the success of the life insurance business has depended largely on the accuracy of the results which the actuaries have turned out.

It was not many years ago that the companies had reached that point in their development where they desired more accurate information on many subjects connected with the acceptance of risks. As I have suggested above, the entire problem is based on the law of average, and until a large group can be studied, accurate results cannot be obtained. In other words, if we are desirous of studying occupation as a factor connected with longevity, we cannot begin to assume that our records are of value until large numbers of cases have been amassed so as to give us an average on which we can base accurate decisions.

It was believed that if the companies should pool their records, they would then secure results far more accurate than could be acquired by one company individually. Accordingly, there was created what was later described as the Medico-Actuarial Mortality investigation, in which the records of about forty companies were pooled and from which came certain reliable facts not previously known. This was particularly true in the study of the significance of height and weight as affecting longevity, as well as in all questions concerning family history and occupation. As a result of that study, companies can carry on their underwriting of risks with much more certainty of the reliability of the rules which they are using than had previously been the case. This study was entirely in the field of the selection of risks and recognized a few fundamental principles; first, the operation of the law of average, and second, the need for cooperation between companies in a study of this kind. I should like to draw your attention later to the possibilities for study offered in the field of the selection of agents and to comment on certain points of similarity between the selection of risks and the selection of agents.

Coming now to the real question under discussion, the sales research problem in life insurance, it is apparent that what we are attempting to do is to use in our study, where it involves the selection of agents, the same law that operates in the selection of risks, namely, the law of average, and to hope that by using this law we can assist the man who must pick out salesmen just as the man who picks out risks was assisted by the study described above.

In the selection of agents, it is only in the last few years that careful study has been given to the possibilities of scientific work. Companies have believed it essential to select their risks with care, and there is no difference of opinion on the need for that study; but the fact of the matter is that a risk in a life insurance company can damage the company only to the extent of the amount for which the individual is insured, perhaps one thousand and perhaps ten thousand dollars. It is apparent at once that the damage which an agent can do to a company is practically unlimited. Whereas a risk is limited in the damage which it can do to a company to the face of the policy, an agent may be responsible for securing countless undesirable risks which the Medical Department is unable to check; he may, in many instances, misrepresent rather than represent his company; and, lastly, he frequently is in a position of trust in regard to the company's funds. There is scarcely any doubt of the need which exists in the matter of studying the question of their selection, and, as we point out above, life insurance companies have been peculiarly active in recognizing human differences among risks. We are, therefore, today asking this question: Shall we not recognize the existence of human difference in the matter of the selection of agents and endeavor to study scientifically this question just as we have scientifically studied the acceptability of risks for the last fifty years?

The work has undoubtedly been damaged by overenthusiastic supporters, who have claimed far more for scientific methods of selection than can possibly be justified. It seems to be believed that the method is regarded as perfect. Today frequent examples of this damage come to anyone who is studying the problem. Personally, I have frequently been told by sales managers that no scientific method of selecting agents could possibly pick out Agent X who, from all outward appearances, would be a flat failure, but who has succeeded marvelously well in the field where he was put. My answer to it is that neither can the actuary pick out the exception to his mortality table—the man who lives to a ripe old age despite so-called impairments—but that is not what is demanded of the actuary, for it is the group which is used in both cases, and the exceptions to the general rule do not destroy the value of the rule. We are not at present in a position to claim in the scientific selection of salesmen that more than mere tendencies have been discovered. Of these, there are a number to which I shall draw your attention, but which in every case I should like to label as being merely tentative. As suggested above, we are merely at the threshold of the problem and no final results are as yet obtainable.

It has been said that there are four steps in research work: First, to formulate the problem; second, to study the facts surrounding the problem; third, to prepare the plan; and fourth, to operate it. In the sales research work which has thus far been done, we have certainly not passed into the fourth phase of the work and in much of it we are only at the first step. Let us take as the first problem to be discussed the matter of selecting salesmen. The method which must be adopted is to secure from the man when he comes with the company or at some other time certain facts in regard to his personal history and any other fact which can be secured. This is exactly similar to the method used in the study of the selection of risks, in which case the facts in regard to the applicant were secured at the time he was accepted; and their significance was tested in the light of the longevity of the group to which the individuals belonged. Such is the method which is just commencing in the field of selection of agents, where certain facts are secured from each new salesman; and, as he succeeds or fails in the field, this material can be handled in groups and the signficance of those facts determined upon.

In asking such facts of prospective agents, it frequently happens that the personal history blank which a man makes out is criticized because of the fact that questions are asked whose significance is not at once apparent; but it is obvious that the day cannot come when a perfect personal history blank can be prepared until research has shown the significance of each item. Job analysis or some other method must furnish the basis. It may, for example, not appear on the surface just what the relationship is between age at time of entering the business and success in selling life insurance, but it is generally agreed that there are certain limits in age below and above which it seems unlikely that men will succeed in this field of endeavor. Most sales managers in the life insurance business believe that men below a certain age should not be chosen except in occasional circumstances. This, however, is opinion rather than fact. They have no figures from their own or other companies' records proving that such is the fact. They have thought so for years and have operated on that basis. When we have had a sufficient amount of time in which to study the results of the questions asked of new agents, it will be possible to show the significance of the answers. For example, we may ask an applicant how old he is, how many dependents he has, what his investments are or what his previous occupation has been; and in no one of these cases can we tell him exactly the need for asking the questions unless we have had sufficient time in which to study a large group of answers. It would seem that possibly in the years to come the application blanks for any selling or, in fact, other job might well be limited in the number of questions because of the fact that research has shown that certain questions are unnecessary, have no significance and therefore should not be asked of the applicant. But until that day comes, certain questions will be asked of which the significance cannot at the moment be given. When the results on each question have been studied, we can decide whether the question should continue or be dropped. Thus, before many years have passed, it is altogether possible that the application blanks that a salesman will be required to fill out will contain not twenty-five questions to which the salesmanager thinks he would like the answer, but rather one half as many questions the significance of each of which in predicting the probable success or failure of the groups of salesmen has been proved. Of course before the blank can be materially cut down in the extent of its questions many experiments must be made, in order that research can determine whether each question is necessary or unnecessary, in other words, whether it has predictive value or whether it has not. Again referring to the application blanks filled out by all applicants for life insurance, it is generally agreed today that the medical examination, as well as the various other questions which are asked of an applicant, give a very fair indication of the facts surrounding his present conditions which have been proved to have significance. The work along this line has been studied so long that any well-informed underwriter or medical director can justify most questions which are asked on the blank, but it was probably many years after the first application blank which requested of the man information regarding his height and weight, for example, that a scientific study of height and weight was made. In the study referred to, already made by the combined experience of about forty companies, it was discovered for the first time that the analysis of height and weight showed that the best mortality records were attained in the case of extremely young people by those who were slightly overweight. This study showed that as age increases, in the older years it is the underweight who has the best mortality. That cooperative investigation furnished a new but scientific basis for underwriting, and companies in general today as a result of it view favorably young men who are