

experiments; the performance of this instrument is very fine; the quantity of radium enclosed is nearly 3 milligrams; this produces a discharge at intervals of about 70 seconds—this rate is not in any way altered by attaching the coherer and apparatus.

F. HARRISON GLEW.

156 Clapham Road, S.W., July 1.

THE MEMORIAL TO SIR GEORGE STOKES.

ON Thursday last, July 7, the memorial to Sir George Gabriel Stokes was unveiled in Westminster Abbey by the Duke of Devonshire in his capacity of Chancellor of the University of Cambridge.

The initial steps for the erection of this memorial were taken at a joint meeting of representatives of the Royal Society and the University of Cambridge, held in the Royal Society's rooms on March 12, 1903, when a committee was constituted to devise measures for providing a public memorial to commemorate the scientific career of Sir George Stokes and to take steps for carrying the project into effect. On that occasion it was decided to send a letter, in the names of the Chancellor of the University of Cambridge and the president of the Royal Society, requesting the authority of the Dean and Chapter of Westminster to place a memorial in the Abbey in the form of a medallion relief portrait of Sir George Gabriel Stokes, of the same general character as the memorials of Charles Darwin and other scientific men now in the Abbey. At the same time a subcommittee was formed to collect subscriptions for the purpose in view, and for carrying out the resolution of the full committee. In response to the committee's application the Dean gave his assent to the proposal, and agreed to take detailed plans into consideration. The subcommittee consequently, in consultation with the Dean, offered a commission to Mr. Hamo Thorneycroft, R.A., to execute a medallion.

The ceremony on Thursday was preceded by a meeting, in the Jerusalem Chamber, of subscribers to the memorial, and personal friends of Sir George Stokes. The meeting was presided over by the Dean, and was attended by many distinguished men of science and of letters. The Dean was supported by the Duke of Devonshire, Sir William Huggins, president of the Royal Society, Lord Kelvin, Lord Rayleigh, Prof. Larmor, and Prof. Forsyth (honorary secretaries to the memorial fund), and Mr. Kempe, treasurer of the Royal Society. There were present also the American Ambassador, Mr. Bryce, Sir William Crookes, Prof. George Darwin, Sir James Dewar, Sir Joseph Fayrer, Principal Carey Foster, Mr. Francis Galton, Sir John Gorst, Prof. Liveing, Sir Norman Lockyer, Sir Andrew Noble, Dr. Thorpe, and many other fellows of the Royal Society.

Prof. Larmor read letters from the Prime Minister, Lord Lister, Sir Joseph Hooker, Sir Michael Foster, Lord Goschen, Lord Avebury, and others expressing regret for their unavoidable absence.

The Dean opened the proceedings, and prefaced his remarks by directing attention to the increasing difficulty of finding space within the Abbey for such memorials as that which they were met to dedicate. He stated the history of the movement described above, and referred to the wonderful trio of famous senior wranglers occurring in successive years, Stokes, Cayley, and Adams, followed two years later by Lord Kelvin, and enlarged upon Stokes's lofty personal character, his peculiar greatness of mind, his generosity, and his humility. The Dean regretted the impracticability of devising a motto for the memorial tablet which could with sufficient terseness express the comprehensive range of Stokes's genius.

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The Dean then called upon Sir William Huggins, president of the Royal Society, who, after referring to the part the Royal Society had taken in the movement for the memorial, spoke of the great services rendered to the Royal Society by Sir George Stokes during his thirty-one years' tenure of the secretaryship of the Society and his subsequent five years' occupancy of the presidential chair. Sir William referred to the wide range of Stokes's discoveries and particularly to the great advances which he made in the application of mathematics to physics. He extolled the wonderfully even balance of his powers and his remarkable soundness of judgment, and contended that his influence on his time was due as much to his greatness of character as to his intellectual accomplishments. He therefore held him worthy of a shrine by the side of Newton, Herschel, Darwin, Adams, and Joule.

Lord Kelvin described in some detail, and eulogised the great range and broad aspect of Stokes's work in science, and pointed out how fruitful it had been of great developments in recent times. He referred to his investigations upon elasticity, his paper of 1850 upon water waves, his researches in light and optics, and particularly to his discovery of fluorescence; and reminded his hearers that Stokes's work and thought are but partially represented by his published writings. He recalled the indebtedness of many authors of scientific papers to Stokes for aid and illumination received from him during his long secretaryship of the Royal Society, and in feeling terms referred to his own relations with Stokes, saying, "For sixty years of my own life I looked upon Stokes as my teacher, guide, and friend. His death was for me truly a bereavement."

Lord Rayleigh, speaking as a pupil of Sir George Stokes, described his experiences as a student at his lectures, and the unbounded admiration he always felt for him as a teacher, a man, and an investigator. He held up as an example still to be followed the simplicity of Stokes's experimental methods and his limitation of his apparatus to the bare essentials for the demonstration of the principles he was expounding. Lord Rayleigh referred more particularly to some experiments and investigations of Stokes, including those on the spectrum of the blood, on the theory of spectrum analysis, and to some of his incidental papers on acoustics, and said that Stokes's papers, whether mathematical or physical, or both, were always interesting to read.

The Vice-Chancellor of the University of Cambridge, speaking on behalf of the University, welcomed the honour done to Stokes's memory by this memorial. He paid an eloquent tribute to his great character, to his loyalty and affection for his university and college, and said that the university rejoiced that his name would now have a permanent memorial on the historic walls of that great national church.

The company then proceeded to the Abbey, where, after a prayer from the Dean, the Duke of Devonshire removed the cover from the medallion, which hangs on the wall with those of Adams and Darwin in the north aisle of the choir of the Abbey.

The Duke of Devonshire said, "Speaking on behalf of the subscribers, I offer this medallion to be added to the memorials and to be preserved in the Abbey church."

The Dean responded, "Speaking in the name of the Dean and Chapter of Westminster, I accept this medallion to keep and preserve among the memorials of the good and great men in this place."

The memorial is in the form of a bronze medallion, with a portrait head of Sir George Stokes in very high relief, and bears the inscription, "George Gabriel Stokes, 1819-1903."