SIR DAVID BREWSTER ON THE PURSUIT OF SCIENCE.

The winter session (1861-62) of the Edinburgh University was opened on Monday with an inaugural address by Sir David Brewster, Principal of the University. The ceremony took place in the Assembly Hall, in consequence of the limited accommodation afforded by the largest apartment in the university. The hall was crowded for some time before the proceedings commenced, chiefly by students, but also with a considerable proportion of citizens.

Sir David Brewster's address was of considerable length, but the following is an abstract.—The study which annually devolves upon me, at the opening of the session, however agreeable in itself, presents some difficulty in its discharge. While many of you have just left the school in which you commenced your literary career, a large number have made considerable progress in their studies, and others are about to commence or continue those peculiar pursuits which may fit them for one of the learned professions, or for the more adventurous occupations of a commercial or military life. Occupying, as you do, such different positions in the curriculum of study, I might offer you a few words of counsel or of warning in reference to the branches of knowledge which you are about to cultivate; but, believing that this will be better and more appropriately done in the class-room, I shall content myself with calling your attention to some general topics which may be of use to all of you. To every class of students the most important of all acquirements is that of professional knowledge. Without this every accomplishment, however high-the social circle—even wit in its highest meaning—will be only an encumbrance in your ascent to that professional eminence to which all of you must aspire. But professional knowledge alone is not a qualification for professional distinction. Society has demanded other qualifications, which must be acquired at our university seats, and ascertained by examination. They are, however, with but little labour, and serve only a temporary purpose. When the student, thus prepared, enters upon the practice of his profession he is not absolved from the prosecution of unprofessional studies. The knowledge of literature and science which he has acquired is but the foundation of that general knowledge which society expects from every educated man, and to the acquisition of which he must devote every hour of leisure which is not claimed for still higher duties. During your early and later education your attention has been directed, almost exclusively, to classical literature. You have acquired, to a considerable extent, a knowledge of the languages of Greece and Rome, and some acquaintance with the writings of their historians and orators and poets; but with the exception of a little arithmetic, a small portion of mathematics, and some elementary geography, your acquirements are chiefly of a literary nature. Such of you as have a taste and a capacity for these pursuits will, of course, prosecute them with zeal, and many of you may require in your professional calling to increase your knowledge of modern as well as of ancient languages. Placed as we are upon a globe of matter—surrounded by its elements—born of its dust—and fed and clothed by its productions, we can hardly dispense with some knowledge of its fruits and its flowers, and of the denizens of the earth, the ocean, and the air, which have been placed under our dominion. Chemistry and botany, and natural history, therefore, become the departments of study which, in their elementary form, the humblest of you is capacity may advantageously pursue. After referring to those physical sciences which are the most prolific fountains of general knowledge, Sir David continued:—You cannot fail to see the importance, if not the necessity, of adding some acquaintance with these to your professional acquirements. Some of you who have the genius and taste for original research may be induced to devote yourselves to the investigation of some of the branches of science which I have mentioned, and add your names to the list of eminent members of this university who have done it honour by their writings and their discoveries. But though it can be the lot of few to attain this distinction, it is in the power of all of you, and it is the duty of all of you, to acquire that knowledge of the Creator's works without which no man is fitted even for the humblest position in the social scale. So important indeed is the knowledge for which I am pleading, that I hold it to be indispensable even in our elementary education. When the village scholar has learned to read, to write, and to count, and even when he has acquired some knowledge of ancient and modern tongues, he has obtained only the tools of instruction. He may have learned to read his Bible—the greatest of all lessons, provided he reads it; he may have committed to memory every sentence in the Decalogue; appropriated all the wisdom of Solomon, and apprehended the Divine precepts of a greater than Solomon, while he is utterly ignorant of everything above him, around him, and within him—ignorant of the form, the magnitude, and the motion of his terrestrial home, ignorant of the gigantic structures which constitute the material universe—ignorant of the wonderful mechanism by which he thinks and breathes—ignorant of the fabrics which industry prepares for his use, and of the luxuries which commerce brings from the ends of the earth and places at his door—ignorant even of the wonderful operations of that beneficent commercialist which, while he sleeps and dreams, is elaborating the materials by which he is clothed and fed. To enlighten minds so dark, the existing system of education is utterly inefficient. The teacher, however wisely chosen, has not at his command the means of imparting knowledge. He may pour it into the ear of his pupils, he extract it from the printed page, or exhibit it in caricature in the miserable embellishments of the school-book, but unless he teaches through the eye—the great instrument of knowledge—by means of truthful pictures, instruments, and models, and by the direct exhibition of the products of nature and of art, no satisfactory instruction can be conveyed. Every school, therefore, should have a museum, however small in value and limited in extent. The liberality of the neighbourhood would add to its stores, and we have no doubt that when the value of such information was recognised by the public, the overflowing collections of our university and other public museums would gradually surrender their superfluities to our provincial or parochial institutions. The knowledge to be thus acquired at school, or in after life, if not acquired there, is of course neither extensive nor profound. It will therefore be stigmatised as a mere smattering of knowledge, and there are persons who will censure in the dictum of the poet, that "a little knowledge is a dangerous thing." There are, doubtless, certain opinions and speculations which, though things known, are not knowledge, which have no useful bearing, either moral or physical, and which foster intellectual pride, and lead to dangerous errors. There are facts, too, which, when ill observed, or ignorantly interpreted, may loose their intrinsic value as elements of general knowledge; but a fact in science rightly understood, is, however simple in its nature, and isolated in its place, is a truth upon which God has set His seal, and the possession of which places in his august presence the man who has embraced and appreciated it. He who intelligently apprehends the great truth that the sun, which greets him every morning, is a globe of light and heat which is hourly preparing the nectar and ambrosia of his food; that this sun is fixed in space, and that the earth on which he dwells is revolving with a daily and an annual motion, and is but one of eight planets controlled by the same central power, and enjoying the same benefits—the man, I say, who possesses this knowledge will be a devout astronomer, though he can neither predict celestial phenomena nor understand the theory of the planetary motions. I might appropriately call your attention to certain other studies which I would advise you to avoid and abjure. Among the advantages of a general knowledge of physical truths, one of the most important is its protective influence against credulity and superstition, and to such of you as are educating for the medical profession such a safeguard is particularly valuable. In the discussion of questions of a medical nature, we must not expect that kind of evidence which we demand in matters of law or of physical science. The principle of life, and the action of the mind on the bodily organ, introduce new and complex relations which expose all our reasonings to new sources of error. Hence it is, as Sir Henry Holland justly states, "that it is the want of a right understanding of medical evidence which makes the mass of mankind so prone to be deceived by impostors of every kind; whether it be the idle fashion as to particular remedies, or the worm, because wider the option of some system, professing to have attained at once what has been learned and seen observers have laboured after for ages in vain." In proof of this he states the remarkable fact (writing in 1852) "that during the last 20 years he has known the rise and decline of five or six fashions in medical doctrine or treatment, some of them affecting the mass of systems, and all deriving too much support from credulity, or other cause, even among medical men themselves." I am glad to say that the teaching in our university has been tainted by heresies like these. The eminence of our professors has been recognised in foreign lands, where the healing art is in the highest state of cultivation, and I am sure you will join me in congratulating my distinguished colleague, Professor Syme, on the intelligence of this morning that he has been nominated a Chevalier of the Legion of Honour by the Emperor of the French. The difficulties inherent in all medical questions are increased tenfold in the examination of those sciences falsely so called, to which I have referred. If medical men highly educated, and occupying a distinguished social position, have been seduced from the sober paths of their profession into new and ephemeral systems, which fashion sanctioned imposture sustains, we need not wonder at the temporary success of modern systems the illiterate are the sports and the ignorant are the victims. It is among the middle and upper classes chiefly that this credulity and love of the marvellous is most conspicuous. It is rank and fortune among the votaries of gaiety and idleness, who are incapable of continuous thought, and who have, therefore, no faith in those forces in the material world, on whose comical laws which in a daily operation around us. We trust it acquainted, even superficially, with the facts of electricity and magnetism, they are alike persuaded of its magical powers. Those who believe that they see the ghosts of the past, the unseen, and the future; who confide in the vexed truth, or who can least knowledge of the minute relations between our mental and physical powers, can summon the dead from their graves, and marshal them under its laws, to perform the putrid tricks that would hardly amuse the inmates of the nursery or the school-room. Persons of this class imagine that our forefathers lived in an imperfect condition of the unseen—that the observations of old experimentalists, those results of modern and cautious temperament, that have been snatched on the husks and garbage of literature, and reared on the rank pastures of our mushroom publications. In the past history of our times such superstitions have operated fatally on the happiness of man; and no sooner has science exploded the most rampant, than another

starts into its place. At the present moment, a very remarkable speculation is claiming the recognition of science; and so distinguished is its author, both from his scientific and social position, that it demands the most candid attention from the friends of religion and physical truth. This speculation is contained in the very able work of Mr. Darwin, entitled, "On the Origin of Species by Means of Natural Selection; or, the Preservation of Favoured Races in the Struggle for Life." In this volume, replete with facts in natural history of the most interesting kind, Mr. Darwin endeavours to prove that, as "all living things have come in to this world by common birth, every individual vesicle, in their cellular structure, and in their laws of growth and reproduction," we may infer from analogy that all the organic beings which have ever lived on this earth, have descended from one primordial form into which life was first breathed by the Creator. Such of you as have observed animal and vegetable life daily in the organic forms which exist in your vicinity, may well be surprised at a doctrine like this; but those who have visited our metropolitan museums, and seen the glorious forms of life which they contain, from the mite to the elephant, from the tadpole to the whale, from the humming bird to the eagle, from the mushroom to the oak, from the trilobite of the rocks to the mammoth, and from the ape to man, will be still more startled at the conclusion, that man, brute, reptile, fish, fowl, and plant have one common ancestor. But Mr. Darwin is prepared to meet all these objections to his theory, and therefore we must appeal to facts and principles for its refutation. He maintains:—1. That variations in species actually arise in the course of descents from a common progenitor. 2. That many of these variations are an improvement on the original stock. 3. That by continued natural selection from among these improved specimens, occasioned by a struggle for life, the most vigorous individuals become the progenitors of the next generation. 4. That there is a power in nature everywhere effecting these changes. Naturalists of high authority have followed Mr. Darwin through all his arguments, and have shown in the clearest manner that his theory is inconsistent with the very facts upon which he has rested it. It is out of my sphere, and yours also, to discuss this question as one of natural history, but even in this aspect of it, we may allow that species do admit of great variation, and may by new methods of feeding and culture rise to a higher scale, and yet deny that there is any evidence even of one species of the same genus having passed into another, and still less that fish have passed into fowl, or birds into beasts, or quadrupeds into men. We have absolute proof, indeed, of this immutability of species, whether we search for it in history or geological times. The cat and dog, embalmed in Egypt four thousand years ago are the same as the cat and dog of the present day; and in the fossil remains of the pre-Adamite ages there is not the slightest proof of any variations in the successive inhabitants of the earth. Mr. Darwin himself admits, to use his own words, "that this is a most obvious and grave objection to his theory; but yet he conjectures that rocks still undiscovered, and myriads of years older than the Cambrian or azoic strata, may still bear testimony to his views. When such strata with such indications are discovered—when the instinct of the elephant shall have expanded into reason, and the chatter of the parrot have its climax in speech, we may then claim kindred with the brutes that perish."

MEMORIAL CHURCH TO THE LATE DUKE OF SUTHERLAND.

An interesting ceremony took place on Monday at St. George's, Shropshire, namely, the laying of the foundation stone of a new church to be erected to the memory of the late Duke of Sutherland. The announcement that the Right Hon. the Earl Granville, K.G., Lord President of the Privy Council, would perform the ceremony, and that the Lord Bishop of Lichfield would preach the sermon, attracted a large number of persons. At half-past two a procession of the clergy and committee entered the church. The service was read in an impressive and pleasing manner by the incumbent, the Rev. William Allen; the Te Deum and Jubilate being very respectably chanted. The Bishop preached an excellent and appropriate sermon, after which, during the reading of the offertory sentences, a collection was made, the money to be appropriated to the building fund. The service being concluded a procession was again formed, which proceeded to the spot where the stone was to be laid. Here a beautiful silver trowel was presented to Earl Granville, having the following inscription:—"Presented, 4th November, 1861, to Earl Granville, K.G., on the occasion of his laying the foundation stone of the church of St. George, in the parish of St. George's, Shropshire, to be erected in memory of George Granville, second Duke of Sutherland, K.G." His lordship then spread the mortar, and having inserted a bottle containing a parchment and some of the newest coins into a cavity made for the purpose, the stone was lowered into its place and adjusted. The inscription on the parchment was, "The first stone of this church, dedicated to the glory of Almighty God, in honour of St. George and in memory of George Granville, second Duke of Sutherland, K.G., to replace the old church of St. George, adjoining the present site, was laid by Earl Granville, K.G., Lord President of her Majesty's Privy Council, on the 4th day of November, A.D. 1861." The stone having been properly fixed, Lord Granville stepped upon a small platform erected for the purpose, and addressed to the people a short but feeling and eloquent speech. A hymn was then sung by the choir; the bishop pronounced the benediction, and the proceedings terminated. The church is to be rectangular, with a chancel 40 feet by 20; the nave, with side aisles and clerestory, 90 feet by 60. At present a tower, about 40 feet high, will be erected at one end; but, if funds can be obtained, it is intended to raise upon it a spire, 150 feet high. The style of the building will be early English. The cost, without the spire, will be 4,000l., but with that addition, about 5,000l. On the south of the church the tablets, to record the memory of the late duke, is to be placed.

ROYAL GEOGRAPHICAL SOCIETY.—A meeting of this society will be held on Monday, the 11th inst., at half-past eight p.m., at Burlington House. Papers to be read:—1. Expedition to the Upper Yang-tse-kiang, in China; by Lieut.-Colonel H. A. Sarel, F.R.G.S. 2. Notes, geographical, statistical, and political; by Captain C. D. Cameron, F.R.G.S.

SAMARITAN FREE HOSPITAL.—The number of patients treated at the Samaritan Free Hospital for Women and Children, Edward-street, Portman-square, during the week ending Nov. 2, was 736, of which 219 were new cases.

DRURY-LANE THEATRE.—Yesterday Mr. Robins offered for sale, at the Auction Mart, two renters' shares in the Theatre Royal, Drury-lane; as also five 100l. joint-stock or proprietors' shares in the same theatre. The first lots put up were the renters' shares, each of which entitles the possessor to a free admission. The auctioneer stated that each share had to run a period of 35 years, and that the income from each was from 3l. 10s. to 4l. per annum. The annual income had been known to be above 10l., and he was in hopes that that amount would be realised next year. The first share was knocked down for 45 guineas; the second produced 44 guineas. The five 100l. joint-stock shares afforded a nomination to the general committee, as also a personal free admission, were, or 25 guineas each.

PENDING INSOLVENCY BUSINESS.—We (Gazette of Bankruptcy) have been favoured by Mr. Chief Commissioner Law with the following communication:—In No. 1 of the Gazette it is said that a point arose of much importance in country cases, and that the Chief Commissioner gave his opinion on the subject; but the article ends without stating what that opinion was. Mr. Law expressed this opinion—that a country petition filed here ought at once to be deemed business pending in the county court also, because the law has decreed it to be heard in the county court from whose district it came; that, therefore, the schedule may not yet have been filed and sent down with the order of reference, on the 11th October, the matter is entitled to be called pending in that court which alone can have to hear it. No man will say that the legislature intended that one whose petition was recorded, and whose interest in property passed to a trustee for creditors on or before 11th October, should remain in prison unheard because his petition and order of reference were not lodged in the county court till after that day. It is further said concerning the hearings and decisions by county courts:—"The judges were then empowered to discharge or remand the prisoner, and to do all things requisite with regard to his schedule, the realisation of his property, and the apportionment of dividends in the same manner as the commissioners of London." This is very erroneous; the county courts cannot realise property, nor make dividends. They have no officer for the purpose; they cannot appoint the assignee, who is an officer of this court. The county court, in regard of a prison insolvency, is a court of hearing under the reference from this court; as soon as that duty is performed, the judge must send back the record to Portugal-street.

SAFETY SIGNALS FOR RAILWAY CARRIAGES.—Since the lamentable murder of M. Poinsot in a railway carriage, public attention has been seriously turned towards the best means of ensuring the safety of travellers, who, when once on their way in a train, are at the mercy of any companion who may be in the same carriage. M. Bazin, of Angers, has imagined an apparatus which was tried a few days ago on the Orleans line, and from the simplicity and efficiency has some chance of being generally adopted. It is well known that a train travels in motion causes a strong current of air, and this is the circumstance which M. Bazin has turned to account. A cord is placed within reach of the traveller, by pulling which a small ventilator is set free and begins to rotate in virtue of the current, whereby it causes a bell to ring, which gives the alarm. At the same time a lantern is put out, which shows to what carriage or compartment the alarm has been given. Once put into action the apparatus cannot be stopped except by the guard. The system is a very simple one, but a practical trial would be required to test its real worth. The experiment, made with this apparatus as above stated was completely successful.—Galignani.

THE PRESERVATION OF SALMON.—The landowners on Tyneside were the first to form themselves into an association for carrying out the Salmon Fisheries Act of last session, and on Tuesday a meeting was held at Hexham, and a code of rules for the guidance of the association adopted. Mr. W. B. Beaumont, M.P., presided, and besides a considerable number of local gentry, two or three gentlemen connected with the salmon fisheries were present. The principal detail of the code was the adoption of the upper parts of the Tyne, its tributaries, &c., as a preservation district, and to appoint as conservators six persons to act with one officer, who are to take charge of the waters; to assist in carrying into force the provisions of the Act by detecting offenders, and, in general, to see that the weir-laws are observed.—Newcastle Chronicle.