

ally decay, following an exponential law, and reaching half value in forty years. But should the supply of emanation in the future equal that in the past, the activity would continue to increase in magnitude for the next hundred years or so, until the supply and decay of radium D attained a steady value. By that time radio-active experiments of a delicate nature would become difficult or impossible, as the excited activity would rapidly discharge a gold-leaf electro-scope.

As the excited activity can be largely removed by acid, the infection will at present cause no serious difficulty in the majority of experiments on radio-activity, particularly as the leak arising from it remains almost constant for weeks or months. But when an electro-scope with a very small natural leak is required, it will be necessary to employ fresh materials which have not been exposed to emanation.

It appears desirable, in the case of laboratories not yet infected, to keep radium in sealed vessels, and to blow the emanation into the open air, and not into the rooms of the laboratories.

A. S. EVE.

McGill University, Montreal, February 25.

International Atomic Weights.

THE committees engaged in revising the tables of atomic weights have now sent in their reports for 1905. The one which appeared in the *Berichte* is, of course, printed in German, and that which has just been circulated by the Chemical Society is in English.

Unfortunately, there is a want of uniformity in the naming of the elements. Thus, in the English table we find Glucium, Gl, and Columbium, Cb, whereas in the German table these elements are called Beryllium, Be, and Niobium, Nb, respectively. Historically, no doubt, the names adopted in the English table are more accurate. But in all text-books the names and symbols employed in the German tables are used, and have been for many years.

It is difficult to see where the advantage in making the change comes in, but, on the other hand, the disadvantages of having two forms of nomenclature are obvious.

F. MOLLWO PERKIN.

London, March 8.

The Planet Fortuna.

PERHAPS Airy quoted his Juvenal correctly, which "W. E. P." (p. 410) has failed to do. The poet was so well satisfied with the lines that he gives them twice, in his tenth and fourteenth satires. And they run thus:—

Nullum numen habes, si sit prudentia; nos te
Nos facimus, Fortuna, deam cæloque locamus.

W. T.

THE lines are variously quoted, and I cannot say what version Airy favoured. I believe he spoke from memory.

W. E. P.

COSTA RICA.¹

UP to 1540, Spain had reserved for the crown that part of the territory of Veragua lying west of the portion which had been granted to the heirs of Columbus; but, in that year, it was erected into a province and called Costa Rica. It lies between Nicaragua and the newly hatched, but featherless, republic of Panama, and is the smallest State of the New World except Salvador. But it is one of the most interesting, for, with Panamá, it forms the connecting link between North and South America, not only physically but ethnologically. If more were known of its ancient inhabitants, their type, character, modes of life, habits and customs, inter-tribal relations and forms of worship, and of the ruins of ancient towns and burial places which are silently dotted over the country, one might go

¹ "Archæological Researches in Costa Rica." By C. V. Hartman. The Royal Ethnological Museum in Stockholm. Pp. 195; map+87 plates. (Stockholm: C. E. Fritzes, 1901.)

far towards a solution of many vexed problems as to the relation between early Mexican culture and that of the Andean peoples—Chibchas of ancient Cundinamarca, the Quitos and Cañaris of Ecuador, the Quichuas and Aymaras of the Inga empire. Much of the data necessary to the formation of a just conclusion are buried on the slopes of the volcanoes of Turrialba, Irazu, Barba and Poas, and, in that richest of fields for archæological research, the district lying between Lake Nicaragua and the Gulf of Nicoya on the Pacific coast of Costa Rica, while the lowlands lying between Nicaragua and the Atrato River of Colombia probably hide, under their densely matted and almost impenetrable vegetation, whatever evidences may exist of their occupation by man, not only in the far-remote past, but even at the date of the Spanish conquest.

Hence we may welcome a scientific examination of any section of the region outlined above, but especially when the results are so carefully and clearly set forth as they are in the work under review—a large quarto volume richly illustrated. Its publication, as well as the explorations of which it treats, have been made at the expense of Mr. Åke Sjogren, who has presented to the Royal Ethnological Museum of Stockholm the valuable archæological collection with which Mr. Hartman returned home. This gentleman, whose studies had well equipped him for his task, proceeded to Costa Rica in 1897, where he remained more than a year in the territory once occupied by the Guëtare race. He commenced his researches in May (the beginning of the rainy season) near the *hacienda* of Mercedes, which is situated on the Guapiles branch of the Costa Rica Railway, about fifty miles from Port Limon.

"On the Atlantic side, the moisture-laden atmosphere and tropical heat have clothed the mountain chains and the low swamp lands with eternal verdure, with forests which are almost impenetrable, woven together as they are by lianas passing from tree to tree. Neither aboriginal nor Spanish culture ever made great inroads on the primeval forests of the Atlantic coast."

Near Mercedes is a mound about 100 feet in diameter at the base, 65 feet at the top, and 20 feet high. It is in a partially walled enclosure, and probably served as a platform on which to erect statues facing the rising sun. The mound may have been covered with a wooden structure with a thatched roof. Among the many human figures found there, all mutilated, were two of life size one of which is notable as having ear plugs. The chest and back are crossed by two thick ropes, which pass over the shoulders and reach to the hips. The right wrist supports a human head. The other large statue has its hands resting on the hips. The heads of both figures are covered with conical hats. Rudely sculptured representations of alligators, pumas, and other animals were found, but in fragments. All of these, including the statues, were cut from hard, basaltic lava.

Mr. Hartman also examined the extensive burial places of the ancient inhabitants of this district, and opened a great number of cists. These varied in dimensions, but it is apparent that they were rarely intended for the interment of more than one person. They had side and end walls of cobble stones, but the bottom and top were of slabs of limestone. The horizontal section of the cists was very irregular. Only in one did he find traces of bone, but the "dark soil near the bottom seemed to prove that the body or bodies had been placed there."

Many vessels of burnt clay, sometimes roughly