

## JAMES JOSEPH SYLVESTER.

Address delivered at a memorial meeting at the Johns Hopkins University, May 2, 1897,

BY DR. FABIAN FRANKLIN.

We have come together to do honor to the memory of the great man whose work in initiating and for seven years conducting the mathematical department of this institution, will always remain one of the proudest traditions of the John Hopkins University. To me, as one who was long his pupil, and who owes so much to his inspiration, has been assigned the task of saying something about the work and the genius of Sylvester, and especially about the influence which he exerted, while in Baltimore, upon the study of mathematics here and upon the advancement of mathematical research in America.

Since his death, there has appeared in the English journal *Nature*, and has been reprinted in the Johns Hopkins Circulars, a review of his life and work by Major McMahon; and in 1889, when that work was well-nigh ended, Sylvester's great compeer and friend, Professor Cayley, contributed to the columns of the same journal a sketch of Sylvester's labors. One of his Baltimore pupils, too, Professor Halsted of the University of Texas, has given in *Science* an account of his life and achievements. It is therefore the less necessary to undertake here to give anything in the nature of an enumeration of even his most signal contributions to mathematics.

His influence upon the development of mathematical science rests chiefly, of course, upon his work in the theory of invariants. Apart from Sir William Rowan Hamilton's invention and development of quaternions, this theory is the one great contribution made by British thought to the progress of pure mathematics in the present century, or indeed since the days of the contemporaries of Newton. From about the middle of the eighteenth century until near the middle of the nineteenth, English mathematics was in a condition of something like torpor. The second half of the eighteenth century was one of the most brilliant periods in the history of mathematics; but the magnificent achievements of Euler, Lagrange, Laplace awakened no response on the other side of the narrow seas. It seems almost incredible that the complacent conservatism of Cambridge went so far that even the notation of mathematical analysis