

of London and Edinburgh, and of the Royal Irish Academy, and he officiated as examiner in natural history for the Queen's University of Ireland, the University of London, the army and navy and Indian Medical Service, and for the Indian Civil Service. He was in 1854 elected a Fellow of the Royal Society, and in 1873 received the Society's Royal Medal. He was in 1877 awarded the Brisbane Gold Medal of the Royal Society of Edinburgh, and in 1878 the Cunningham Gold Medal of the Royal Irish Academy, while in 1896 he received the Gold Medal of the Linnean Society he had served so well. In 1879 there was conferred upon him the Hon. LL.D. of the University of Edinburgh.

On his retirement into private life Allman settled in Dorsetshire, on the genial slope of the ridge overlooking Poole Harbour, there to devote himself to his outdoor pursuits and to horticulture, which was with him a passion; and it is not a little remarkable that he, who in earlier years had committed himself to the views concerning man's place in nature expressed in a short paper he in 1889 read before the Royal Society of Edinburgh, should have had for friend and neighbour in the closing years of his life Alfred Russel Wallace, whose views on Darwinism applied to man were so akin to his own. But it is not in this interesting association of these two great men that the Dorsetshire village will alone be hallowed ground to the zoologist of the future, for it also bears testimony to Allman's loving devotion to his wife, in a manner which associates her directly with his triumphs and pursuits. For her use he therein had built, midst his beautiful garden, a substantial brick house, with a tiled terrace so arranged that she might sit and read and talk to him while occupied with his favourite pursuits. The garden itself is a perfect picture of undulating beauty, covering an area of some five or six acres, its owner having been particularly careful to avoid all suggestion of suburbanism in its design. Bamboos, a Grumera, rhododendrons of great rarity and value, carefully hedged around for protection against cold and wind, rivulets whose banks are flanked by many a botanical treasure, a stream here, the occasional pollution of which filled him with agony expressed in strongest remonstrance—a pond there, the inhabitants of which were individually the care of its owner—the whole a little paradise—one pictures the grand old man, resolute to the last, seated on his favourite tree stump or rustic seat, as for hours he used to watch the unfolding of the tender bud or the ripple of the innocent streamlet. Every plant was known to him, every label bore his handwriting, and all around was the special object of his tender care.

Great as was Allman's love of nature and freedom, the distinguishing features of his character were his manliness and gentlemanly consideration for others, and in combination with an artistic temperament amounting to the poetic, these gave to his individuality a rare charm. In testimony to the former combination, there stands in his drawing-room, foremost among the treasures he prized most highly, a clock, presented to him on the occasion of his retirement from the Edinburgh chair, which bears the following inscription:

To George J. Allman, Esq., M.D.
Professor of Natural History
In the University of Edinburgh,
This Timepiece is respectfully presented
By a few students
Now and formerly attending his lectures,
As a small mark of their sincere regard for him
AS A GENTLEMAN,
And their admiration of his talents
And ability as a naturalist.
29 July, 1870.

His poetic fancy had led him in his later years to commit his thoughts to verse, which it was one of the concluding ambitions of his life to see in print. But in

vain—since the small volume of his poems, which he had printed for private circulation, only reached the house on the day of his decease. As to the literary merits of his opinions might differ, but his verses soar above the peevish Heineésques of Albrecht and the laboured mnemonics of Anderson, two among modern zoologists who have been constrained to write poetry, and they have a special value in that they are the expression of the poetic effusions of his mind prompted by actual work in the field and on the water which made him famous, and of which they are largely descriptive. None other than Johannes Müller, the father of comparative anatomy, has remarked: "Die Phantase is ein unentbehrliches Gut"; and the thought arises that the discipline of biological science soars above that of the more rigid and strictly mathematical in the extent to which it stimulates the imagination, one of the highest of the intellectual faculties.

Allman endeavoured to work to the last, and to the end his brain power remained perfect and his sight and hearing good. It is extraordinary how his eyesight remained practically unimpaired by his constant microscopic work extending over some seventy years. Though latterly weakened by asthma, he would day by day sit at his favourite table and write, and he leaves unfinished a book apparently intended for publication in one of the scientific series. His wife predeceased him in 1890, and he had no family; but he was especially fortunate in the loving care of nieces and others who had learned to take an interest in his life-work, and who afterwards made his home bright and happy. He had this autumn planned some considerable additions to the garden of which he was so fond, dedicating a portion of it to a favourite grand-niece, "Erica," and there can be little doubt that he never imagined himself failing. But a few hours after what proved to be a farewell visit to his dearly beloved plants, he died quietly in his arm-chair. A steady loss of muscular power throughout his whole system during the past few months apparently extended somewhat suddenly to the heart, and took from the world of science an earnest worker, a man in whom the artistic and philosophic temperament were exceptionally combined, and whose name and influence for good will endure. G. B. H.

DR. H. W. VOGEL.

EVERY one interested in photography—and in these days who is not?—must deeply regret that so eminent a worker as Dr. Vogel has passed away. He was one of the pioneers in the band of investigators in what may, perhaps, be called the second period of the development of photography, dating from the time of the daguerreotype to the introduction of gelatine dry plates. When Fox Talbot and Daguerre made known their wonderful methods of making nature draw her own pictures, he was a lad of six or seven years of age, and it was thirty-four years after this that Dr. Vogel announced his discovery that, by the use of certain colouring matters, it was possible to make a photographic plate sensitive to other colours than those to which it had previously been considered as sensitive. This discovery was of so radical a nature that a considerable number of eminent experimentalists were quoted as having failed to corroborate the observation, and the general idea at the time seemed to be that Vogel's announcement was due to an error in his work. At the present day there is no need to enlarge upon the importance of colour sensitizers, for, practically speaking, the whole art of the correct monochromatic rendering of colours by photography, and of the various indirect methods of producing pictures in natural colours by photographic means, are founded upon their use. The fact that it is rather an increase of sensitiveness than the actual conferment of sensitiveness that is effected, and that Dr. Vogel's theory of the action has not commended

itself to other workers in the same field, are only matters of detail that in no way affect the facts established by him.

Dr. Vogel's activity was shown in almost every branch of photography, and in many of its applications. His astronomical work, especially in connection with eclipses of the sun, is well known. The existence and prosperity of the Imperial Technical High School of Photography, at Berlin, is the best of evidence of his work as a teacher. His "Handbook of Photography," "Practical Spectrum Analysis," and other treatises, will long remain as useful guides. The *Photographische Mitteilungen*, which he established in 1864 and conducted himself until quite recently, and the position that at one time he took up as correspondent of other technical papers, show how much he valued and worked for current photographic literature. There are few men who have done such varied and lasting work in connection with photography as Dr. H. W. Vogel.

NOTES.

WE notice with much regret the announcement that Prof. A. A. Kanthack, professor of pathology in Cambridge University, died on Wednesday, December 21, at the early age of thirty-five.

THE French Société d'Encouragement pour l'Industrie Nationale has received a gift of twenty thousand francs from M. Gilbert (of Givet), to be used for the advancement of French industries.

MR. FREDERICK G. JACKSON, the leader of the Jackson-Harmsworth Arctic expedition, has received a knighthood of the first class of the Royal Order of St. Olaf from King Oscar of Sweden and Norway.

A BIOLOGICAL Section for Agriculture and Forestry has been established in connection with the Imperial Sanitary Bureau at Berlin. Dr. Freiherr v. Tubeuf (of Munich) has been appointed botanist, and Dr. J. Behrens (of Carlsruhe) bacteriologist to the Section.

THE death is announced of Mr. John Barrow, F.R.S., at the age of ninety-one. He took an active part in promoting the search for Sir John Franklin, and was the author of several books of travel and descriptions of glaciers in the Alps. He was elected a Fellow of the Royal Society so far back as 1844.

THE following gentlemen have been elected corresponding members of the Zoological Society:—Dr. Ludwig Heck, of the Zoological Gardens, Berlin; Mr. William T. Hornaday, of the Zoological Park, New York, U.S.A.; Dr. Herman von Ihering, of the Musen Paulista, St. Paulo, Brazil; and Prof. Louis von Méhely, of the National Museum, Budapest.

WE learn from *La Nature* of December 24, that a mountain observatory has been erected at Mont Mounier, the highest point of the Maritime Alps, at 2816 metres above the sea-level, and about 90 kilometres north-west of Nice. The cost of the establishment has been defrayed by M. Bischoffsheim, a member of the Institute, who also endowed the Nice Observatory. The mountain station is connected by telephone with the telegraphic station at the village of Beuil, and meteorological observations are regularly made by M. Maynard. As the position is all that can be desired for the purpose, we may hope for some valuable results in connection with those obtained at the Nice Observatory. During the frosts of winter the temperature at the upper station falls to about 36° F. below the freezing point.

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A RECENT number of the *Lancet* contains a paper by Mr. A. F. Stanley Kent, entitled "The Specific Organism of Vaccinia." The author has found a diplo-bacillus present in large numbers in the deeper parts of the vesicle. This organism he has succeeded in cultivating in artificial media, and has been able to produce, by its inoculation into animals, vesicles "indistinguishable from those produced in the ordinary course by vaccination with current lymph." Mr. Kent further states that animals which have been thus inoculated subsequently give no reaction when revaccinated with active lymph. Many investigators have been drawn into this field of research, but hitherto the difficulties of deciding the claims of so many rival candidates have proved insuperable. It will be important to have Mr. Kent's results repeated and confirmed by other workers, and there can be no doubt that his suggestive and promising achievement will give fresh energy to the conduct of experiments in this direction.

THE Shanghai Meteorological Society has issued its report for the years 1896 and 1897. The headquarters of the Society is at the Zi-ka-wei Observatory, of which the Rev. A. Froc, S.J., is Director. The observatory receives daily two or three telegrams from forty-two stations, including those from Corea, Japan, Formosa, and the Phillipines, and issues storm warnings to several ports. The present report contains a discussion of two notable typhoons which occurred on September 9 and 29, 1897. The first of these was of unusual violence; it fell like a thunderbolt upon the city of Yokohama, and caused considerable havoc there and in the neighbouring districts. The storm struck the steamship *Empress of India* in lat. 33° 30' N., long. 137° 5' E., on the night of September 8-9, and in the course of two hours the barometer on that vessel fell 1.25 inch, and in less than forty minutes the mercury again rose 1.40 inch. During part of its course the storm travelled at a rate of over fifty miles an hour.

THE effect of approaching storms upon song birds is the subject of an interesting contribution by Mr. C. E. Linney to the U.S. *Monthly Weather Review*. It appears that during the night of August 15-16 very severe electrical, wind, and rain storms prevailed over the northern district of Illinois. An observer in Henry County, Mr. W. W. Warner, noticed that for forty-eight hours before the storm not a sound was heard from the numerous song birds in the district. This observation was so full of interest that Mr. Linney wrote for additional information, with the result that he received numerous letters, some confirming it; others stating that birds sing louder and more persistently before a great storm, and nearly all agreeing that they are more restless than usual at such a time. Mr. Linney has found the following weather proverbs referring to song birds and storms:—When birds cease to sing, rain and thunder will probably occur.—If birds in general pick their feathers, wash themselves, and fly to their nests, expect rain.—Parrots and canaries dress their feathers and are wakeful the evening before a storm.—If the peacock cries when he goes to roost, and, indeed, much at any time, it is a sign of rain.—Long and loud singing of robins in the morning denotes rain.—Robins will perch on the topmost branches of trees, and whistle when a storm is approaching.—The restlessness of domestic animals and barn-yard fowls before an approaching storm is well known, and many of their peculiarities have been noted; but the actions of song birds do not appear to have previously received particular attention.

A FULL and well illustrated account of the manufacture of aluminium at Foyers is contained in *Commerce* for December 14. The works, which were completed at the end of 1896, are now in full operation. The raw material bauxite is obtained in County Antrim, whence it is transported to Larne. At Larne