

to him that Mr. Plummer's ability has been recognized by the Royal Astronomical Society in their selection of him for a seat on their Council.

JOHN PERCY, M.D., F.R.S.

BY the death of Dr. Percy, on the 19th inst., this country has lost a distinguished man, who has greatly influenced its metallurgical progress.

He was born in 1817, and at an early age entered the Medical School of the University of Edinburgh, where, at twenty-one, he took the degree of M.D. He subsequently became Physician to the Queen's Hospital at Birmingham, and the few papers he published on medical subjects show that he would probably have risen to eminence in medicine had it not been for the fact that in the great metallurgical centre of the Midlands his studies were soon diverted to the particular line of work to which his life was ultimately devoted. This is not perhaps surprising when it is remembered that the connection between therapeutics and metallurgy has been traditional since the days of Paracelsus and Agricola.

When we look back at Dr. Percy's career, the remarkable fact stands out that notwithstanding the great importance of metallurgy to this country, with its vast industrial interests, there was no metallurgical treatise worthy of the name until he wrote one; and, what is stranger still, up to the time when he accepted the chair in the Royal School of Mines, in 1851, there was no systematic teaching of metallurgy. Dr. Percy found it practised mainly as an empirical art. Sir Henry de la Beche indicated the direction the teaching had to take, and in his inaugural discourse as Director of the School of Mines, he said, "We still too frequently hear of practical knowledge as if, in a certain sense, it were opposed to a scientific method of accounting for it, and as if experience without scientific knowledge were more trustworthy than the like experience with it." Reference to the pages of the Journal of the Iron and Steel Institute will show that this, the most practical body of men in the world, not only thoroughly recognizes that mere empiricism would be fatal to industrial success, but constantly appeals to science for guidance. This is in great measure owing to Dr. Percy's teaching, and is not the least important of its results.

Ten years after he began to teach, he published the first volume of his treatise on "Metallurgy," which he dedicated with "sincere respect and affectionate regard" to Faraday. This work, which he calls the "task of his life," has developed into a series of volumes containing 3500 octavo pages. One remarkable feature of these books is that almost every woodcut may be regarded as an accurate, though small, mechanical drawing, and it is only measurable drawings of this kind which are of real utility in practice. Treatises such as his naturally embody descriptions of processes furnished by those actually engaged in conducting the operations—aid which was always most fully acknowledged. The thoroughness of his own research is well shown by the careful digests of monographs, which were gathered from all kinds of sources; and it is evident that immense pains were bestowed upon the work. Some years ago a foreign friend, himself a laborious and conscientious author, forcibly expressed to the writer his appreciation of Dr. Percy's labours, looking up from one of the volumes and exclaiming, "*C'est énorme ce qu'il a compilé.*"

It may perhaps be admitted that his intolerance of inaccuracy at times led him to magnify points which now seem to be somewhat trivial, and he sometimes withholds the expression of his own opinion when the reader has fairly a right to expect it, and would be grateful for the support of his authority.

With the notable exception of a process for the extraction of silver from argentiferous ores and residues, he can

hardly be said to have originated any important metallurgical process; but his works teem with suggestions, and many improvements in metallurgical practice can be directly traced to his teaching. Such is the case with the practical application of the basic process for eliminating phosphorus in the Bessemer converter—a process of truly national importance, and one which has been widely adopted in other countries. It may fairly be claimed that during the thirty years he held his chair he trained a body of scientific workers in whose hands the immediate future of metallurgy to a great extent rests.

Remarkable evidence as to the strength of his individuality is afforded by the fact that those who were admitted to his friendship, and even his students who only saw him in the lecture-room or laboratory, were all singularly attracted to him, notwithstanding the occasional ruggedness of his manner. The purity of his style and the quaintness of his illustration recall the writings of another doctor, Sir Thomas Browne, making, of course, due allowance for the difference of the periods at which they wrote. The subjects he dealt with were very diverse, and it would be interesting to collect his trenchant letters, which appeared in the *Times*, usually over the signature Y. One especially occurs to the writer. Dr. Percy was charged with the superintendence of the ventilation of the Houses of Parliament, and amusingly describes his difficulties in meeting the varied and often contradictory requirements of the members, as to the temperature best suited to their work. He was an honorary member of the Institution of Civil Engineers, and held the office of President of the Iron and Steel Institute in 1885, having received the Bessemer Medal of that Institute in 1877. His artistic skill was considerable, and he possessed a fine collection of water-colour drawings.

Two days before his death the Prince of Wales awarded him, on the nomination of the Council, the Albert Medal of the Society of Arts. Dr. Percy was still able to appreciate the honour which had been done him, and received the intimation with the characteristic words, almost his last, "My work is done."

W. C. ROBERTS-AUSTEN.

HENRY WILLIAM BRISTOW, F.R.S.

MR. BRISTOW'S death, which we briefly chronicled last week, requires a fuller notice. With him passes away one of the gentlest and most courteous of English geologists—one whose associations connected him with the magnates of geology in the early decades of this century, and whose death breaks another of the links that unite us personally with that heroic time. Born in 1817, he was the only son of Major-General H. Bristow, a distinguished officer, who devoted himself to the cause of Spain, where he died, and received the honours of a public funeral. Mr. Bristow suffered from an inveterate deafness. An old school-fellow, speaking of his boyish days not long ago, remarked that he was as deaf then as he was even late in life. This ailment was undoubtedly a life-long hindrance to him, for it kept him from mingling as freely among his associates, and taking so public a part, as his tastes and abilities would have prompted and fitted him to do.

When twenty-five years of age, he joined the Geological Survey under Sir Henry De la Beche, and he remained in that department of the public service for the long space of forty-six years. Most of his scientific work was done for the Survey, and is to be found in the official maps, sections, and memoirs. It is thus, perhaps, less generally known than that of some of his colleagues who have published communications in the more widely circulated scientific journals. To those, however, who can appreciate accurate and artistic mapping, the work which he did, more particularly among the Secondary rocks of

Dorsetshire and the Isle of Wight, will always possess a special value and charm. It was among the earliest work of its kind, and to this day may be taken as a model of admirable geological cartography. His memoirs, too, are remarkable for their lucidity of statement and clear presentation of fact; also for a certain literary and antiquarian flavour thoroughly characteristic of the author.

In the last fifteen or twenty years of his official life Mr. Bristow's time and thought were mainly given to the duties of administration required by the high appointments to which he was promoted. Under Sir Roderick Murchison he became one of the two district-surveyors charged with the immediate supervision of the field-work in England and Wales, and on the death of that chief and the promotion of Sir Andrew C. Ramsay to succeed him, Mr. Bristow was appointed Senior Director, an office which he held until his retirement last summer.

Yet in spite of the pressure of his official duties, which grew greater as years advanced, Mr. Bristow contrived to find leisure for various pieces of literary work. Perhaps the best known and most useful of them was his "Glossary of Mineralogy,"—a volume which has long been out of print, and in the preparation of a new edition of which he looked forward to employ himself during the present year. He also edited translations of Figuier's "La Terre avant le Déluge" and Simonin's "La Vie souterraine," besides furnishing mineralogical and geological articles to Brande's "Dictionary of Science, Literature, and Art," to Ure's "Dictionary of Arts, Manufactures, and Mines," and to the geological journals. But it is on his contributions to the Geological Survey that his scientific reputation will mainly rest. His last work was the revision of the proof-sheets of a new edition of his classic memoir on the "Geology of the Isle of Wight"—a volume which is now in the press. He did not live to see its publication, and to receive the congratulations of his friends on its appearance as the crowning work of his scientific career. Mr. Bristow has carried with him to the grave the affectionate regrets of his colleagues and of all who ever came in contact with his genial kindly nature.

NOTES.

DR. ARCHIBALD GEIKIE has been elected a corresponding member of the Physical and Mathematical Section of the Royal Academy of Science, Berlin.

ON Thursday last, the 20th inst., a dinner was given in Paris to Prof. Francis Darwin, by the members of *Scientia*, a group of French men of science, who are accustomed to meet once a month at a friendly dinner, and to invite a distinguished guest of scientific renown. This dinner was the fourteenth since the foundation of the Society, and among the guests have been MM. Pasteur, de Lesseps, Eiffel, Renan, Janssen, Berthelot, and Chevreul. Mr. F. Darwin was the first foreign guest of the Society. The dinner was attended by many eminent scientific men, among whom were MM. Marey, the physiologist, acting President, Eiffel, de Brazza, Richet, de Lesseps, Giard, and some fifty others. Prof. Marey, in very appropriate terms, recalled the great achievements of Charles Darwin, and spoke enthusiastically of the doctrine of evolution—a fact worthy of note, when it is remembered that Prof. Marey is a member of the Institute. Mr. Darwin expressed cordial thanks for the honour conferred upon him, but, in the opinion of most of the members, adopted too modest a tone. His "Life and Correspondence of Charles Darwin" has won for him high rank in the esteem of the French scientific public.

THIS year the summer meeting of the Institution of Mechanical Engineers will be held in Paris. It will begin on Tuesday,

July 2. The following papers have been offered for reading and discussion:—Description of the lifts in the Eiffel Tower, by M. A. Ansaloni, of Paris (this paper will be supplemented by results of working to date, communicated verbally by M. Gustave Eiffel, President of the Société des Ingénieurs Civils); the rationalization of Regnault's experiments on steam, by Mr. J. Macfarlane Gray, of London; on warp weaving and knitting without weft, by Mr. Arthur Paget, Vice-President, of Loughborough; on gas-engines, with description of the Simplex engine, by M. Edouard Delanare-Deboutteville, of Rouen; on the compounding of locomotives burning petroleum refuse in Russia, by Mr. Thomas Urquhart, Locomotive Superintendent, Grazi and Tsaritsin Railway, South-East Russia; description of a machine for making paper bags, by Mr. Job Duerden, of Burnley, communicated through Mr. Henry Chapman, honorary local secretary.

WITH reference to the proposed visit of geologists to the volcanic regions of Italy next October—a scheme to which we referred last week—Dr. J. Foulerton, Secretary of the Geologists' Association, writes to us that the excursion will be under the direction of Dr. H. J. Johnston-Lavis, of Naples, assisted by eminent Italian geologists. Anyone desiring further information on this subject should communicate as early as possible with Dr. Foulerton, at 44 Pembridge Villas, Bayswater, W., sending a stamped and addressed envelope for reply.

AT a meeting on Friday last of the Council of the University College of North Wales, it was decided to open an Agricultural Department at the College in October, and steps were taken with a view to the appointment of a Lecturer in Agriculture. It was stated that the proposal for the formation of dairy schools in connection with the College had met with much support.

FROM the Annual Report of the Principal of the Owens College, Manchester, read on Friday last, at the meeting for the distribution of honours and prizes, it appears that the total number of students has increased during the year from 1269 to 1297, and of these no fewer than 380 are in the Medical School. The number of associates elected during the year was 33: the associates, of whom there are now more than 300 on the roll, are *alumni* of the College, and are only elected after taking a degree at a University. It appears also that during the last year 104 Owens College students passed in arts, science, and law, and 57 in medicine, at the Victoria University. In the London University 51 Owens College students passed in arts, science, and law, and 24 in medicine. Reference was naturally made to the liberal gifts to the College by Sir Joseph Whitworth's legatees. A considerable portion of the most recent extension of the College buildings is devoted to the housing of the old Manchester Natural History and Geological Museums, and the additions made to them since they were handed over to the College. In addition to the sum of £3000 previously given, the Whitworth legatees extended their gift by the further benefactions of £25,000 to the Museum Building Fund, and of £10,000 in augmentation of the Museum Trust Fund.

PRIZES will be distributed at the Medical School, St. Thomas's Hospital, on Tuesday, July 2, at 4 o'clock in the afternoon, by Sir Henry Doalton, almoner of the hospital.

A MEETING of the National Health Society is to be held on Saturday, June 29, in the Town Hall, Westminster, when the Society's certificates gained during the year for proficiency in "domestic hygiene," "sick nursing," and "first aid to the injured," will be presented to the candidates by the Duchess of Westminster.

THE large herbarium of Fungi, transferred by Dr. M. C. Cooke to the Herbarium of the Royal Gardens, Kew, is now for