attained, the rate of descent would be certain, and, after a while, rapid. What we want to make clear here is, that, so far as an aid to success is concerned, it is the beginning of education that is the most important. So far as the achievement of success—that is, making money by honorable means—is concerned, the higher technical education is of little or no help. But there is something else in life worth having besides money and the power which it gives.

It will be well, though, if our young friend should at the outset make a distinction, and determine exactly what he wants most to get. If he has such a love for science and of knowledge as would make the possession of it a source of great pleasure to him during his whole after-life, then we would by all means advise him to take as thorough a course in one of the schools as he can afford time and money for. If, on the other hand, it is important or desirable for him to earn the most money in the least time, and if he has a fair elementary education, can use his own language with reasonable correctness, knows algebra, geometry, and trigonometry, with more or less natural philosophy or "physics," as it is now the fashion to call it, and some knowledge of mechanical drawing, our advice would be to plunge into practice at once.

In taking the last census in Great Britain, those in charge of the work would not accept, as an answer to the question of what a man's occupation was, that he was an "engineer." They decided that the term does not indicate what a person's occupation is with the degree of definiteness demanded by the census. Our correspondent speaks of his "making a specialty of railway construction and management." It is to be feared that the British census-takers would not regard that as sufficiently definite. "Railway construction" involves a number of distinct occupations. Does he intend to locate lines where none are built? If so, he had better attach himself to some party, or "corps"—as they love to call themselves—of men in the field who are doing that kind of work. If he wants to learn about the grading of a line, and doing the masonry work for its bridges, tunnels, etc., then he had better join a contractor, and study the geometry of earthwork and the characteristics of the mule, gunpowder, nitro-glycerine and Hibernian, Italian, and African laborers, with more or less of the literature of strikes. If he aims at a knowledge of bridge-building, he can learn to design and build bridges very much better if he enter the employ of some firm in that line of business than he can in a technical school. If he means to turn his attention to rail-manufacturing, then chemistry would help him; but he could pick up more knowledge which would be useful in a good rail-mill than he could in all the laboratories in the world. Besides, the mill has the advantage that the young rail-maker can in odd hours learn as much chemistry as he will need; whereas the laboratory has the disadvantage

mumd intends to adopt that "profession." There is a rhythm about the name of it that makes it agreeable to tell to Angeline in soft and confidential tones, and she is apt to think that it produces a good impression to speak of the favored one as a "civil engineer" when the diamond or plain gold ring first makes its appearance in public. The word "engineer" carries with it many illusions, which, under such circumstances, it is rather pleasant to entertain, but which, if dispelled, would make the occupation much less attractive than it now is to many young men.

On the card of a firm engaged in practical engineering work is announced that they do railroad and other grading, difficult foundations, heavy masonry, and steam pile-driving. Now, assuming that our aspirant is aiming to qualify himself for doing the kind of work that this firm is engaged in, and that his aim is to get such an education as will best qualify him to become a railroad grader, to build foundations, to become a stone-mason, or a pile-driver, would not the question of the kind of education he ought to seek assume a very different aspect from what it does when he is aiming to become a "civil engineer"?

But it may be said that the kinds of work named are only some of the branches of civil engineering; that there is other work in which a thorough knowledge of mathematics and other science is required, and for which a person cannot be qualified who has not had a very complete theoretical training. Unfortunately for some of the theories regarding technical education, this statement is not true. There is not a branch of civil or mechanical engineering now practised in this country in which the men who have achieved either the greatest distinction or pecuniary success have had a liberal education, either classical or technical. This shows in an indubitable way that such training is not essential to success or to the attainment of distinction in these occupations.

The truth is, that, in comparison with other qualifications, the value of any high degree of mathematical or scientific training is very slight. If the relative usefulness of different amounts of education were laid out graphically, so that its value would be represented by the height of vertical ordinates, a curve drawn through the different points laid down would probably assume the form of a semi-ellipse, with the conjugate axis for a base. The beginning of education would be seen to be of prime importance, and the curve would ascend almost vertically. When the elements are mastered, the curve would begin to incline from a perpendicular, and, as the common school period is passed, the inclination would probably be about 45°, and, with the beginning of the course in a technical school, the curve would approximate more and more towards a horizontal line, and the rate of vertical increase would be less and less, until it would begin to descend, slowly at first, but, after a certain amount of scholastic training has been