

The following Gentleman was elected an Ordinary Fellow :—

Sir JOHN MAXWELL of Poloc, Bart.

The following Donations to the Library were announced :—

Journal of Agriculture, and Transactions of the Highland and Agricultural Society of Scotland. No. 43. N. S. 8vo.—
From the Society.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Vol. XXXVI. 8vo.—
From the Society.

Mémoires de l'Académie Impériale des Sciences de St Pétersbourg. Sciences. Mathématiques et Physiques. Tome V., 5 & 6 Liv. 4to.—*From the Academy.*

Astronomische Beobachtungen auf der Königlichen Universitäts Sternwarte in Königsberg. Angestellt und herausgegeben von Dr A. L. Busche. 25^{te} Abtheilung. Fol.—*From the Observatory.*

Monday, 16th January 1854.

SIR T. M. BRISBANE, Bart., President, in the Chair.

The following Communication was read :—

What is Coal? By Dr Fleming.

Dr Fleming, after stating the circumstances which led him to bring before the Royal Society the consideration of this question, pointed out the distinction between a *mineral species* and a *rock*, a circumstance which had been greatly overlooked in recent discussions on the subject. He considered coal as a rock, and capable of being traced, in its origin and history, from peat at the beginning of the series, to blind coal or anthracite at the termination.

He illustrated the character of peat in reference to the vegetables from which it was derived—the changes of a mineralizing nature which it had undergone—and the strata of sand, clay, and marl with which it is usually associated. He likewise pointed out the character of the lustrous streak and conchoidal fracture in specimens exhibited.

The author next proceeded to the consideration of wood coal, or lignite, and exhibited specimens of this rock with and without the woody texture—with a brown and black streak—with a lustrous and dull streak—and with the ligneous structure, and as cherry coal, undistinguishable from the same rock in the older measures. He closed his remarks on the brown coals by adverting to the *coal-money* of the Kimmeridge coal, and to the condition of *amber* as belonging to this epoch.

In the third and concluding part of his paper, he pointed out the characteristic features of the four kinds of coals found in the coal measures. The lustre, fracture, and streak, from exhibited specimens, he demonstrated to be variable and unsatisfactory as characters; while chemical test indicated the absence of bitumen. He adverted to the different kinds of matter occurring in coal as indicated by the microscope, and exhibited specimens of seeds dispersed through splint and cherry coal. He concluded his remarks by adverting to cannel coal, as exhibiting, in its varieties, the conchoidal and slaty fracture, the lustrous and dull surface and streak; and in reference to the Boghead cannel or gas coal, adverted to in this Society as the “Torbanehill mineral,” and denominated “bitumenite” by Dr Traill, he considered all the characters employed to remove it from its position as a *cannel coal*, as variable, differing in degree not in kind, and not generally recognised.

The following Gentleman was elected an Ordinary Fellow:—

WILLIAM MURRAY, Esq. of Monkland, F.G.S.

Monday, 6th February 1854.

RIGHT REV. BISHOP TERROT, Vice-President, in the
Chair.

The following Communication was read:—

Observations on the Structure of the Torbanehill Mineral,
as compared with various kinds of Coal. By Professor
Bennett.