director of the Bank of England, and was Deputy Governor of the Bank, with Mr. William Cotton as Treasurer, in 1844, when Sir Robert Peel passed the new Bank Act; the two Governors of the Bank materially assisted Sir Robert in preparing the details of that most useful measure.

Baron Heath was for many years a member of the Court of Assistants of the Grocers' Company, whereof he was Master in 1829, when he presented the Company with his unpublished book, called "Some account of the Grocers' Company," which is a history of the Company from its institution more than five hundred years ago. As a testimony of their appreciation of this work, the Court presented him with a splendid piece of silver plate.

Baron Heath was elected a Fellow of the Royal Society in 1843; he was an accomplished musician and a good linguist, and took much interest in literary and archæological pursuits, in following up which, he became a member of several learned societies; he was also a member of the Roxburghe Club, of the Philobiblon Society, and the Dilettante Society; he possessed a well-selected library and a large collection of autographs, in which he took great pleasure.

Baron Heath died on Thursday, the 16th January last, after a few days' illness.

Professor Kelland was the son of the Rev. Philip Kelland, who at the time of the birth of his son was rector of the parish of Dunster, in Somersetshire. Afterwards it would appear that he removed to Landcross, in Devonshire. Though an Oxford man himself, his father sent his son Philip to Queen's College, Cambridge, where he greatly distinguished himself among his contemporaries, and in 1834 stood at the head of the honour list as Senior Wrangler and Smith Prizeman. Among those whose names appear on the same list were the Rev. Dr. John William Donaldson, the author of the New Cratylus, and editor of "Pindar;" and Mr. Main, who became first assistant in the Royal Observatory, Greenwich, and subsequently Director of the Radcliffe Observatory, Oxford. The latter subsequently married Mr. Kelland's sister, and between the two old college friends there existed the closest intimacy until Mr. Main's death. Mr. Kelland, who had taken orders in the Church of England, became a tutor in Queen's College, and continued such for the next three years. It was in 1838 that he was appointed to the Chair of Mathematics in the Edinburgh University, as successor to Professor Wallace. For the chair there were a number of candidates, including Mr. Gregory, the author of "Gregory's Examples," and Mr. Edward Sang, and a warm controversy seems to have been carried on as to the respective merits of the rival candidates. Against Mr. Kelland, Sir William Hamilton, then the occupant of the Logic Chair, was in arms, and in June, 1838,

the great metaphysician and philosopher wrote a pamphlet addressed to the Lord Provost and Town Council, in whose hands was the patronage of the chair, "on the election of a Professor of Mathematics," in which he spoke very strongly in favour of the qualifications of Mr. Gregory as against those of Mr. Kelland. Once in the Senatus, however, Mr. Kelland's gentlemanly manner, not less than his eminent ability as a teacher, soon converted former opponents into friends. That he bore no malice—as indeed his nature was incapable of doing so—to those who had opposed him is shown from the way in which he speaks of Sir William Hamilton in connexion with later fights, both in the Senatus and between that body and the Town Council. "I can say" (he remarks), "who was witness and part-actor in all these contests, that never did Sir William exhibit a shadow of self-seeking. Not for his comfort or his gain he contended; and although my own department was the object of some of his best known attacks, I can say that never for one moment did I feel towards him other than the warmest personal regard—nay, more, attachment. He was indeed one of my kindest, steadiest friends." On the retirement of Sir William Hamilton as secretary of the Senatus, another controversy arose. The Town Council proposed that the office should be merged in that of a general secretary to the University; but the Senatus carried the day, and appointed Mr. Kelland their secretary—a position he filled in a highly satisfactory manner until 1867. Official duty as well as inclination, therefore, led him to take an active part in the movement then going on in favour of University reform, which resulted in the appointment of the Commission of 1858, and the ultimate release of the University from what the Professor described as the "somewhat imaginary despotism of the Town Council." When Professor James D. Forbes, who occupied the Natural Philosophy Chair, was laid aside from work through ill-health, Mr. Kelland came forward, and, with the assistance of one of his students, discharged the duties of the chair from 1852 until 1856. As a teacher he was exceedingly popular with his students, and that the Mathematical class did not fall off in his hands he proved with justifiable pride in the speech already referred to, by an allusion to the fact that whereas in 1838 he enrolled 111 students, in the past year he enrolled 373.

The year after he came to Edinburgh, Professor Kelland was elected a Fellow of the Royal Society of Edinburgh, in whose welfare he ever took the greatest interest, and to whose publications he largely contributed. He became in time one of the vice-presidents, and last year he was chosen to succeed Sir William Thomson in the presidential chair, and opened the session in November last with the customary inaugural address. The deceased Professor was also, for about ten years from 1850, an active member of the Society of Arts, and he was president of that Society also in the session 1853–4. An institution

in which Professor Kelland took much interest was the Life Association of Scotland, of which he was one of the original founders. In connexion with the business of that institution he was induced in 1858 to take a trip to America, and while there he improved the occasion by making himself better acquainted with Transatlantic science and the state of education in the primary and secondary schools of the United States. A few of the results of his observations he gave to his friends in the shape of a small volume entitled "Transatlantic Sketches," which is written in a light conversational style. As stated above, Professor Kelland was a clergyman of the Church of England, and he occasionally officiated in St. James' and other Episcopal Churches. Preaching, however, was, in the opinion of his friends, one of the few accomplishments in which he did not excel. Professor Kelland was twice married—first to Miss Pilkington, of Dublin, and subsequently to Miss Boswell, the only daughter of the late Captain Boswell, R.N., of Wardie. His widow, three sons, and two daughters survive him. In politics he took little interest; and it is said that the only occasion on which he was known to vote was at the first School Board election, when he voted for the lady candidates.

The class-room was undoubtedly Professor Kelland's proper sphere. As a teacher he has been equalled by few and surpassed by none of the many colleagues alongside of whom he has laboured. In the Royal Society he was always regarded as an authority on mathematical and physical subjects. His notes, though not numerous, were much valued, and his criticisms were listened to with respect. But he had little ambition to shine as an explorer, whatever his capacity might be. Fate had made him a teacher, and to that work he bent all his energies. His function was less to make discoveries than to methodise, adapt, and disseminate the discoveries of others. This implied that he should be a student as well as a teacher, and one chief cause of his success in the latter capacity was his preseverance in the former. None who witnessed it can have forgotten the enthusiasm and delight with which he first assimilated and then reproduced in his class the doctrine of Quaternions developed by Sir William Rowan Hamilton upwards of twenty years ago. Then he was both student and teacher at the same moment. The members of his class were his fellow-students. His morning demonstrations were instinct with the freshness of the evening's discoveries, and his face beamed with delight and his eye twinkled with triumph as his rapid fingers worked out the beautiful results on the board. As a teacher his one fault was that he rushed forward somewhat too rapidly for the majority of his hearers. One reason of this was, that he assumed rather too high a standard of attainment on the part of entrants to the University. Another reason of it was that he had a large amount of work to do and little time in which to do it. He therefore carried on the few rather than the

many. But those who had the needful ability, and had the power of work in them, followed him with the utmost interest, and generally pronounced him, when in his prime at least, the best professor in the Faculty of Arts. Personally he was much beloved by his students. He was a man of genial temperament and kindliness of heart; and he was ever ready to help deserving students, and to encourage those whom difficulties might have deterred from presevering in their work. When acting as substitute for Professor Forbes in the Chair of Natural Philosophy, he discovered a power of popular lecturing of which he did not seem to have been himself aware, and which was quite new to his friends and even to his students. The lectures he frequently delivered before the Philosophical Institution were one result of this discovery. Of all the departments of physics with which he dealt, Acoustics was the one in which he took the greatest delight, probably because his skill as a violinist went hand-in-hand with his ability as a mathematician. Perhaps the most successful of his lectures were those on the lives and labours of eminent natural philosophers, as Kepler, Galileo, and Newton. The literary finish, the sparkle of wit, and the soundness of judgment by which these lectures were characterised make it a cause of regret that his efforts in literature were generally so strictly professional. Of his contributions to the Proceedings of the Royal Societies of London and Edinburgh and to the Philosophical Society of Cambridge, twenty-six papers are particularly specified in the catalogue of the first-mentioned scientific body. He published works on "The Theory of Heat," in 1837 and 1842; treatises on "Algebra," in 1839 and 1860; and in 1873, an "Introduction to Quaternions," conjointly with his colleague, Professor Guthrie Tait. The introductory and valedictory addresses which he occasionally delivered to his classes, sometimes dealt with the question of University reform. On this subject his views inclined to Conservatism. Two of these lectures were published—the one in 1854, entitled "The Scottish Universities suited to the Scottish People," and the other in 1855, with the title, "How to improve the Scottish Universities." Almost his latest work, and that which is most worthy of his reputation as a mathematician, is the article on "Algebra," contributed to the ninth edition of the "Encyclopædia Britannica.' He was elected a Fellow of the Royal Society in 1838.

Sir Thomas Larcom, who died at Heathfield, Fareham, Hants, on June 15, was the last survivor of that remarkable band of officers of the Royal Engineers, many of whom were Fellows of this Society, whose names will never be forgotten in connexion with the Ordnance Survey of Ireland. That Survey, the model in its grand comprehen-