to this conclusion emanated from brains like Oliver Sheldon's working full time on management problems.

From much observation and experience I can say, however, without fear of my statement being disproved, that where such departments have failed it has usually been due to the fact that chief executives have regarded their chief function to consist of recruiting and hiring workers as a matter of recruiting and hiring only. There has been in such cases, no envisaging of an employment department whose duties add to intelligent selection and placement the kind of follow up of workers which makes both the followers and the followed more intelligent in the future conduct of their jobs.

Taylor himself, in his writings does not give us much concrete help in what he terms "The scientific selection of workmen." In his "Principles of Scientific Management" he speaks of the physiological departments of our universities experimenting to determine the "personal coefficient" of the man tested and speaks of this test proving conclusively that some individuals have unusually quick powers of perception accompanied by quick responsive action. He speaks of Mr. Thompson's excluding, "for the ultimate good of the girls," all girls who lacked a low "personal coefficient." We are given no details as to the method of selecting the proper type of girl for the work under consideration (bicycle ball inspecting).

In the famous story of Schmidt, the pig-iron handler, he says they "watched and studied 75 men for three or four days, at the end of which time we had picked out four men who appeared to be physically able," etc. He then speaks of making a "careful study" of each of these men, which consisted of looking up their histories and making inquiries as to the character, habits, and the ambition of each of them. Schmidt was chosen because he was not only husky but thrifty. Such a method seems extremely unscientific in the light of later day developments. But I think most of us will acknowledge that in an attempt to be scientific during the past ten years, some of our methods of selection have been ludicrously unscientific. Today, happily, a more sensible and moderate procedure seems to be supplanting the over elaboration of a few years ago. We are no longer surveying the topographies of our applicants' faces to discover whether they should heave coal or audit our accounts. No longer do we concern ourselves with the traits of blondes and brunettes since unfeeling investigators have disturbed our pretty theories with facts. We do, however, recognize the value of physical examinations in order to prevent workers from attempting work which might be harmful to them and many of us are experimenting with various forms of intelligence tests. The latter, however, can be of no proven value in a plant where careful and consistent work records of individuals are not kept, for without these there can be no checking up and correlation of tests and work.

Some plants operating under scientific management consider that the most essential qualification of an applicant is his *fitness for the organization*. There are certain prime qualities such as a fair degree of intelligence, perseverance, a cooperative spirit, open-mindedness and similar traits which must be present for the building up of a strong, fine-spirited, enduring organization. When people pass muster in these qualifications, placing them on specific jobs is a comparatively simple matter. Many organizations are in a constant state of seething turmoil because so-called "scientific" methods of a hair splitting variety are employed without considering the great essential—fitness for the organization. This by no means signifies the selection of one type of worker. That could not be achieved even if it were desired, considering the wide diversities of human beings. It means merely making an organization analysis before making a job analysis.

One thing is sure. Where Taylor's sound theory of functionalization is consistently applied there is no longer this futile and stupid haggling about who shall do the hiring. It is most depressing to an employment executive brought up in the healthy atmosphere of scientific management to realize that a great many employment managers who have not had the privilege of breathing this bracing air are going through the motions of letting the foremen select their own men. In a plant where the selection of employees is considered one of the clearly defined duties of a functionalized employment department, there is no idle and childish prattle about "authority" in hiring. Such language becomes as obsolete as a piece of antiquated and scrapped machinery. People do not assume autocratic authority in scientifically managed shops. They are governed by the laws and duties which research and scientific study define for them. It is because of that fundamental difference that the foreman in a scientific management shop has to be of an exceptionally intelligent type. He must be capable of distinguishing between the superficial and the fundamental phases of the job of handling people. He knows,

if he sees big, that the respect of his workers is not gained by his power to hire and fire. It is gained by what Taylor termed "friendly help," which means not only the intelligent development of each individual to the point of his finest spirit and ability but also the inspiration of group morale. It distinctly does not mean being absorbed with the husks of his job at the expense of the heart of it. When a foreman sees his work in that light he is as impatient of the old time foreman who is jealous of his "authority" as a pilgrim who sees a group of fellow travelers consuming time quibbling about who shall carry the compass when there is necessity for pressing toward their destination.

II. Their Scientific Education and Development

Taylor's third principle, which also has a great effect on the morale of an organization, is the worker's "scientific education and development." Volumes have been written on the training of workers and foremen. It will be the purpose of this paper not to cover methods of training but merely to speak of the subject of training as a fundamental of good management and as a policy which is and must be foundational to effective personnel work.

There are two kinds of training due a worker; one kind relates to the technique of his job and one to the development of his character as worker and citizen. Throughout Taylor's writings we see his emphasis of management's responsibility in training. In the "Principles" he says, "All day long the management work almost side by side with the men, helping, encouraging, and smoothing the way for them, while in the past they stood to one side, gave the men but little help, and threw on to them almost the entire responsibility as to methods, implements, speed and *harmonious cooperation.*"

There has been noteworthy development of systems of instruction in scientific management plants during the past ten years. The usual functionalized instruction division consists of instructors who teach not only new employes but also employes who are promoted to better jobs. The head of the instruction division is usually a man or woman of the highest type, chosen for his technical ability, plus an exceptional capacity for training others. It is his training of the instructional staff and his careful follow-up of their methods and results which has an immeasurable influence on the morale of an organization. The importance of the proper induction of a new worker is self evident. It goes without saying that a worker who gets a wrong start in the technique of his job and in his attitude toward the organization will be of far less value as a producer and as a cooperative member of his organization than if he gets a right start. And it has been demonstrated in numbers of scientific management plants that the right start can be assured only when there are people whose special duty it is to teach. A worried, overworked foreman with a thousand and one other duties cannot possibly add to these duties the proper and effective teaching of workers.

It is a well-known fact that labor turnover is highest during the early months of employment. As methods of teaching new workers, of overcoming the natural discouragement attendant upon learning new tasks, of inspiring the new worker with team spirit and organization loyalty,—as these methods improve, it is possible greatly to reduce this turnover. By firmly believing that the worker in hand is worth two in the bush and making it his business to train and develop this worker to his utmost capacity, an instructor can contribute immeasurably to the prosperity of both workers and management. During the past ten years great progress has been made in methods of training, resulting in eliminating or reducing fatigue, increasing wages, reducing costs, shortening hours and improving plant morale.

It is clear that all the worker now hears about a "chance to advance" are mere honeyed phrases unless management assumes the responsibility of scientific research in discovering best methods of doing work and shares the results of this research with workers. Industry today is too complicated to permit all the manual workers in a plant to do their own experimenting, though any suggestions for improved methods issuing from workers are welcomed. But it stands to reason that, in the first place, the average worker is not of an inventive turn of mind, and in the second place, wages would be low indeed if management shifted responsibility for improving methods to the workers at large. Workers, moreover, appreciate being "shown how" as they frequently testify to their great appreciation of systematic instruction. Ask the new workers in a vestibule school how they like being definitely instructed in how to do their jobs and see how wholeheartedly they praise this method in place of having to "pick up" the work as they frequently have done in their other work places.

Furthermore, it is impossible to have a fair and workable system of promotion without this "scientific