NOTES ON INORGANIC CHEMISTRY.

A NEW mineral from copper mines near the Burra in South Australia is described in the *Journal* of the Chemical Society (London) by G. A. Goyder. It is called sulvanite and is a thiovanadate of copper, this being the first recorded instance of a sulfid mineral containing vanadium as one of its principal constituents. The formula of the new mineral seems to be $3Cu_2S$, V_2S_5 or Cu_3VS_4, cuprous thiovanadate.

AN article by W. H. Hess on the origin of cave saltpeter is found in the *Journal of Geology*. Many of the caves in limestone regions of this country contain notable deposits of earth very rich in saltpeter. This is particularly true of the Mammoth Cave of Kentucky, where may still be seen the remains of the vats and wooden pipes used in the manufacture of saltpeter for gunpowder during the War of 1812. Indeed it is said that had it not been for this saltpeter and that from some other similar caves, this war could not have been successfully waged. During the Civil War much saltpeter was obtained from the Southern Caves. It has always been rather assumed that the origin of these saltpeter deposits is to be found in the guano from the bats, which swarm in immense numbers in parts of these caves. This, however, the author of this paper dissents from, holding that these deposits have come from evaporation of water which has percolated through the surface soil above, from which it has taken up the soil nitrates. Similar nitrate deposits are sometimes found under rock-ledges. The paper cites in proof of this position analyses of cave-earth, cave-bat guano, and of the water which drips from above into the Mammoth Cave.

SINCE the hypochlorites are formed by the electrolysis of solution of chlorids, efforts have been made to utilize the reaction in technical chemistry. A study of this character is reported in a recent *Comptes Rendus* by André Brochet. He finds that in concentrated solutions in its later stages, the electrolysis of hypochlorites resembles that of the chlorids, tending toward the same limits. It would therefore follow that the preparation of concentrated solutions of hypochlorites from the chlorids can hardly be hoped for by direct electrolysis.

WE copy from *Nature* the prizes offered in chemistry by the *Société d'Encouragement pour l'Industrie Nationale* for 1901. 1,000 francs for the utilization of any waste product; 2,000 francs for a publication useful to chemical or metallurgical industry; two prizes of 500 francs each for scientific researches, the results of which can be utilized in industrial work; 2,000 francs for an improvement in the manufacture of chlorin; 1,000 francs for the discovery of a new alloy useful in the arts; 2,000 francs for a study of expansion, elasticity and tenacity of pottery clays and glazes, for a scientific study of the physical and mechanical properties of glass, for a new method of manufacturing fuming sulfuric acid and sulfur trioxid, and for the manufacture of a steel possessing specially useful properties by the introduction of a foreign element. Competition is open to all, but the memoirs, which must be sent in before December 31st, must be written in French.

J. L. H.

MUSEUM AND ZOOLOGICAL NOTES.

THE brief *Report of the Director* of the Manchester Museum for 1899–1900 shows the steady progress of this active Museum, which has recently acquired the Schill collection of butterflies and moths and the Layard collection of weapons and other implements from the Pacific islands. The experiment has been tried of opening the Museum on the first Wednesday of each month, and on this occasion having certain portions of the collections explained by some member of the staff. The result has hardly met with the success it merits, since the attendance has been small, particularly so when it is remembered that Manchester has a population of over half a million. The latest publication of the Museum is 'Notes on some Jurassic Plants in the Manchester Museum,' by A. C. Seward.

THE *Annual Report of the Director* of the Carnegie Museum, Pittsburgh, has recently been issued and shows a decided specialization in the line of fossil vertebrates, one-third of the Museum staff being accredited to the Department of Paleontology, Mr. J. B. Hatcher being the curator. The collections made in 1899