Clerk Maxwell and Lord Kelvin being the other two, who especi­ally contributed to the fame of the Cambridge school of mathe­matical physics in the middle of the 19th century. His original work began about 1840, and from that date onwards the great extent of his output was only less remarkable than the bril­liance of its quality. The Royal Society’s catalogue of scientific papers gives the titles of over a hundred memoirs by him pub­lished down to 1883. Some of these are only brief notes, others are short controversial or corrective statements, but many are really long and elaborate treatises. In matter his work is distinguished by a certain definiteness and finality, and even of problems, which when he attacked them were scarcely thought amenable to mathematical analysis, he has in many cases given solutions which once and for all settle the main principles. This result must be ascribed to his extraordinary combination of mathematical power with experimental skill, for with him, from the time when about 1840 he fitted up some simple physical apparatus in his rooms in Pembroke College, mathe­matics and experiment ever went hand in hand, aiding and checking each other. In scope his work covered a wide range of physical inquiry, but, as Alfred Cornu remarked in his Rede lecture of 1899, the greater part of it was concerned with waves and the transformations imposed on them during their passage through various media. His first published papers, which appeared in 1842 and 1843, were on the steady motion of incom­pressible fluids and some cases of fluid motion; these were followed in 1845 by one on the friction of fluids in motion and the equilibrium and motion of elastic solids, and in 1850 by another on the effects of the internal friction of fluids on the motion of pendulums. To the theory of sound he made several contributions, including a discussion of the effect of wind on the intensity of sound and an explanation of how the intensity is influenced by the nature of the gas in which the sound is pro­duced. These inquiries together put the science of hydro­dynamics on a new footing, and provided a key not only to the explanation of many natural phenomena, such as the suspension of clouds in air, and the subsidence of ripples and waves in water, but also to the solution of practical problems, such as the flow of water in rivers and channels, and the skin resistance of ships. But perhaps his best-known researches are those which deal with the undulatory theory of light. His optical work began at an early period in his scientific career. His first papers on the aberration of light appeared in 1845 and 1846, and were followed in 1848 by one on the theory of certain bands seen in the spectrum. In 1849 he published a long paper on the dynami­cal theory of diffraction, in which he showed that the plane of polarization must be perpendicular to the direction of vibration. Two years later he discussed the colours of thick plates; and in 1852, in his famous paper on the change of refrangibility of light, he described the phenomenon of fluorescence, as exhibited by fluorspar and uranium glass, materials which he viewed as having the power to convert invisible ultra-violet rays into rays of lower periods which are visible. A mechanical model, illus­trating the dynamical principle of Stokes’s explanation was shown in 1883, during a lecture at the Royal Institution, by Lord Kelvin, who said he had heard an account of it from Stokes many years, before, and had repeatedly but vainly begged him to publish it. In the same year, 1852, there appeared the paper on the composition and resolution of streams of polarized light from different sources, and in 1853 an investigation of the metallic reflection exhibited by certain non-metallic substances. About i860 he was engaged in an inquiry on the intensity of light reflected from, or trans­mitted through, a pile of plates; and in 1862 he prepared for the British Association a valuable report on double refraction, which marks a period in the history of the subject in England. A paper on the long spectrum of the electric light bears the same date, and was followed by an inquiry into the absorption spec­trum of blood. The discrimination of organic bodies by their optical properties was treated in 1864; and later, in conjunction with the Rev. W. Vernon Harcourt, he investigated the relation between the chemical constitution and the optical properties of various glasses, with reference to the conditions of trans­parency and the improvement of achromatic telescopes. A still later paper connected with the construction of optical instru­ments discussed the theoretical limits to the aperture of micro­scopical objectives. In other departments of physics may be mentioned his paper on the conduction of heat in crystals (1851) and his inquiries in connexion with the radiometer; his explana­tion of the light border frequently noticed in photographs just outside the outline of a dark body seen against the sky (1883) ; and, still later, his theory of the Röntgen rays, which he suggested might be transverse waves travelling as innumerable solitary waves, not in regular trains. Two long papers published in 1849 —one on attractions and Clairaut’s theorem, and the other on the variation of gravity at the surface of the earth—also demand notice, as do his mathematical memoirs on the critical values of the sums of periodic series (1847) and on the numerical calcula­tion of a class of definite integrals and infinite series (1850) and his discussion of a differential equation relating to the breaking of railway bridges (1849).

But large as is the tale of Stokes’s published work, it by no means represents the whole of his services in the advancement of science. Many of his discoveries were not published, or at least were only touched upon in the course of his oral lectures. An excellent instance is afforded by his work in the theory of spectrum analysis. In his presidential address to the British Association in 1871, Lord Kelvin (Sir William Thomson, as he was then) stated his belief that the application of the prismatic analysis of light to solar and stellar chemistry had never been suggested directly or indirectly by any other savant when Stokes taught it to him in Cambridge some time prior to the summer of 1852, and he set forth the conclusions, theoretical and practical, which he learnt from Stokes at that time, and which he afterwards gave regularly in his public lectures at Glasgow. These statements, containing as they do the physical basis on which spectrum analysis rests, and the mode in which it is applicable to the identification of substances existing in the sun and stars, make it appear that Stokes anticipated Kirchhoff by at least seven or eight years. Stokes, however, in a letter published some years after the delivery of this address, stated that he had failed to take one essential step in the argument (not perceiving that emission of light of definite refrangibility not merely permitted, but necessitated, absorption of light of the same refrangibility), and modestly disclaimed “ any part of Kirchhoff’s admirable discovery,” adding that he felt some of his friends had been over-zealous in his cause. It must be said, however, that English men of science have not accepted this disclaimer in all its fullness, and still attribute to Stokes the credit of having first enunciated the fundamental principles of spectrum analysis. In another way, too, Stokes did much for the progress of mathematical physics. Soon after he was elected to the Lucasian chair he announced that he regarded it as part of his professional duties to help any member of the university in difficulties he might encounter in his mathematical studies, and the assistance rendered was so real that pupils were glad to consult him, even after they had become colleagues, on mathematical and physical problems in which they found themselves at a loss. Then during the thirty years he acted as secretary of the Royal Society he exercised an enormous if inconspicuous influence on the advancement of mathematical and physical science, not only directly by his own investigations, but indirectly by suggesting problems for inquiry and inciting men to attack them, and by his readiness to give encouragement and help.

Several of the honours enjoyed by Sir George Stokes have already been enumerated. In addition, it may be mentioned that from the Royal Society, of which he became a fellow in 1851, he received the Rumford medal in 1852 in recognition of his inquiries into the refrangibility of light, and later, in 1893, the Copley medal. In 1869 he presided over the Exeter meeting of the British Association. From 1883 to 1885 he was Burnett lecturer at Aberdeen, his lectures on *Light,* which were published in 1884-1887, dealing with its nature, its use as a means of investigation, and its beneficial effects. In 1891, as Gifford lecturer, he published a volume on *Natural Theology.* His