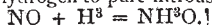


at the time of the commencement of the existing period of geological history. The Professor's illustrations were chiefly derived from his investigations of the distribution of sea-fish and land-snails. Professor F. Zirkel, of Kiel, made some communications on the mineralogical constitution of the basalt-lavas of Laacher See and the Eifel. Professor von Rath described a new mineral from Laacher See, which he proposes to call Amblystegite, in allusion to the extreme obtuseness of some of its angles. It is of a reddish brown colour; hardness almost equal to that of quartz; specific gravity 3.454; melts with great difficulty, forming a black glass insoluble in hydrochloric acid. In composition it is allied to hypersthene, but is distinguished from that mineral by the absence of the characteristic cleavage. Extracts from a paper by Professor Fuhlroit on the caves of Grevenbrück and the Hönnethal were then read; and Professor Schaffhausen availed himself of the opportunity of insisting upon the desirability of a systematic exploration of the bone-yielding caves in which Westphalia is so rich. We are glad to hear that steps are being taken to raise funds for this purpose among the members of the society. The most important finds in the Grevenbrück cave are coprolites of hyæna, and two human lower jaws of primitive form.

VIENNA

Imperial Academy of Sciences, November 18.—Professor Unger communicated a memoir on the anthracite deposits in Carinthia. He stated that nineteen species of plants, chiefly ferns, have been detected in the shales accompanying this deposit. They agree with those of the coal-measures, and eight of them occur also in the anthracite deposits of Styria, Switzerland, and the French Alps. Two undescribed Fern-stems were particularly noticed by the author, who took the opportunity of opposing the ordinary notion that the *Stignariae* are the roots of *Sigillaria*. Of the latter he regarded those species which have not furrowed stems, as ferns.—Dr. C. Jelinek presented a preliminary communication upon the hurricane-like storm which visited Vienna on the 14th November. The greatest velocity of the wind was 46.6 Paris feet per second, about noon; the diminution of barometric pressure continued until 6 P.M., when the mercury had fallen 7.17 lines, the velocity of the wind being 36.5 feet per second.—Director Tschermak communicated a memoir on a new salt from Hallstadt. This mineral, to which the author gives the name of Astrakanite, occurs mixed with common salt, anhydrite, and a mixture consisting chiefly of sodium sulphate in the Christina gallery at Hallstadt. It forms a bluish layer, the colour being due to enclosures containing iron, and the crystals, which are very small and occur in druses, being frequently colourless. Its composition is expressed by the formula, $MgSO_4, Na_2SO_4, 4aq$, so that it is the third natural magnesium-sodium sulphate with which we are acquainted. M. Tschermak also presented a paper by M. P. Hausenschild, giving an account of his microscopic examination of the minerals called Predazite and Pencatite. By the examination of thin slices of the most homogeneous looking specimens, the author found that two minerals may be distinguished in them with certainty, namely, calcite and brucite.—Dr. Samuel Stern presented a memoir entitled "Contributions to the theory of ordinary (not musical) sounds, as an objective character, with reference to the special requirements of medical diagnosis."—Prof. E. Ludwig presented a paper by himself and Dr. J. Hein upon the synthesis of hydroxylamine, which, they said, may be effected by the direct addition of nascent hydrogen to pure nitrous oxide as follows:—



The process consists in passing nitrous oxide through a mixture of tin and hydrochloric acid, freeing the fluid from tin by sulphuretted hydrogen, evaporating the filtrate from the sulphuret of tin to dryness, washing the residue in cold and dissolving it in hot alcohol, separating the ammonium chloride with platinum chloride, and precipitating the pure hydrochlorate of hydroxylamine by anhydrous ether. The analysis and measurement of the crystals thus obtained proved their identity with Lossen's salt.—The following memoirs were presented, but only their titles are given: By Prof. Hyrtl, "On a præcorneal vascular net in the human eye," and "On an insular intercalated bone in the parietal bone;" and by Prof. B. Lapschin, of Odessa, "On the specific gravity of the water of the Black Sea," and "On the conductivity of cork for heat, and its application to the construction of a barometer." Prof. Julius Wiesner also presented a memoir on the origin and increase of Bactria, the results of which had been communicated to the Academy on the 29th April last.

DIARY

THURSDAY, DECEMBER 9.

ROYAL SOCIETY, at 8.30.—Spectroscopic Observations of the Sun, No. V.: Mr. J. Norman Lockyer, F.R.S.—Researches on Gaseous Spectra in relation to the Physical Constitution of the Sun, Note III.: Dr. Frankland, F.R.S., and Mr. J. Norman Lockyer, F.R.S.—On the Successive Action of Sodium and Iodide of Ethyl on Acetic Ether: Mr. J. A. Wanklyn.
SOCIETY OF ANTIQUARIES, at 8.30.—On a Faliscan Inscription: Padre Garrucci, Hon. F.S.A.
ZOOLOGICAL SOCIETY, at 8.30.—On the Fin Whale recently stranded in Langston Harbour: Prof. Flower, F.R.S.—On the Fresh Water Fishes of Burmah: Surgeon Francis Day.
MATHEMATICAL SOCIETY, at 8.—Gauss' Theorems and Napier's Analogies: Mr. Crofton.—On the Order of the Discriminants of a Ternary Form: Mr. S. Roberts.
LONDON INSTITUTION, at 7.30.—Architecture: Prof. R. Kerr.

FRIDAY, DECEMBER 10.

ROYAL ASTRONOMICAL SOCIETY, at 8.
CLINICAL SOCIETY, at 8.30.
QUEKETT MICROSCOPICAL CLUB, at 8.
SOCIETY OF ARTS, at 8.—Indian Conference. On a Gold Currency for India: Mr. A. Cassels.

SATURDAY, DECEMBER 11.

ROYAL BOTANIC SOCIETY, at 3.45.

MONDAY, DECEMBER 13.

SOCIETY OF ENGINEERS, at 7.30.—Annual Meeting.
ROYAL GEOGRAPHICAL SOCIETY, at 8.30.
MEDICAL SOCIETY, at 8.
ROYAL INSTITUTE OF BRITISH ARCHITECTS, at 8.
ROYAL INSTITUTION, at 2.—Monthly Meeting
LONDON INSTITUTION, at 4.—Elementary Physics: Prof. Guthrie.
SOCIETY OF ARTS, at 8.—The Spectroscope and its Applications: Mr. J. Norman Lockyer, F.R.S.

TUESDAY, DECEMBER 14.

INSTITUTION OF CIVIL ENGINEERS, at 8.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY, at 8.30.
PHOTOGRAPHIC SOCIETY, at 8.
ANTHROPOLOGICAL SOCIETY, at 8.—Race Affinities of the People of Madagascar: Mr. C. Staniland Wake, F.A.S.L.

WEDNESDAY, DECEMBER 15.

SOCIETY OF ARTS, at 8.—On India-rubber—its History, Commerce, and Supply: Mr. J. Collins.

THURSDAY, DECEMBER 16.

ROYAL SOCIETY, at 8.30.
SOCIETY OF ANTIQUARIES, at 8.30.
LINNEAN SOCIETY, at 8.
CHEMICAL SOCIETY, at 8.
ZOOLOGICAL SOCIETY, at 4.
NUMISMATIC SOCIETY, at 7.
PHILOSOPHICAL CLUB, at 6.
LONDON INSTITUTION, at 7.30.
EDINBURGH GEOLOGICAL SOCIETY, at 8.

BOOKS RECEIVED

ENGLISH.—The Monthly Microscopical Journal, December 1869 (Robert Hardwicke).—Chemistry for Schools: C. Haughton Gill (James Walton).—Burton-on-Trent—its History, its Waters, and its Breweries: W. Molyneux, F.C.S. (Trübner).—Outlines of Chemistry: or, Brief Notes of Chemical Facts: Dr. Odling (Longmans).—Earth and Sea: Louis Figuier (Nelson and Sons).—The Second Table of the Commandments: Dr. Rowland (Longmans).—Heads and Tails: Adam White (Nisbet).—Romance of Natural History, 2 vols.: P. H. Gosse (Nisbet).—Facts and Dates: Rev. A. Mackay (Blackwood).—Physical Ethics: A. Barratt (Williams and Norgate).—Womankind in Western Europe: J. Wright (Groombridge).

FOREIGN.—Les Pierres Précieuses: J. Rambosson.—Histoire des Météors: J. Rambosson.—Leçons sur la Respiration: P. Bert.—Die Blausäure: W. Freyer.—Landwirthschaftliche Zoologie: Dr. Giebel. (Through Williams and Norgate.)

CONTENTS

	PAGE
SCIENCE AND THE PUBLIC HEALTH. By Prof. W. H. CORFIELD	155
SCIENCE EDUCATION IN GERMANY. I. THE GERMAN UNIVERSITY SYSTEM. By Prof. H. E. ROSCOE, F.R.S.	157
A POINT IN MUSCULAR PHYSICS	159
THE PROJECTED CHANNEL RAILWAYS	160
DRNA'S MINERALOGY. By Prof. N. STORV MASKELYNE	161
BELL'S NEW TRACKS IN NORTH AMERICA. (With Illustrations.)	163
OUR BOOK SHELF	165
THE DEEP-SEA DREDGING EXPEDITION IN H.M.S. "PORCUPINE." NATURAL HISTORY (continued). By J. GWYN JEFFREYS, F.R.S.	166
SCHOLARSHIPS AND EXHIBITIONS FOR NATURAL SCIENCE IN CAMBRIDGE	168
LETTERS TO THE EDITOR:—	
Mental Progress of Animals	169
The Suez Canal.—EDW. RAE	169
The Poles of Mars	170
Lectures to Ladies	170
The American Eclipse.—W. CROOKES, F.R.S.	170
NOTES	170
ASTRONOMY	172
GEOLOGY	173
SOCIETIES AND ACADEMIES. DIARY, BOOKS RECEIVED	173-178