

Dallmer, of Schleswig, Inspector of Fisheries in that province, offered to transmit communications to Berlin, and in 1878 he published an interesting report of the proceedings. Quite beyond all his expectations, his wishes had been made known by the press to all the regions between the Rhine and the Weichsel, and from the Alps to the sea. The number of letters which he received at first gratified him, next surprised him, and finally so terrified him, that at last he was obliged to refuse to attend to communications. Prof. Virchow also received an incredible amount of letters from all parts of Germany, and in a little time Prof. Virchow too was compelled to publish a notice urgently requesting no more communications to be sent to him, for that he did not know what to do with those he had got.

Although a few links are still wanting to complete the chain of the life-history of the eel, it may be most safely assumed that the eel lays its eggs like the majority of fishes, and further, that, like the lamprey, it only spawns once and then dies. It would also seem most probable that the spawning takes place only in the sea. Eels placed in land-locked ponds, though they increase in size, never, it is well known, increase in numbers. The most important problem still to be solved is, do the male eels ever leave the sea and enter fresh water. Dr. Jacoby found male eels in the lagoons of Commachio, where the water is brackish, and these must have ascended in the mounting as fry, and then, probably, at the approach of sexual maturity, descended with the females to the sea. Dr. Hermes found some 11 per cent. of males among eels taken at Willenberg on the Elbe coast, 120 miles from the German Ocean, and no males whatever at Havelberg, twenty or thirty miles higher up the stream. Thus the numerical percentage of males to females was in proportion to the nearness to the sea.

In connection with this subject the valuable observations of Dr. Hermes on the conger, made during 1881, in the tanks of the Berlin Aquarium, may well be alluded to. Dr. Hermes found the reproductive organ in the conger very similar to those as now supposed to exist in the common eel, and in the comparison of size the relations remain the same. The male congers are much smaller than the females.

Space will not allow us to do more than refer to the journey of Dr. Jacoby in 1877, from Trieste, by way of Ravenna, to Commachio; nor to his account of the sterile females of a delicious flavour, known as Pasciuti; but we would suggest that no more satisfactory or useful work could be translated than Jacoby's "History of the Eel: with an Account of the Celebrated Eel Fishery of Commachio;" which was issued from the Berlin firm of August Herschwald, not very long ago.

SIR HENRY COLE, K.C.B.

HENRY COLE, the eldest son of Captain Henry Robert Cole, was born at Bath, on July 15, 1808. On January 12, 1817, he was admitted to Christ's Hospital, where he remained until April 9, 1823. There had been some idea of sending him into the Church, but it was abandoned, and the day after he left school he commenced his career in the public service, under Mr. Cohen, afterwards Sir Francis Palgrave. His leisure at this time was spent in botanising in the neighbourhood of London; drawing under the tuition of David Cox, and contributing to the public journals. On December 28, 1833, he married his cousin, Miss Marian Bond. The public records were endangered by the burning of the Houses of Parliament in the following year. Cole worked vigorously for their preservation at the time, and was for long afterwards engaged in their arrangement. In spite of these heavy labours he had found time to commence a work on light, shade, and colour, when the prosperity of the young manager was

abruptly interrupted by his summary dismissal from the Augmentation Office on December 5, 1835. He had ventured to call in question, and that in the singularly emphatic manner which characterised him through life, the competency of his official superiors, and had indicated the gross mismanagement which then obtained. It was believed that Mr. Cole's charges were unfounded, but a Committee of the House of Commons fully justified his action. He was at once reinstated in his office and advanced to be assistant keeper of the Records. At this period of his career he did yeoman's service to the cause of postal reform, and found leisure to issue, under the *nom de plume* of Felix Summerly, a series of Guide Books to Hampton Court, Canterbury, Westminster Abbey, Temple Church, the National Gallery, Free Picture Galleries, Day Excursions, Holidays spent in and near London, as well as to the various lines of Railway as they sprang into existence. Besides these he published his long-deferred "Light, Shade, and Colour," and it is one of the features of his life that he uniformly dropped a scheme which was for the time abortive, and uniformly took it up again at the relinquished point when a more propitious time arrived. He also wrote numerous works for the amusement and instruction of children in whose service he enlisted some of the most eminent artists then living. He found employment for ladies in engraving his illustrations, thus making an early attempt to solve the difficult problem of woman's work.

About this time his artistic sensibilities were shocked at the native hideousness of British manufactures, and he became a member of the Society of Arts, into the fossilised bones of which he soon instilled a new vigour. Still it was with the greatest difficulty that the leading manufacturers could be induced to co-operate. A prize competition was projected, but they dreaded to permit their names to appear, so jealous were the retail traders of their own interests. At last the show of Art Manufactures came off, and Henry Cole gained the silver medal of the Society of Arts for his "Felix Summerly" tea service. This success he followed up by a plan for the regeneration of British art applied to industry by the establishment of quinquennial exhibitions of British manufactures to commence in 1851. He commenced the issue of the *Journal of Design* to disseminate his views, and to gain information he visited the exhibition held in France in 1849. On his return he submitted his draft project to Prince Albert, by whom it was favourably received; the design grew, and expanded from a projected national exhibition to be held on the then waste ground of Leicester Square into the Great Exhibition of All Nations in Hyde Park. The conception was novel, and friends were timorous—fights hard and frequent enough to have subdued a less resolute will fell to Cole's lot—but by dint of a bull-dog refusal to be beaten, he ultimately assured the successful issue of the vast undertaking. The results gained by that success surround us on every hand in the improved taste of the country, as well in important as trivial matters. This is apparent when the manufactures of to-day are compared with those endured by our fathers.

At the conclusion of the Exhibition he had the satisfaction to see the purchase of a small collection of objects chiefly from the Indian court. These, with the drawings from the schools of design, were lodged in Marlborough House as the nucleus of a possible national art repository, which has been since realised in the South Kensington Museum.

Mr. Cole was, in 1852, appointed General Superintendent of the Department of Practical Art, which was succeeded in the following year by the Department of Science and Art, and it devolved upon him to reorganise the desultory instruction which had up to that time been afforded by the Schools of Design. How ably he, with the invaluable assistance of Mr. Richard Redgrave, R.A.,

accomplished this work, is testified by the present condition of the Schools of Art.

He was the British Commissioner for the Exposition Universelle at Paris in 1855, and on his return to England, Marlborough House being required for the use of the Prince of Wales, the collections in his custody were removed to those iron buildings which had been erected by the Commissioners of 1851, and which were commonly known by the alliterative sobriquet of the Brompton Boilers. Here, in spite of opposition and obloquy, he gradually secured the perfection of the collections, notably by the purchase after long and difficult negotiation of the Soulage collection in 1857, and the provision of adequate buildings for their reception. But he did not rest satisfied with success; as early as the year 1858 he projected a vast chorus hall, realised in the Royal Albert Hall in 1871, and the Horticultural Gardens opened in 1862. A Select Committee of the House of Commons on South Kensington, which it was thought by many would reveal a tissue of "jobbery," converted several of his opponents to a sense of the ability and integrity with which he had administered its affairs.

Though styled the Department of Science and Art, little had been done for the propagation of science prior to the year 1859. The question then arose as to the propriety of doing something to justify the title or of dropping it altogether. Mr. Cole's sympathies lay rather with the art side of the question, but he was sufficiently alive to the importance of science to urge upon the Lords of the Committee of Council the formation of a proper system of science instruction. He had the instinct which selects the right man for the right place, and found in Colonel Donnelly a colleague who ably worked out the details of that science teaching which is now going on in 1500 science schools where over 59,000 students are under instruction.

Mr. Cole next initiated the Exhibition of 1862, to the executive of which he acted throughout as general adviser. The provision of funds for the erection of the Royal Albert Hall was the next pressing question, and these General Grey, the Queen's private secretary, and he, raised by a system of subscriptions for boxes and sittings.

It was determined that South Kensington should not enjoy a monopoly of the national collections, and in 1866 the East London Museum in Bethnal Green was projected. In the following year Mr. Cole was again Commissioner for Great Britain at the Paris Exhibition, a novel feature which he introduced there being a collection of all the newspapers published in the United Kingdom. It was whilst in Paris that Sir Joseph Whitworth first discussed with him his desire to assist mechanical science by the formation of those scholarships which have since promoted the scientific education of the artisan, and rendered it possible for a young man of distinguished ability to raise himself to a position which he could scarcely else hope to attain.

Though informed in 1870 by his medical adviser of the impaired action of his heart, he did not relax his active labours; not only did he, in the following year control the first of the Annual International Exhibitions, but found time to busy himself with the disposal of the sewage of our great towns. In 1872 he received the Gold Albert Medal from the Society of Arts. After 50 years of public service, Mr. Cole retired on a full pension specially awarded by the Treasury in May, 1873. But his retirement from the South Kensington Museum certainly meant no abandonment of work. Mr. Cole founded the School for Cookery; edited an edition of T. Love Peacock's works; projected and worked out many details of a universal catalogue of printed books; worked at the sewage question as affecting Birmingham and Manchester, in which he resided from 1876 till 1879, to prosecute his work.

Mr. Cole was nominated a C.B. in 1852, and created a K.C.B. in 1875. In 1855 he was made Officer of the

French Legion of Honour; in 1867 he received the Austrian Iron Crown.

Sir Henry Cole had recently been recommended caution on account of the condition of his heart, but no immediate danger was apprehended. On the day previous to his death he was engaged upon the public works that employed his time and thoughts. In the evening he became seriously ill, and died painlessly at 7.30 p.m. on Tuesday, April 18.

It is difficult to sum up the character of a man who has so recently passed away, but it may be said that his strong points were his retentive memory, his power of organisation, and his firmness of will. When all is said, he was a good and genial friend and a devoted servant of the public, and when the time comes for a history of English art education in the nineteenth century, it is not too much to say that one of the names which must stand to the fore will be that of Henry Cole.

NOTES

ON another page we make brief allusion to the irreparable loss which science has sustained in the death of Mr. Charles Darwin on the 19th instant, in his seventy-fourth year. We hope in an early number to refer in some detail to the vast and varied work which he has accomplished during the last half century. Yesterday, as was fitting, "he was laid among his peers in Westminster Abbey."

AT Monday's meeting of the Royal Geographical Society Lord Aberdare announced that the Founder's (gold) medal had been awarded to Dr. Gustav Nachtigal for his journey through Eastern Sahara in the years 1869 to 1875; and the Patron's (gold) medal to Sir John Kirk, K.C.M.G., M.D., her Majesty's Consul-General at Zanzibar, for his long-continued and unremitting services to geography in Dr. Livingstone's Zambesi expedition in 1858-63, and in the assistance he had rendered to successive expeditions in East Africa during his fifteen years' residence in Zanzibar.

ALTHOUGH he has bequeathed most of his large fortune to the French Government for scientific purposes, M. Henry Giffard has left legacies to several scientific institutions.

FROM a *Daily News* telegram we learn that on Monday night the Eclipse Expedition arrived at Gibraltar, all well. A stiff gale and heavy sea were encountered in the Bay of Biscay, but no damage was done to the instruments.

PROF. HÆCKEL has reached Egypt on his way home from Ceylon; on returning to Germany after finishing his researches in Egypt, he will publish an account of his tour.

WE regret to state that M. Eugene Frederic Kæstner, the inventor of the Electrical Thermophone, which has produced such striking effects in Germany and in Paris, died a few days ago at Strasburg after a long illness. He was only thirty years of age. This ingenious and laborious young man was the only son of M. Frederic Kæstner, who has written a number of most interesting works on the music of nature and musical philosophy. It was only owing to the illness of M. Kæstner and his inability to do any work at all for the last few months that his wonderful instrument had not been sent to in the Electrical Exhibitions of Paris and the Crystal Palace, but it is stated that steps will be taken to send it to the Munich Exhibition.

THE second edition of Vol. I. of Thomson and Tait's "Treatise on Natural Philosophy" is now nearly completed; Part ii. being in the press and to be published very soon by the Cambridge University Press. The work has been carefully revised, and amended in many parts. The parts "On the Attraction of