial phases of insurance, no attention being directed to the fundamental survey of insurance, which is the corner-stone of the science of insurance.

Of the various kinds of research into insurance that have been carried on since old times, the only one partaking somewhat of a scientific nature is the study of insurance in its legal bearings. Many books and articles have been written on insurance, of which those worthy of some respect refer to the study of insurance law. Especially the study of the law of marine insurance has much scientific value, as commercial customs play an important part in it. The legal study of insurance, however, forms only a small part of jurisprudence. From the point of view of insurance also, it is nothing but the study of only one phase of insurance. Research into

the various aspects of insurance must constitute one independent branch of science called the science of insurance.

My present study is intended to explore the fundamental relationship between insurance and social economy by marking clear the real character of insurance. When this has been done, the basis on which the science of insurance should be founded will be furnished, and the science of insurance, which has hitherto existed in name only and has been very imperfectly understood, will find its proper place as a branch of science, with its scope clearly defined. Such being the case, this article may well be regarded as the basic study of the science of insurance.

CHAPTER I

THE SCIENCE OF INSURANCE.

The science of insurance is a study of the phenomena of human beings, who live in social relations under the rule of exchange, to contrive a reliable means of ensuring the acquisition and use of material requisites in dealing with exigencies in the unknown future.

It is economics that studies the general phenomena of human beings connected with the acquisition and use of the material requisites of life under the rules of exchange. The science of insurance does not, of course, have for its subject of study the general economic phenomena. It has for its subject of study only those phenomena called insurance, the phenomena of preparations which human beings, anticipating future changes, make as a reliable and suitable means for enabling them to acquire and use the material requisites of life, even if the exigencies for which they are intended should come to pass. The science of insurance, therefore, falls entirely under the category of economics; it forms one branch of that science.

If economics is, as defined by Marshall, "a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely

connected with the attainment and with the use of the material requisites of wellbeing," the science of insurance may be defined as "a study of mankind in the special business of life which they carry on in consideration of future uncertainty ; it examines that part of individual and social action which prepares, under the rule of exchange, a reliable means to secure the attainment and use of material requisites of wellbeing, especially in unexpected changes in the unknown future."

I must offer some explanations of the above definition.

Insurance is a sort of economic phenomena. It is one systematic action arising out of the acquisition and use of material requisites by mankind under the rules of exchange. Like economic phenomena generally, it exists only when material requisites are acquired and used under the rules of exchange. Insurance does not exist where people can acquire or use material requisites, whenever they desire or need them, without recourse to the rules of exchange. By the rules of exchange I mean the rules of the exchange of equal value. To be more exact, they are rules under which people, in order to obtain from others what they desire, are required to offer what others are willing to accept in such quality, quantity and number as are acceptable to them.

The rules of exchange originate in private property. As one recognises private property and believes in its inviolability, it is necessary for him to secure the consent of others in order that he may obtain what he wants from them, and in order to obtain their consent he must offer what others want from him. Under the rules of exchange, the material life of all people constituting society is organically united through the exchange of products or labour, and what is called social economy springs up in consequence. Under this system, however, the material life of each individual is carried on as a general rule his own responsibility, and even if he may be reduced to financial straits, the social economy itself is not, speaking generally, called upon to come

to his relief. This is the reason why the material life of each component member of society is called private economy, notwithstanding the fact that social economy exists as one system.

In the material life under the rules of exchange, the exchange is effected chiefly through the intermediary of money or currency in the form of sale and purchase. Consequently, each individual's desire for material requisites depends for its realisation on his purchasing power in terms of currency, with the result that this desire usually takes the form of monetary needs. Again, his economic life consists in the acquisition of currency in exchange for his labour or products and in the acquisition of the labour and products of others with this currency. Thus, there are incomings of currency on the one hand, and outgoings of currency on the other, in his economic life, which is deemed to be a stable condition only when an equilibrium is maintained between the two.

Thus, it will be seen that people maintain their material life in sole reliance on their own earnings, without any guarantee of livelihood being given by the social economy of which they are members. Under this system, therefore, if the necessity arises of spending more than one gets in consequence of an unforeseen incident, or if one's income is either reduced or dispersed on account of such incident, one must be reduced to a predicament, in which one cannot satisfy one's need of money. From this point of view, it may be said that the economic life of man is threatened by various exigencies and is in a state of constant instability.

Inasmuch as the economic life is unstable, as already explained, it is necessary for people to devise a means to make sure of the acquisition and use of the material requisites of which they stand in need. Insurance, with which the present article deals, is one of the economic devices arranged to put this unstable economic life on a secure basis. It may, however, be mentioned that there are many methods, besides insurance, by which the economic life may be rendered stable.

As already stated, the cause of instability in the economic life is the occurrence of fortuitous and unexpected incidents which either reduce or take away the earnings of people or increase the amounts to be defrayed above their usual earnings, and so the methods by which the economic life can be ensured may roughly be divided into two kinds.

One has either to preclude the possibility of incidents of this kind, or to nullify their effects, or to prevent them from affecting anybody's interests, if they occur. In other words, to prevent, suppress or guard against such incidents by technical methods. These technical methods are rather fundamental in ensuring the economic life, seeing that they deal with incidents directly, and such methods are gradually developing, with the progress of natural science and its application. At the present stage of development, however, it is impossible to rely solely on them for the security of the economic life.

While these technical methods are, of course, necessary, it is at the same time important that other methods, which may be called economic, in contradistinction to the technical methods beforementioned, should be adopted. These economic methods aim at eliminating the economic effects of incidents, if they occur. In other words, they provide ways and means by which people can be prevented from falling into economic distress through the occurrence of fortuitous incidents. Such preparations are called economic precaution.

There are, again, two chief kinds of economic precaution. One is saving and the other is insurance.

Saving is to accumulate material requisites or monetary value by gradual degrees, and consequently it takes time to accumulate a certain amount of money requisite for a certain fixed object. Saving is, therefore, at once very unsuitable and very imperfect as an economic precaution against fortuitous incidents, which may or may not come to pass or which may occur at any moment. On the other hand, insurance is both very suitable and perfect as an economic precaution against fortuitous incidents, for, as will be dwelt upon at

length later on, it is designed to serve the common object of a large number of people, with the funds to which they contribute in amounts much smaller than they would need, if they prepared for the exigencies they have in view individually, in accordance with a plan based on the percentage of such incidents worked out with due regard for the law that incidents which are in a single case fortuitous, occur with a certain regularity in a large number of cases.

As insurance is both suitable and perfect as an economic device by which the material life can be ensured, as already explained, it plays a very important part in the present-day economic system. As I have already had occasion to mention, social economy does not assume any direct responsibility for the relief of the distressed economic life of its component members, but as social economy consists of the organic combination of the private economies of all component members, the prosperity or decline of each private economy inevitably produces its effects upon the state of social economy. This being so, it has gradually gained general recognition that the more the organic combination of private economies develops and the ties that bind the material life of each member grow closer, the more it is necessary to strengthen the private economies of all component members for the purpose of promoting the prosperity of the social economy.

Recognising that insurance does much to relieve private economic life of insecurity,—this insecurity being, indeed, one serious defect of the present-day social economic system,—the State, which is one organised form of social economy, has adopted it, though still in a very small way, in its administrative system. It is what is generally called social insurance. In some European countries, instead of operating it simply as a matter of private law, it is operated as a matter of public law. In other words, the system of compulsory insurance is adopted in those countries. To what extent insurance will be adopted in the State administrative system in future deserves much attention, as it has a great

deal to do with the changes which will come over the present social organisation.

I have outlined the economic nature of insurance and the fundamental relation between insurance and economy. The science of insurance is a science which studies such economic phenomena of great significance in the economic system of our days as already explained.

CHAPTER II

POLITICAL ECONOMY AND THE SCIENCE OF MANAGEMENT.

As I have stated in the preceding Chapter, insurance is essentially an economic phenomenon, and consequently there can be no doubt that the science of insurance falls within the domain of economics. It is, however, hardly necessary to say that insurance can be studied both from the standpoint of those who operate insurance business as an enterprise and from that of the policy-holders. The former is the study of the management of the insurance business, while the latter is the study of the utilisation of insurance either in housekeeping or in the management of economic enterprises. Neither of these studies forms an item of proper research in economics; it is rather an item of study in the science of management, which was recently named "Betriebslehre" in Germany.

So far as the study of the management of the insurance business is concerned, it can form a branch of the science of management in itself, as it is based on knowledge of various kinds which is either requisite for the management of the insurance business or helpful to such management. Some writers look upon this study of insurance as the science of management as the real science of insurance. The view of the German Science of Insurance Association (Deutscher Verein für Versicherungswissenschaft) is a case in point, as I shall have occasion to discuss in detail later

on. I must, therefore, draw a clear line of demarcation between the so-called science of insurance, which embodies one branch of the science of management, and the science of insurance proper, which constitutes one branch of economics. To this end, I must deal at some length with the relation between economy ("Wirtschaft") and material management ("Betrieb"), and the distinction existing between them.

Whatever meaning they may have in etymology, economy and material management are, in their present day meanings, two phases witnessed in the acquisition and use of material requisites by mankind. According to my interpretation, economy is, as already briefly explained, an organic phenomenon arising out of the acquisition and use of materials required for their livelihood by men under the rules of exchange, while material management is the systematic action of men in acquiring and using materials needed for their living according to one leading will. Economy necessarily exists under the rules of exchange, while material management is essentially carried on in accordance with a leading will. That a leading will is not a requisite in economy is clear from the example of national economy, social economy, world economy, or international economy. On the other hand, the fact that material management does not necessarily co-exist with the rules of exchange can be easily gathered from the fact that the acquisition and use of material requisites by men in primitive ages or in a purely Communistic society, such as one conceives, embodied or embodies nothing more or less than a material management.

As the above-mentioned definition of economy and material management represents the conclusion which I have recently reached, I think it necessary to offer some explanation, as contrasted with the usually accepted view.

Formerly, the theory found general support among economists of regarding the rules of exchange as one characteristic of economy and of taking exchangeability as the criterion for distinguishing between things which are economic and those

which are unecomomic, but this theory has recently been discarded. For instance, Prof. Cannan, in his book *Wealth* takes exception to this theory, and states his reasons as follows:—

“Till recently most economists, if asked to distinguish between satisfactions of an economic and unecomomic character, would have said that the economic could be bought and sold, and also said or implied that the non-economic could not be bought and sold. There are, however, several difficulties to be overcome before this can be accepted as furnishing a criterion for distinguishing what is actually treated in economic works from what is not. On the one hand, it seems to exclude from economics many things which are actually included by every economist, or would be included by him if he happened to come across them. That the satisfaction which some hundreds of thousands of people enjoy every week from the use of Hyde Park is an economic one no economist would think of denying, but it seems impossible to describe that satisfaction as even potentially exchangeable or subject to purchase and sale. Again if it were discovered that Mars was inhabited by people like us, and that the Martians found satisfaction in food, clothes, and shelter just as we do, no economist would be prevented from comparing the economic condition of the Martians with our own by the further discovery that the Martians had not established a system of private property nor practised exchange. Yet in that case could it reasonably be said that the satisfactions of being fed, clothed, and sheltered were saleable in Mars? And if not, would the fact of similar things being saleable on the earth be sufficient to justify us in regarding them as “potentially saleable” in Mars? On the other hand, the criterion of buying and selling brings many things into economics which are not commonly treated there and which it does not seem convenient to treat there. A large trade has existed since (and no doubt before) history began in supplying certain satisfactions of a sensual character which are never regarded as economic goods. Indulgence to commit what would otherwise be regarded as offences against religion

or morality have been sold, sometimes openly and almost at all times under some thin disguise: nobody has regarded these as economic goods."¹⁾

It is quite natural that those scholars who, instead of forming separate concepts regarding economy and material management in considering a livelihood which is carried on by mankind by acquiring and using material requisites, jump to the conclusion that the material life of mankind is nothing but economy, should feel some logical uneasiness in recognising exchangeability as the special quality of economy. Prof. Cannan failing in his attempt to discover a clear-cut criterion for distinguishing between things which are economic and those which are uneconomic, stated that "if we must have a second-best description for the benefit of those who doubt whether they know what is meant by the term economic, I think we must fall back on 'having to do with the more material side of human happiness,' or more shortly, 'having to do with material welfare.'"²⁾

Thus he quite passes over the fact that the material life of mankind has two phases of economy and material management, the former governed by the rules of exchange, and the latter by one's leading will. Since he fails to form a clear concept of material management ("Betrieb"), as contrasted with economy, it is no wonder that he should arrive at the conclusion referred to.

If, however, a clear line of distinction is drawn between economy ("Wirtschaft") and material management ("Betrieb") in conception, it will be easily understood that the idea of Prof. Cannan is not only uncalled for but fallacious. In my opinion, in the case of Mars, as cited by Prof. Cannan, there is no economy; there is management only. The only comparison that can be made between the people supposed to inhabit Mars and the people on earth is in regard to "a life lived by acquiring and using material requisites," and no comparison is possible

¹⁾ Edwin Cannan, *Wealth*, p. 14. 15.

²⁾ *op. cit.*, p. 17.

in the matter of economy and management. The satisfaction derived from the use of Hyde Park may be classed with the satisfaction which we feel in enjoying the beauties of nature; it is certainly not economic satisfaction. On the other hand, trade in sexual satisfaction and deals in the indulgences of crime and immorality, no doubt, partake of an economic nature, provided money passes from one party to the other in the matter. They must, in that case, be regarded in exactly the same light as transactions in ordinary commodities, or economic goods.

Thus, I hold that in economy the rules of exchange must of necessity operate, and that in management there must exist a leading will. By a leading will I mean a will which has some object in view. It may simply be called an object. I mean a will which guides human action. Sometimes the man who acts possesses this will, and sometimes some other person possessing it, directs others as he pleases. The distinctive quality of material management is that there exists systematic action which either operates or is directed to operate so as to accord the acquisition and use of material requisites with a certain object. Although this action need not necessarily operate under the rules of exchange, it is, of course, possible that it should operate under such rules.

When material management is carried on under the rules of exchange, it co-exists with economy. Under the present-day dispensation, material management always co-exists with economy. The national finance is one kind of management, and all kinds of economic policies pursued by the State, namely, the Customs policy, the Communications policy, the financial policy, the Exchange policy, etc., are all different forms of management. The company business is under one management, and housekeeping is under another. It is also management that students live on the money regularly supplied by their parents as school expenses.

If we interpret material management as the systematic

action of mankind in acquiring and using material requisites of life in accordance with a leading will, as I have stated, management acquires a very modern significance, and this fact may give it the air of a phenomenon that sprang up in modern times, but as a matter of fact it had existed even before mankind introduced the system of acquiring and using material requisites under the rules of exchange. For instance, it was material management that nomadic tribes, for earning their livelihood, pastured animals in pursuit of definite objects and methods, which were fixed in consideration of climatic and topographical conditions as the pasturing value of the land. The German for management is *Betrieb*, which corresponds to the verb *treiben* means pasturing animals. I infer from the connection between these two words that the concept of management dated from the ancient age of nomadic tribes. But division of labour subsequently sprang up and the acquisition and use of material requisites came to be effected under the rules of exchange, currency playing the part of the medium of exchange. Thus after economy developed, material management was entirely merged in social economy.

Let me now consider the process through which the material management came to be merged in social economy. When people live in one community with others—a large number of strangers in particular—there must be something that controls their acquisition and use of material requisites, as otherwise there would be no security of living, no increase of produce. When the acquisition and use of material requisites by many people could be controlled by one person's power or by his will, as was the case with the nomadic tribes already mentioned, their material life was carried on merely in the form of material management. As social relations grew more complex and goods of multifarious kinds came to be manufactured among a large group of people, forming one community, what is called division of labour began to prevail. On the other hand, as this community was so enlarged that the acquisition and use of

material requisites by each member could not be controlled by one man, the leading will of one man lost its power of control over the acquisition and use of material requisites by all men constituting this community. Then, the rules of exchange, to which reference as already been made, gradually supplanted the leading will of one predominant man as the controlling power.

In this way, the present organic system, under which the acquisition and use of the material requisites of mankind are controlled by the rules of exchange so that all members of the community are put in reciprocal and joint relationships, came into being. This is what is called economy. Such being the case, economy itself has no leading will. Being automatically controlled and regulated by the rules of exchange, the system is making an organic development. The acquisition and use of material requisites by each individual or a small group included by this economy is, however, dictated by a leading will of some kind. Consequently, there exists material management all the same here. Material management in this case co-exists with economy, and it is included by economy. The State finance, the business of a joint-stock company and the household of a family all fall into this category.

In our material life, there are various kinds of material management, which are either co-existent or overlapping, in social economy, in national economy, or in world economy, organically formed under the rules of exchange, and in such a condition we acquire and use material requisites and maintain our existence. As our action, in so far as it concerns the production and consumption of material requisites, invariably falls within one management, it is dictated by a leading will of some kind or other. In social economy, national economy or world economy, which comprehends it, however, there is no leading will, but the rules of exchange operate, under which control is automatically exercised.

Although the rules of exchange operate in social economy, in national economy and in world economy, there is no perfect

matual connection between the leading wills of individual managements (or the so-called individual economies) which they comprehend, due to a lack of the leading will, which brings them under unified control, with the result that either a miscalculation is made of the total amount of production and consumption or action is misdirected by a mistaken judgment based on misunderstanding. The consequence is that the sound development of social, national, and world economy is sometimes impeded. Overproduction, panics, and the creation of enormous unemployment, are all due to these causes.

Some scholars, therefore, try to work out a plan to bring the acquisition and the use of the material requisites of mankind generally under the control of one leading will—either under the leading will of one natural person or under that of a union of natural persons, formed by agreement. Such a plan cannot be expected to bring really good results, unless the products are obtainable in large enough quantities to supply the demands of all people, there is sufficient perspicacity to make a very accurate estimate of the state of production and consumption in all districts, an efficient system is provided which ensures smooth distribution and supply of products, and the men in control are vested with supreme power. It must especially be noted that, under such a system, very serious effects will be produced on the material life of mankind, should the leading will make a misjudgment, no matter how slight, and that the evils arising from such a misjudgment will be incomparably greater than any attending automatic control under the rules of exchange. Granting that such a system actually operates, automatic control under the rules of exchange will then give place to conscious control by the dictate of a leading will for the acquisition and the use of the material requisites of mankind. In such a case, economy ceases to exist, management only existing.

The concept of material management has come to prevail

among many scholars of late, but no established definition has yet been found. The concept of material management, as I have enunciated above, represents my personal opinion. No other scholar has, as yet, enunciated such a theory. The concept of management ("Betrieb") was originally adopted by German economists chiefly in contrast to "enterprise" ("Unternehmung"). It came in the wake of the study of cartels and trusts. One scholar (Schmoller) defines "enterprise" as a business unit ("geschäftliche Einheit") under unified direction, and "management" as a local and personal unit of economic activity ("örtliche und persönliche Einheit wirtschaftlicher Betätigung"); another (Fuchs) defines "enterprise" simply as an economic unit ("wirtschaftliche Einheit") and "management" as a technical unit, while still another (Sombart) divides "management" into two kinds—one in a wide sense and the other in a narrow sense—and says that "management," in a wide sense, is a device to attain the object of continuing work ("Veranstaltungen zum Zwecke fortgesetzter Werkverrichtung") while "management," in a narrow sense, consists of work management ("Werkbetriebe") and economic management ("Wirtschaftsbetriebe") or utilisation management ("Verwertungsbetriebe"), and that "enterprise" is an economic phase of the capitalistic economic system, which forming an abstract unit, is called "business" ("Geschäft"). As will be seen from the various theories quoted above, there has apparently been no accord regarding the concept of "management," as contrasted with "enterprise," though there appears to be a consensus of opinion in regarding "management" as something technical, on the whole.

Recently, what is called "management economics" ("Betriebswirtschaftslehre") or "private economics" ("Privatwirtschaftslehre") has come to attract much scholastic attention in Germany, and the results of research have been made public by many German writers. The views of these writers seem to be not much different from older views and agree in regarding management as embodying technical phases of economic activity. The word technical used in this connec-

tion, however, does not mean technics bearing on industry and natural science only. It signifies commercial or money-marking technics and arithmetical and accountancy technics more. In this respect it indicates some change only in the concept of management.

This "management" ("Betrieb"), as conceived in contrast to "enterprise (Unternehmung)," is, in my view, to be regarded as management in a narrow sense, and I interpret it as "a business organisation operated under a unified business policy," while "enterprise," as contrasted with this, I interpret as "an economic unit which forms the subject to which profit and loss revert." "By a leading will" in material management in a wide sense changes to "under a unified business policy" in management in a narrow sense, and "systematic action of mankind in acquiring and using the material requisites of life" in the former changes to the simple "business organisation" in the latter. In order to make clear how I came to interpret "enterprise" and "management" in this way, it is necessary for me to set down my criticisms of the various theories hitherto prevalent and to give some explanation of my theory; but as this is not directly concerned with the subject under discussion, I must forgo such explanations in the present article. Here I must confine my attention to what is necessary for the purpose of explaining the science of insurance as one branch of the science of management.

Now, I think I have made clear the meaning of economy and that of management in both a wide and a narrow sense. Economics, within the domain of which the science of insurance falls, is a pure science which makes economy its object of study. It is a science which studies the nature and operation of the organic phenomenon developing out of the acquisition and use of the material requisites of life by mankind under the rules of exchange. The object of this science consists in the elucidation of the nature and operation referred to. The knowledge constituting this science is

systematised by dint of the nature of knowledge itself, with the elucidation of the above-mentioned nature and operation in view. This science exists all the same, no matter whether such knowledge serve any object or not.

The science of management is an applied science. Of this science there are two varieties: One is composed of the knowledge necessary for the service of management in a wide sense, while the other is composed of the knowledge necessary for the service of management in a narrow sense. The former has for its content the knowledge useful in the systematic action designed to acquire and use the material requisites of life by mankind in accordance with a leading will, and this may simply be called the science of management. Although they have not yet crystallised into a complete form, the science of finance and the science of economic policy ("*Wirtschaftspolitik*lehre") fall into this category. The latter has for its contents the knowledge useful to operate a business under one business policy. It studies what business organisation is proper and what business policy ought to be adopted in the business of a certain kind for the attainment of its object, and what must be done in order to carry out this business policy most efficiently. It is what is called by German writers "*Betriebswirtschaftslehre*." Some scholars call this "private economics."

This study of management either in a wide or in a narrow sense, viz, the science of management or the so-called economics of management does not aim at the elucidation of the essential nature of things or their operation. It aims at gleaning from various branches of science such knowledge as may serve some object, which is called either a leading will or business policy, and systematising it with an eye to making it serve such object. The knowledge constituting this science is extracted from various branches of science simply because it is useful for a certain object, and these items of knowledge, in their essential nature, lack a connection with one another which is necessary in reducing them to one system. In other words, these items of knowledge

have no common quality requisite for forming one kind by themselves. The science of management, therefore, consists of knowledge of varying kinds collected for the purpose of serving a certain object.

The science relating to management—be it what is simply called the science of management, or the so-called economics of management—is a collection of knowledge of various kinds, which is useful, in its wider scope, in the acquisition and use of material requisites, and, in its narrow scope, in the execution of a certain business policy. Consequently, at the present time a knowledge of economics forms the most important part of this science. That is, in my meaning, the knowledge relating to phenomena developing out of the material life which is controlled by the rules of exchange. The science of management, therefore, consists most largely of knowledge bearing on economics. In this science, however, knowledge relating to economics is brought together simply because it is useful for the attainment of a certain object. It is entirely different from economics, in which knowledge is systematised by virtue of the mutual relativity inherent in the quality of the knowledge itself, with no reference to any object. It must especially be noted that the science of management, as we have it to-day, does not consist of knowledge relating to economics only. Knowledge concerning the science of statistics, law, fiscal science and mathematics is essential to it. Besides, knowledge regarding natural science is required according to the object which it is intended to serve. That is to say, the science of management is a applied science in which knowledge regarding not only aesthetics, psychology and sociology, but also mechanical engineering, architecture, electrical engineering, manufacturing chemistry, hygienics and medical science, all of which form applied sciences in themselves, as well as knowledge of economics, statistics, the science of law, and mathematics is put together and applied to a certain object. So, the science of management is different from economics in this respect also; it is entirely an applied science.

CHAPTER III
THE SCIENCE OF INSURANCE AS A BRANCH OF
ECONOMICS, AND THE SO-CALLED SCIENCE
OF INSURANCE AS A BRANCH OF THE
SCIENCE OF MANAGEMENT.

I think I have made fairly clear the difference between economics and the science of management. Let me now consider what position the science of insurance occupies. As already stated, the phenomenon of insurance is based on private property and exists only where men acquire and use material requisites under the rules of exchange. There would be no insurance, if men could acquire and use material requisites whenever they needed or desired them. In other words, insurance is a social phenomenon inseparably associated with economy. Such being the case, there can be no doubt that in its essential nature the science of insurance falls within the domain of economics.

Why, then, does the science of insurance form an independent branch of economics? The answer is that the phenomenon of insurance has characteristics which are entirely different in certain respects from other economic phenomena. As Hülse says, as fortuitous utilisation for the conquest of fortuity ("die Ausnutzung des Zufalls zur Überwindung des Zufalls") forms the characteristics of insurance,³⁾ it presents a phase different from other phenomena, being amenable to the control of a specific rule. To be more exact, insurance is, as already explained, an economic precaution provided with due regard to a certain rule of regularity that operates in the occurrence of fortuitous happenings, which is discovered by the observation of large numbers of exigencies, lest the future acquisition and use of material requisites should be impeded by such accidental incidents.

³⁾ Hülse, Versicherungswissenschaft und Versicherungskunde, in der Zschr. f. d. Versicherungswissenschaft. Bd. 17., 1917., S. 49.

In insurance, therefore, economic action is taken according to a certain specific plan, which is laid down on the basis of the principle that what are fortuitous for individuals are not so for the multitude. For this reason, insurance has characteristics different from those of other economic phenomena, and the science of insurance, which has insurance for its object of study, constitutes an independent branch of political economy.

As above stated, the science of insurance forms an "independent" branch of economics, within the domain of which it falls.

Viewed from another angle, however, insurance embodies one phase of management in that it is, as already mentioned, systematic action intended to ensure the acquisition and use of material requisites for human beings against fortuitous changes that may occur in future. Thus, from the point of view of the insurant or from that of the insurer it constitutes one phase of management in their family finance or enterprises. In the operation of insurance, it is necessary that many subjects of economy (human beings) with the above-mentioned object in view should be grouped together and such methods should be adopted as to collect contributions from them and pay certain fixed sums to those within the group to whom certain stipulated contingencies may happen. It is also necessary that there should be men who take charge of this business. This organic action represents one management in itself, and those who operate the business, namely, the insurers, are the subjects of management from whom a leading will emanates.

Thus, insurance may well be regarded as one form of material management, not only from the point of view of the insured or insurants but from that of the insurers, and consequently insurance can be treated as the object of study in the science of management. Insurance, as studied from the point of view of the insurant or insurer, forms one branch of the science of housekeeping or the so-called econom-

ics of management. In the United States of America, researches seem to be going on about "Life insurance as investment," and "The utilisation of fire insurance in company enterprises," or "Marine insurance as one means of financing trade." These researches belong to this category.

The research of insurance from the standpoint of the insurers has been going on from very old times, the most notable example being Actuarial Science. This science is based on various items necessary for the management of the life insurance business, and consists chiefly in the application of the law of probability to the study of human life, the research of calculation of interest and of calculation of annuities and the interpretations of insurance laws and regulations. Actuarial Science is obviously a special form of the so-called science of management. It is termed so in the sense that it is a science which stands actuaries—officials who chiefly handle mathematical matters in the life insurance business—in good stead in the discharge of their duties.

This actuarial science originated in England, and in Germany institutes were established for the study and teaching of the subjects which are serviceable to those who engage in not only the life insurance business but in other kinds of insurance business also. At these institutes, are taught all subjects—derived from economics, statistics, law, mathematics, engineering and medical science—which are necessary for the management of the principal insurance businesses, including life insurance and fire insurance. In Germany, all these subjects are collectively called the science of insurance ("Versicherungswissenschaft"), but as will be clear from what I have already explained, this science, of course, partakes of the nature of the science of management—more largely of the so-called science of private management.

As will be seen from my exposition of the relation between insurance and the science of management, insurance is, in some cases, studied from the necessity of conducting housekeeping or operating one business, and in other cases, many items bearing on insurance are studied from the neces-

sity of carrying on the insurance business. The latter research is called by some scholars by the name of the science of insurance; but it is after all a branch of the science of management, not the science of insurance, in the true sense of the term, for that forms an independent branch of economics.

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