be pushed back into the school to any great extent; it is only practicable to give a general course which shall lay the foundation for future specialization and which shall so equip the student that he may with the least loss of force and time find for himself the limited sphere he is to fill in the world's economy.

It is to offer an answer to the question how can the school best fit a man for a specific place in the mining or metallurgical profession that this paper is written. We may begin by making the following classification of subjects.

There are certain ground-work studies that are fundamental for all branches of the engineering profession. They are mathematics, physics, and chemistry. These must be as thoroughly mastered as possible, they must become a part of the man so that their use shall require no effort of will or of memory.

Special technical subjects, as mining, metallurgy, geology, mineralogy, etc., must be pursued far enough so that the student can see his way clear to master them afterwards if necessary. Language may be included here as an important agent for accomplishing these results.

Certain branches may be called introductory studies since they serve to introduce the student to his life work. They are applied chemistry, assaying, surveying, and a knowledge of machinery. In these he must be sufficiently competent to render his services important to his employer early in his career.

Besides the above there are the subjects included under the head of general information and training, as English history, literature, political economy, business law, etc., the more of these a student can get the greater will be his influence.

This classification seems to us to give the maximum effect to the four years' work so that while the graduate is not a finished expert, he is in a position where he can become a specialist within a reasonable time, and on the other hand, if later he is called upon to assume the general's position and become a manager he will find his training to have given him the ground-work upon which to build for that position also. This claim is borne out by the number of graduates who already hold such positions.

Primarily an engineer must be a man who can think, and by that I mean must be able to observe his facts, properly record them and draw reasonable conclusions from them.

No one is so wise, but that he will occasionally ask what time the eleven o'clock train goes, but a person who continues to ask this class of questions had better seek his livelihood elsewhere than in engineering.

Application of the mind, concentration of thought upon one thing at a time is essential. An engineer must have this power to be successful. A student has to study chemistry, French, and mathematics on one afternoon. While he is studying French he is wondering how a certain chemical reaction would work, when he is studying his chemistry he is wondering whether he understood a certain equation in algebra. Such a student is on the wrong road, he should do one of two things immediately, either learn how to study or give up engineering. The proper way to learn to concentrate thought is to assume that for the one or two hours the very rotation of the earth depends upon the mastering of this lesson. When once the subject is exalted into sufficient importance and so held up, the application will come easily enough.

Why is it that so many students fail to continue as regular students at the Institute? Because they have not learned how to apply themselves.

The course at the Institute is not difficult for a person who has learned to apply his mind, and who works the prescribed number of hours on that basis.

We see then that the courses at the Institute must treat certain departments exhaustively, certain others just to the limit where the student can stand by himself and continue in