been entombed at the beginning of the loess deposition, which would refer it to the Iowan stage of the Glacial period, long after the ice-sheet had receded from Missouri and Kansas, but while it still enveloped northern Iowa and nearly all of Wisconsin and Minnesota. In other words, it belonged to a time before the prominent moraines of these last-named states were formed on the borders of the waning ice-sheet. The very old Kansas glacial drift, including many boulders of the red Sioux quartzite, is very thinly spread on this northeastern part of Kansas, under the loess, and reaches about 30 miles south of Lansing, terminating along an east to west boundary 12 to 15 miles south of the Kansas or Kaw River.

The loess and the Lansing skeleton are of Late Glacial age, but are probably twice or perhaps three times as ancient as the traces of man in his stone implements and quartz chips occurring in glacial gravel and sand beds at Trenton, N. J., and Little Falls, Minn. In the Somme Valley and other parts of France, as also in southern England, stone implements in river drift prove that man existed there before the Ice age, that is probably 100,000 years ago, or doubtless four or five times longer ago than the date of the skeleton at Lansing, Kansas.

Warren Upham.

NOTES ON INORGANIC CHEMISTRY.

It appears from a recent paper in the *Berichte* that Dr. Marckwald has at last succeeded in preparing a specimen of polonium, the radio-active element associated with bismuth, in such a way that the question of its being a peculiar form of bismuth itself may be set aside. The method used was to take a specimen of strongly radio-active oxychlorid of bismuth, dissolve it in acid, and then precipitate the metal by a rod of pure metallic bismuth. Under these circumstances the bismuth becomes coated with a black deposit, which seems to be nearly pure polonium, inasmuch as the radio-activity of the solution is wholly concentrated in the black deposit, which is itself extremely active. The amount obtained from several kilos of pitchblende residues was only a few milligrams, from which it was estimated that the amount of polonium in pitchblende is not over one gram per ton. Dr. Marckwald hopes, however, to obtain enough of the pure metal by this method to determine its atomic weight.

K. A. Hofmann has also continued his work on radio-active substances from the uranium minerals, especially upon radio-active lead. The radium so obtained is very much more active upon the photographic plate than is polonium. A specimen of radio-active lead sulfid, which acted powerfully upon a photographic plate, was much weaker in discharging the electroscope than a specimen of polonium oxychlorid, which had no effect whatever through a thin gutta percha film upon a photographic plate, even after twenty hours' exposure. He found that radio-active lead preparations gain in activity by preservation in a dry condition in closed tubes. A number of metals seem capable of robbing uranium of its activity. In one experiment a solution of pure uranium was mixed with barium and the latter precipitated by sulfuric acid. The uranium thereby lost completely its activity both toward the electroscope and toward the photographic plate; after standing two days in a closed tube the uranium regained its activity. The same phenomenon was observed in another experiment when bismuth was substituted for barium. A number of the rare earths, such as thorium, erbium, didymium, cerium and lanthanum, are capable of receiving an induced activity from uranium, and the same is true, not only of barium, but also of strontium and calcium. Activity is very slightly induced in yttrium and not at all in glucinum and zirconium. Lead receives a weak activity when precipitated from the uranium solution with sulfuric acid, but none at all when the precipitant is caustic potash.

The same number of the *Berichte* contains a paper by Stock and Doht continuing their investigations of stibin, SbH_3. This hydrid of antimony was obtained in the solid state some years ago by Olszewski, but great difficulty had been experienced by him and by them in obtaining more than a very small trace of the gas from the materials used. The

method used by the authors consists in decomposing alloys of antimony with dilute acids, but in their experiments with the ordinarily used zinc-antimony alloy, the hydrogen evolved contains under the most favorable conditions, less than one per cent. of stibin. After experimenting with several alloys, that of antimony with magnesium proved to be by far the best. With such an alloy containing thirty-three per cent. of antimony, the gas given off on treatment with cold dilute hydrochloric acid contains upwards of fourteen per cent. of stibin, and nearly three fourths of the antimony used is obtained as the hydrid. This is readily condensed by liquid air to a colorless solid, melting to a colorless liquid at —88° and boiling without decomposition at —17°. When the gas is perfectly pure it is fairly stable, but after some hours it begins to decompose with the deposition of metallic antimony. It decomposes rapidly at 150°.

Analyses of two specimens of early Egyptian remains have been recently published. The first is a vase of the fourth dynasty, and from the analysis Berthelot concludes that it was originally produced by baking a mixture of fine sand with litharge and common salt. The other specimen was a cold chisel dating from the Thébaines dynasty. This consisted of two parts cemented together, the outer portion being of an alloy containing 92.6 per cent. copper and 4.7 per cent. tin. The core was much richer in tin, having 84.6 per cent. copper and 13.3 per cent. tin.

J. L. H.

SCIENTIFIC NOTES AND NEWS.

DR. ALEXANDER AGASSIZ has been appointed a member of the Prussian order, 'pour le merite.'

THE committee of the fund raised to commemorate the eightieth birthday of Professor Virchow announces that it has handed over a sum of over $12,000 to the Rudolf Virchow Foundation.

DR. CH. WARDELL STILES, zoologist of the Bureau of Animal Industry, U. S. Department of Agriculture since 1891, has been transferred to the U. S. Treasury Department as 'chief of the Zoological Division, Public Health and Marine-Hospital Service of the United States,' with permanent headquarters at the Hygienic Laboratory in Washington, D. C. The Zoological Division is a new division recently authorized by congress for the purpose of investigating the practical relations of zoology to public health matters. It is made a part of the Hygienic Laboratory authorized by congress several years ago.

THE advisory committee appointed by King Edward in connection with the erection of a sanatorium for tuberculosis in England announces that 180 essays were sent in in competition for the three prizes. The first prize, of the value of £500, has been awarded to Dr. Arthur Latham.

THE Society of Arts has awarded the Shaw prize for industrial hygiene to Mr. James Tonge, Jr., of Westhoughton, Lancashire, for his hydraulic mining cartridge.

NESTOR PONCE DE LEON, M.D. (Columbia), has been appointed medical inspector for the port of Havana.

THE introductory address of the Medical Department of Owens College, Manchester, will be given by Sir Dyce Duckworth on October 1.

DR. GEORGE REISNER has returned from Egypt, where he has been making archeological collections for the Phoebe Hearst Museum in the University of California.

DR. W. F. HENDRICKSON, instructor in pathology in the University of Pennsylvania, died on August 21, at the age of twenty-six years.

MR. GEORGE M. HOPKINS, the author of works popularizing science and one of the editors of the *Scientific American*, died on August 17, at the age of sixty years.

DR. EMILE DUNANT, curator of the Archeological Museum at Geneva, was killed on August 22 while ascending Mount Pleureur.

THE death is announced of Dr. Leopold Schenk, formerly professor of embryology at the University of Vienna. It will be remembered that Dr. Schenk published a work on the