

The Technology Review

VOL. VI.

OCTOBER, 1904

No. 4

WILLIAM BARTON ROGERS,

FOUNDER OF THE MASSACHUSETTS INSTITUTE OF
TECHNOLOGY

In the usual connotation of the title the founder of the Institute of Technology was the Commonwealth itself, for the State's gift of land, together with its allotment of one-third of the so-called Morrill Land Grant to the institution, made tangible the vision of a school of applied science which had long existed in the minds of certain enthusiastic and far-seeing men. This relationship to the State is fitly recognized by the word "Massachusetts" in the name of the Institute, and by the presence of the Governor, the Chief Justice of the Supreme Court, and the Secretary of the Board of Education upon its Corporation.

Gratefully, however, as every Institute man acknowledges the early and continued favor of the Commonwealth, the true founder of the Massachusetts Institute of Technology is, without question, its first President, William Barton Rogers, that eminent geologist who for twenty-five years used the whole force of his broad mind, of his rare foresight, of his signal executive ability, of his unusual eloquence, of his extraordinary powers of persuasion, in planning, establishing and building up the school to which he gave, at last, life itself.

Professor Rogers threw himself into the task of upbuild-

ing the Institute of Technology as few men have devoted themselves to any similar undertaking. He lived for the school alone, and inspired those about him to work with almost equal self-forgetfulness. He was zealous, indefatigable, courageous, enthusiastic, no less intellectually than morally honest. He drew around him a board of trustees having like qualities; together they created a faculty similarly inspired; and by them were sent out, from the beginning, students fired with kindred courage and intellectual integrity. Coincidentally with its very founding, therefore, appeared that "Technology Spirit" which, indefinable in words, is to-day recognized as a distinctive attribute of Institute men.

To write of Rogers, then, as its founder is to go to the very source of the Institute's success. He did much other work of importance besides that of establishing the School of Industrial Science, but this was his greatest and most enduring achievement. Therefore, in the eyes of Institute men, he is peculiarly theirs; therefore this memorial of him will lay special stress upon that side of his career. As a consequence, it will present but an imperfect impression of the life of Professor Rogers as a whole. It will dwell upon those phases of his character, thought and acts which bear especially upon the Institute of Technology, passing over entirely or with inadequate notice those many other interests which made him one of the broadest men of his generation. No permanent loss can result from such a partial view, for in the "Life and Letters"* is to be found that well-rounded picture of President Rogers which history demands.

One hundred years ago, on the seventh day of December,

*Edited by Mrs. Rogers with the assistance of Professor Sedgwick. Published by Houghton, Mifflin & Co., 1896. To these two volumes the present memoir is almost wholly indebted for its facts.

1804, William Barton Rogers was born in the city of Philadelphia, at 262 North Second Street. His father, Patrick Kerr Rogers, from the north of Ireland, near Londonderry, was the eldest son of Robert Rogers, a gentleman of some estate, and his wife Sarah (Kerr) Rogers. Patrick Rogers entered a counting-house in Dublin to be trained to a mercantile life, but at the time of the rebellion of 1798 wrote articles hostile to the government, and was forced to flee to America, reaching Philadelphia in August of that year.

Although but twenty-two years of age, and a stranger except for his acquaintance with the many other Irish refugees in that city, he was within a few months appointed a tutor in the University of Pennsylvania. In the following winter he entered the Pennsylvania Hospital as a student and while still there married Hannah Blythe,—also from Londonderry, though of Scotch descent,—who had come with her sisters to Philadelphia in 1794. In February, 1802, their eldest son was born, and in May of that year Mr. Rogers received the degree of Doctor of Medicine from the University of Pennsylvania.

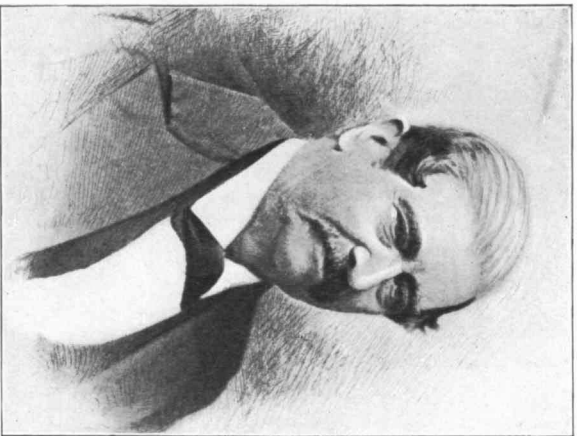
In 1803, Robert Rogers, the father, having died, his son was obliged to return to Ireland to settle the family estate. The property having, however, to be divided among twelve children, Dr. Patrick Rogers inherited only enough to pay off the debts which he had contracted in securing a medical education and in establishing a household. Moreover, his long absence proved disastrous to his professional success; for he had not established, before his departure to Ireland, a medical reputation sufficient to hold his patients. Therefore, to eke out his income, he started, upon his return, a medical library which, for lack of patronage, only added to his financial burdens. Thus weighed down, he deemed it wise to remove to Baltimore and to start afresh.

There, for the seven years between 1812 and 1819, he carried on a hard struggle against poverty,—a struggle painfully shared by his family and from which the sons were not to emerge for many years.

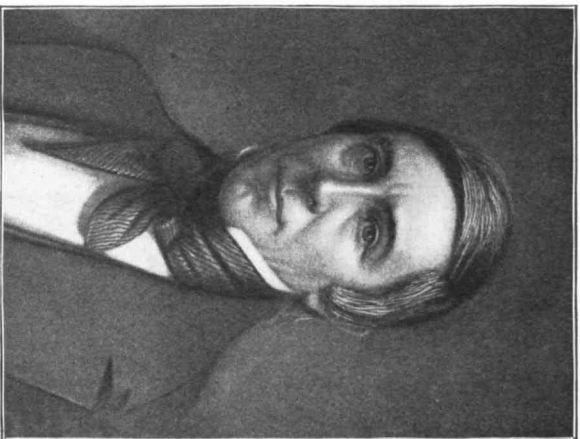
While in Philadelphia, Dr. Patrick Rogers had delivered several courses of lectures with much success, and it is clear that he felt himself better fitted, as indeed he was, for teaching than for the work of a practitioner. In 1819 this special aptitude came at last to be recognized, and he was invited to the chair of Natural Philosophy and Chemistry in the College of William and Mary—next to Harvard the oldest in the United States—at Williamsburg, Va. Agreeable as this change was, it proved disastrous to the health of all the family. So malarial was the climate that within one year Mrs. Rogers died, and within nine years Dr. Rogers himself succumbed, despite the fact that, as soon as his teaching duties would permit, the whole family every summer left Williamsburg for a more healthful locality.

Patrick Kerr and Hannah (Blythe) Rogers had seven children, of whom four survived. These four all became eminent as men of science and were known, familiarly, as the "Brothers Rogers." Interesting as it would be to follow the career of each one, it is possible simply to summarize the lives of the eldest and the two youngest, making afterwards only such fragmentary references to them as the close relationship of his brothers to William Barton Rogers may require.

The eldest son, James Blythe, was graduated in medicine, at Baltimore, in 1822, practised his profession in Maryland for a few years, and was then a manufacturing chemist and subsequently a lecturer on chemistry in Baltimore. Thence he went to Cincinnati, where he was for four years Professor of Chemistry in the Cincinnati College



J. E. Rogers



James Rogers



Henry Rogers

(assisting, also, his brother William in the geological survey of Virginia). In 1840 he went to Philadelphia, and was Professor of Chemistry there, first in the Philadelphia Medical Institute, then in the Franklin Institute, and finally, till his death in 1852, in the University of Pennsylvania.

The youngest of the four brothers, Robert Empie, was graduated in medicine from the University of Pennsylvania in 1837, and after five years of varied work in geology and medical chemistry was appointed Professor of Chemistry in the University of Virginia. At the death of James Rogers in 1852, Robert was elected his successor in the University of Pennsylvania. This position he filled with such acceptance that, within four years, he was made also Dean of the Faculty. He remained in this double office for twenty-five years until, in May, 1877, he resigned to accept the Professorship of Medical Chemistry and Toxicology in the Jefferson Medical College of Philadelphia, where he continued until his death in 1884.

Of the career of the third brother, Henry Darwin, there can be no better summary than that given in the American Cyclopædia [1864], for it was written by William Rogers himself:—

Henry Darwin Rogers, an American geologist, born in Philadelphia in 1809, became professor of physical sciences in Dickinson College, Carlisle, in 1831, and afterward professor of geology in the University of Pennsylvania, which office he held for many years. He began his active geological labors with the survey of the State of New Jersey, and in 1835 published a report and geological map of the State. He then entered on his great work, the survey of Pennsylvania, in which, with some interruptions, he was occupied until 1856, publishing during the first years annual reports of progress which make together a large 8vo volume. His final report on the geology of Pennsylvania, in two large volumes, 4to,

with numerous drawings and illustrations, and an atlas of geological maps, executed by A. Keith Johnston (Edinburgh, 1858), is recognized as a work of great thoroughness and originality, especially in the departments of structural and dynamic geology, and ranks in scientific as well as practical value with the labors of the first geologists of the age. In 1857 he was appointed regius professor of geology and natural history in the University of Glasgow, Scotland, where he has since lived. For some years previous to this appointment he was a resident of Boston. Professor Rogers has contributed many important papers on geological and other scientific subjects to the "Transactions" of the American Philosophical Society, the Boston Society of Natural History, the American Association of Science, the American *Journal of Science*, and the Edinburgh *New Philosophical Journal*, of which last he is one of the editors. He is the author of a geological map of the United States, and a chart of the arctic regions in the *Physical Atlas*, and, in conjunction with W. and A. K. Johnston of Edinburgh, has published a geographical atlas of the United States.

As will appear, William and Henry were, of the brothers, those most closely associated in scientific work and in planning the Institute of Technology. The extraordinary intimacy and interdependence of these two, however, was only a little closer than that which bound together all four of the brothers Rogers, each to each, in a personal and scientific friendship most notable and beautiful. A warmth of phrase due to their Keltic ancestry and to their Southern residence gives to their familiar letters a tone which to New England ears savors of hyperbole. But there is no touch of insincerity, no suspicion that every word of solicitude in matters of health, or of rejoicing in scientific and professional progress is not as deeply felt as is glowingly expressed. The early years of all of them were filled with hardships and were often made discouraging by the unjust or unappre-

ciative acts of others. Moreover, the fortunes of each brother greatly fluctuated, one meeting with success while another was encountering adversity, one advancing rapidly in public recognition while another, for the time, seemed destined to obscurity. Never, however, into their correspondence, never into their relationship, did there enter a word or thought of envy on the one hand or of exultation on the other. The success of one was the joy of all, the passing failure of another was the sorrow of all. Such harmony, such warmth of affection, such mutual helpfulness as this, could have but one result,—that together they should achieve results in science and reach positions of responsibility and honor which separately they would hardly have been likely to attain. Better than this, their rare concern in one another's affairs gave them a breadth of outlook and a diversity of interests unique in their generation. All of them followers of science, their paths were sufficiently diverse to cover practically the whole scientific field. And, while each perfected himself in his specialty, he followed also with such absorbed interest the work of the others as to attain in all branches of science a marked proficiency. This breadth of view gave them that authority and that power which made them such conspicuous leaders in the scientific development of the United States.

More marked and most fruitful was this closeness of interest, this breadth of knowledge and this harmony of investigation in the case of William and Henry Rogers. Not only did it place them among the great leaders in geology, not only did it secure to them important State offices in scientific work and the friendship of learned men throughout the world, but it led them also to survey the whole field of pure and applied science with such clear and prophetic vision as to enable them to conceive, as early as 1846, a

plan for a polytechnic school which, many years later, was to develop, along those very lines and under the guidance of William, into a school of technology such as we know to-day.

Because of the financial struggles and rather wandering life of Patrick Rogers the education of his four sons, from the ordinary standpoint, was somewhat desultory. William, like his brothers, received his training mainly at the hands of his father. While this education may have lacked conventionality, it evidently was not wanting in those more important features,—inspiration, enthusiasm, and real hunger for knowledge. A genuine teacher himself, Dr. Patrick Rogers fired his sons with a love of learning and imbued them with the power to teach. It was evidently he, too, who bound his sons so closely to him and to one another that the cement of their mutual love never afterwards failed.

William Rogers, especially, early showed unusual ability in teaching as well as rare power of expression. His oratorical gift, indeed, was so marked that in his seventeenth year he was chosen to deliver the oration at the celebration of the third "Virginiad" at Jamestown. From then until his twenty-first year he seems to have devoted himself, partly as a student at William and Mary, but mainly under his father's guidance, to ardent work in mathematics, physics, the classics and modern languages. In 1826, after a year's experience of mercantile pursuits in Baltimore, he opened, together with his brother Henry, a school at Windsor, fourteen miles from that city. This gave him a good experience in teaching and administration, while permitting him also to begin what he above all else enjoyed, the work of public lecturing. During that winter of 1826-27 he delivered, with much success, a course of lectures at the Maryland Institute in Baltimore. The meagre scale then