

two very light closed cylinders which fit very closely (but without touching) into two fixed cylinders open at the top. Applied to a long and massive beam with considerable loads in the scale-pans, and which vibrated for some minutes when disturbed, this trial apparatus brought it to rest after, at most, *three* half vibrations. It is now evident that with a properly-constructed damper on this plan, there is practically no limit (so far as rapidity of weighing alone is concerned) to the length which may be given to a balance-beam; and, of course, no limit to the consequent sensibility of the instrument.

A very instructive hydrodynamical result was observed with this arrangement. The closed cylinder, exactly balanced inside the cylinder open at the top, is made to ascend briskly by a current of air blown even vertically downwards on the centre of its upper end.

b. Photographs of Electric Sparks taken in Cold and in Heated Air.

(Ordered by the Council to be printed in the Transactions.)

c. On the Electric Resistance of Iron at High Temperatures.

This note details various experiments made for me by Messrs C. M. Smith and A. Macfarlane in the Physical Laboratory of the University, and has been drawn up by these gentlemen. The only part I have taken in the work has been the suggestion of the line of investigation and the forms of apparatus employed. I mention this not alone in justice to them; but also as giving independent corroboration of results formerly arrived at by myself. [*This paper will be inserted later, when the necessary diagram is ready.*]

Monday, 1st March 1875.

SIR WILLIAM THOMSON, President, in the Chair.

The following Communications were read:—

1. Biographical Notice of William Euing, Esq., F.R.S.E.
By Professor William P. Dickson.

WILLIAM EUING was born on 20th May 1788, at Partick, where

his father had a printfield on the banks of the Kelvin. His family originally belonged to Strathendrick, which was, along with the Lennox, the chief seat of their name. Mr Euing conceived the latter (which he traced back to Domesday Book) to be connected with Eugenius, and was somewhat particular as to its being correctly spelt with a *u*. His grandfather settled in Glasgow about 1740, and was a magistrate of the city in 1767. His father went to the West Indies in 1799, and died there; whereupon Mr Euing, who was an only child, was left to the charge of his mother, and of his uncle, Archibald Smith of Jordanhill. This relationship laid the foundation of the close friendship that subsisted between Mr Euing and his cousins, Mr James Smith of Jordanhill, F.R.S.L. & E., and Mr William Smith of Carbeth-Guthrie (Lord Provost of Glasgow in 1823), during the prolonged lives of all the three. After receiving his elementary education at two private schools, Mr Euing was sent to the Grammar School, where he had as his class-fellows the late William Lockhart of Milton-Lockhart, M.P., his own cousin Mr Robertson Reid of Gallowflat, and other subsequently well known citizens of Glasgow, all of whom he survived. He entered the University in 1800 at the age of twelve, and attended the classes of Professors Richardson, Young, Jardine, and Millar. Although an earnest student, he did not complete the regular curriculum, but early entered on business in the calendering firm of Inglis, Euing, & Co., of which he soon became a partner. In 1815, in consequence of the work being too great for his delicate health (for at this period and down to 1845 he suffered much from illness) he retired, and, after acting for some years as a commission merchant, he began in 1819 the business of an underwriter and insurance broker, in which he continued at the head of the well-known firm of William Euing & Co. till the close of his life, visiting daily almost to the last his office in the Exchange.

As a merchant, Mr Euing was held in the highest esteem by all who came into contact with him for his intelligence, his soundness of judgment, his probity, and stainless honour. He was a large shareholder in the unfortunate Western Bank, and its failure in 1857 brought into play at once his excellent habits of business and his cheerfulness of temper. He carefully and promptly arranged his own private affairs with a view to the worst, and then, as direct-

ing the proceedings of the Shareholders' Committee, applied all his energies to unravel the complicated affairs of the Bank, and to retrieve as far as possible the ruined fortunes of the shareholders—a task in which he was acknowledged to be beyond expectation successful. He was very methodical in his habits, one of which was early rising; and, long after he had reached eighty years, his elastic step might have been seen almost daily in the West End Park—a mile from his house—at an hour when but few were awake.

Mr Euing was in early life somewhat shy and reserved, having in his characteristic modesty formed a more humble estimate of his own abilities, and of his fitness to take part in society, than was entertained by those who had the privilege of knowing him in after years, of profiting by his varied information and refined taste, and of observing his deep and lively interest in literary and social questions. He early set himself to the task of self-improvement; his thirst for fresh knowledge never abated; and he found a constant pleasure in its gratification. His letters written from the Continent, during his last tour a few years ago, show, I am told, the same desire to learn everything, as do his letters written in 1816, when he made his first visit to France; and many of his books, even of those lately acquired, contain memoranda indicating their perusal and evincing a marked interest in their contents. In politics he took little part. Though earnest in his religious opinions, which were formed with conscientious independence and held with firmness, he was very tolerant in spirit; and, catholic in his sympathy with all forms of Christian work that approved themselves to his judgment by their fruits, he had but little relish for controversy. Simple and unostentatious in his personal habits, he yet found pleasure in the frequent exercise of a genial hospitality, to which his unfailing cheerfulness lent a special zest.

Mr Euing was eminently successful in business, and at full liberty—so far as family ties were concerned—to follow the bent of his own wishes and tastes in the application of his wealth. He had a singularly warm and generous heart, and was early drawn by it into those walks of practical philanthropy, with which his name is specially associated in the minds of his fellow-citizens, and in which he found growing pleasure as years went on. With rare self-denial he made it a rule—to which he systematically

adhered—to set apart a large proportion of his income to purposes of benevolence. Upwards of forty years ago he began to investigate the hardships connected with imprisonment for debt, and he took a zealous and important part in procuring their mitigation. Subsequently his sympathies were warmly enlisted on behalf of Sailors' Homes, and the thriving Home in Glasgow, which was to a very large extent erected by his liberality, was the object of his constant care and unwearied bounty down to the close of his life. He bequeathed to it a legacy of L.2000; and a bust, from the chisel of Mr G. H. Ewing, has just been placed by the Directors in the hall of the institution as a fitting memorial of its patron. Almost all the public charities of Glasgow received, in addition to his regular contributions, special proofs from time to time of his liberality; and equally cordial was his interest in the Bible Society, the City Mission, and other schemes to promote the good of the community.

Not less remarkable was his interest in education, science, and art. Not to speak of his services and benefactions to the Buchanan Institution, the Mechanics' Institute, the School of Art, Stirling's Library, the Botanic Garden (to which he left L.3000), and other agencies for helping the education and elevating the tastes of the people, he manifested a specially warm and constant zeal for the prosperity of Anderson's University, of which he was long the most valued counsellor and, along with his friend Mr Young of Kelly, the most conspicuous and munificent patron. He devoted much of his time to its service, cherished a lively interest in its work and in its teachers, repeatedly made large donations to its funds, and, besides founding and endowing in it a Lectureship on Music, left to it a legacy of L.6000. He was an early subscriber of L.1000 to the new buildings of the University of Glasgow; and, besides various donations during his life, he has destined the sum of L.6000 to the endowment of fellowships bearing his name, the holders of which are to conduct tutorial classes of limited numbers, more especially during the vacation, and thereby "to confer on the University some of the benefits derived from tutorial instruction at the English Universities." Mr Ewing was also a liberal patron of art, and had formed a considerable collection of pictures, thirty-six of which he presented during his life to the Corporation of

Glasgow. He has now bequeathed to them the remainder, giving powers of sale or exchange, but directing the retention of at least fifty of his pictures in their gallery. His refined taste was visible also in a collection of old silver plate and china. Mr Euing was a Fellow of the Scotch Antiquarian Society, and President of the Glasgow Archæological Society. He was long an active member, and one of the last surviving councillors, of the Maitland Club, to which he presented a volume prepared by the Rev. Mr Muir of Dysart, containing extracts from the records of that burgh. He was ever ready to countenance and encourage any apparently meritorious enterprise of antiquarian authorship. He had formed a very remarkable and highly interesting collection of autographs, which, as his will does not indicate any special destination for it, will probably fall to be dispersed.

But, of all the noble forms which the gratification of his personal tastes assumed, that on which he bestowed most attention, and which he valued most—cherishing in it a peculiar modest pride—was his library. It consisted of three distinct divisions. The first contained a very large and—so far as Scotland at least is concerned—unrivalled collection of music and of works on music, amounting to several thousand volumes. Mr Euing was an enthusiast in music, and was conversant alike with its theory and practice; indeed his love for it was so intense, that in early life he was in the habit of meeting with some friends of similar tastes as a Saint Cecilia Society at, I think, five o'clock in the morning. This musical library is bequeathed to Anderson's University in connection with the Euing Lectureship in Music, along with L.1000 towards providing a fireproof apartment for its reception, and L.200 for the compiling and printing of a catalogue. The second division consisted of a still larger and invaluable collection of editions of the Bible and its parts, chiefly of the various English versions (which are very largely represented), but including also a very considerable number of Polyglott, Greek, Latin, French, German, and Dutch Bibles, and not a few in other languages, along with numerous Psalters, and Books of Prayers and Hymns, amounting to nearly 3000 volumes. This has been left to the University Library, to be retained as a special collection. The third division was his general library, amounting to nearly 20,000 volumes, which

is also bequeathed, with a few exceptions, to the University Library. This miscellaneous collection possesses many features of interest. It embraces about 150 volumes printed before A.D. 1500, special collections of works printed by the Aldine, Stephanic, and Elzevirian presses, of books printed at Edinburgh, Glasgow, Aberdeen, &c., in the 17th century, as well as of Baskerville, Barbou, Bodoni, Didot, Urie, and Foulis classics (those of the Bodoni and Foulis presses being especially numerous), the first and second folios of Shakespeare and many rare first editions of English classics; a large number of privately printed works (including a great many of the reprints issued in very limited number by his friend Mr Halliwell-Phillips) numerous books on bibliography, archæology, and the fine arts, an extensive series of English minor poems, ballads, and songs; a very curious and unique collection of Broad-sides, and a few MSS., including a Hebrew Roll of Genesis of great beauty. The books have been selected by Mr Euing with much care and judgment; many of them are large paper copies, or present other specialities of bibliographic interest; and most of them are tastefully bound. The value of this gift to the University cannot be estimated at less than L.10,000. Mr Euing has judiciously empowered the Senate to sell duplicates to the extent of half his general collection; and has directed the proceeds to be applied towards the maintenance and binding of the collection, or the purchase of other books to be added to it.

Mr Euing died on the 16th May 1874, closing, in the words of a relative, "gently and without suffering a long and useful life, and not leaving a single enemy." He was a Glasgow merchant of the noblest type. Others may have equalled him in the shrewdness and worth, or in the generous heart and open hand, which happily are no uncommon characteristics of the order to which he belonged; and some, of ampler resources, may even have surpassed him in the success with which they have made their wealth minister to the gratification of some particular taste; but in the combination of the highest standing as a merchant with the zeal of a philanthropist and the refinement of a connoisseur, in the many-sided excellencies of his character and the variety of his literary and artistic taste, and in the wise destination of his resources alike during life and at death, Mr Euing may well be regarded as unique.