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THE AMERICAN ASSOCIATION FOR THE
ADVANCEMENT OF SCIENCE.

THE RELATION OF MATHEMATICS TO
ENGINEERING.

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A FEW years ago technical education as we now understand it was unknown in America. We have now in our midst more than 20,000 students preparing themselves distinctively for the engineering profession.

While the technical schools of the country have had a development which for rapidity, strength and importance is little short of marvelous, yet their rise and growth have been profoundly influencing the thought as well as the welfare of the nation. Especially in the domain of mathematics have they had a directing and vivifying influence which is little short of a revolution. To-day mathematics wishes no stronger reason for her existence and no stronger call to her cultivation than the fact that she is the unchallenged doorkeeper to the appreciation and mastery of the physical sciences, both in their theory and in their application by the engineer to things useful.

The time is past when mathematics is referred to by the thinkers of the day as being principally a discipline. It is of course true that, rightly pursued, mathematics is a discipline, but it is far more, it is a knowledge, a tool, a power, a civilizer. The day is gone when, on the one hand, the student, Chinese fashion, learns his geometry word for word from cover to cover or memorizes all the propositions of his

* Vice-presidential address before Section D, American Association for the Advancement of Science. St. Louis meeting, December, 1903.

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