morning and follow them to their dormitories at night; but you will find that we have ways of keeping you from much mischief, and that the relations between student and teacher are close and grow closer toward the end. As you go on in the school you will leave your book learning even more behind you, and find yourselves at the designing table or in the laboratories trying to penetrate those secrets of art or nature, which are only revealed to experiment. Your teachers are men who have gone further than you along the same road, and you will be glad to take place beside them and learn some of their skill by practice. Such occupations are absorbing, they bring close and agreeable companionship and they will lead you to that enthusiasm for research which science or art awakens whenever the drudgery of the beginning is left behind you, and you begin to do something new.

It is worth saying also in this connection that the application of science is a business of quick returns and of evident and concrete results. The physician, the lawyer or the literary man may wait long before their reputation is established; and so also may you, but if you build a bridge or a church, or set a machine in motion better than your competitors, you will immediately gain recognition. Your works go with you instead of following you.

Some less visible results are still quickly appreciated, and a western town is now holding a corn carnival, the women wearing corn hats, shoes and parasols, and the men corn canes in jubilation over a corn crop of 300,000,000 bushels, and in recognition of the fact that chemists have aided in the consumption of corn in a way more ingenious than pigs; so that the portion which would formerly have been burnt is now converted into glucose, rubber substitute alcohol for dissolving smokeless powder, and into many other useful products.

Another potent stimulus which makes work attractive in a professional school is the appreciation of its usefulness. You have the end in view and you know that the knowledge which you acquire here will be a good part of your stock in trade during the rest of your lives. This leads me to speak of the choice of studies and of the important decision you will have to take at the end of this term. You have seen that the catalogue offers you 751 branches of study, and you may be wondering how many of them you can swallow without serious indigestion. This is exactly the question which has always been one of the gravest preoccupations of the government of this school since its foundation. You can make your own selection if you wish, and stay here under the condition of doing a reasonable amount of work, and you will be pursuing lines of study similar to those which lead to a degree in many colleges. We advise you, however, after having taken the studies in common during the first term to think very seriously to what professional branch your tastes and aptitudes lead, and to take advice with your teachers.

The charter of this school was given in order that it should "aid in the practical application of science," and twelve special courses together with a course of general studies have been laid out with that end in view, and our diploma means that you are equipped with the knowledge necessary to practise as engineers, architects or chemists, while our single degree — S. B. — betokens that the special acquirements demanded in each profession are laid upon a broad foundation of scientific knowledge.

The adjustment and simplification of these courses of studies are not easy. General principles and special demands must be considered and the studies must be kept abreast with the rapid progress of industry.

We often have friendly visits from old alumni and we take the opportunity of asking them if the tools which we have put in their hands have done good service. Changes are sometimes suggested, but more frequently we get encouragement to believe that our studies are well chosen, and often an old graduate writes that he is at the head of some branch of an industrial establishment and wishes us to send him assistants who have received the same education which he had.

I will call your attention to the fortunate condition of professional schools in this country which have been favored by freedom in their rapid development. The time has gone by when a shoemaker or a blacksmith must say his catechism and produce a certificate that he had attended communion, protestant or catholic, before he could employ workmen, but even now in many countries and notably in England, the system of professional apprenticeship has been a serious bar to the development of professional schools. A young man does not willingly seek the education which can be best given in such institutions, because he knows that he will have difficulty in