

tinctly marked, represented in history by the successive conquests of the Etruscans, Romans and Merovingians. Megalithic monuments and remains of ancient walled cities attest the conflicts of these possessors of the land.

THE RACES OF EUROPE.

DR. J. DENIKER, a high authority, gives in *L'Anthropologie* for April the results of his long and minute studies on the constitutive races of Europe outside of those who we know were historical immigrants (Semites, Finns, Lapp, Huns, Gypsies). He makes six 'primary' races as follows: (1) Blond, dolichocephalic, tall, in the north; (2) blond, sub-brachycephalic, short, in the east (Great Russia, eastern Prussia); (3) dark, short, dolichocephalic (Iberians); (4) dark, short, brachycephalic (Celts, Rhaetians); (5) dark, tall, mesocephalic (littoral of Mediterranean); (6) dark, tall, brachycephalic (about the Adriatic).

To these he would add several 'secondary' races, with the somatic criteria more or less mixed.

He does not claim that these are original types. They are all the result of admixtures of several lines; but the distinct prevalence over wide areas of the characteristics named justify the assumption of lineage.

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NOTES ON INORGANIC CHEMISTRY.

ATTENTION was recently called to the determination of the atomic weights of cobalt and nickel by T. W. Richards, of Harvard, in conjunction with Cushman and Baxter. The method used was the determination of the bromin of the bromids by weighing as silver bromid in a Gooch crucible. In the last *Zeitschrift für anorganische Chemie*, Clemens Winkler, of Freiberg, criti-

cises their work in three respects: presence of the oxybromid; possible presence of hydrobromic acid not removed by heating in nitrogen; use of Gooch crucible. He considers the method used by himself in his work a few years ago much less liable to inaccuracy. In this the electrolytically deposited metal was acted on by excess of iodine in presence of water, and the iodine not used measured by titration with standard sodium thiosulfate solution. Winkler's results are $Ni = 58.86$ and $Co = 59.51$ as against Cushman's $Ni = 58.69$ and Baxter's $Co = 58.99$ ($O = 16$). It is noticeable, however, that while these results differ among themselves, in both cases the atomic weight of nickel appears to be less than that of cobalt, while the periodic law would seem to require the reverse to be the case.

In the same number of the *Zeitschrift*, Alfonso Cossa, of Turin, announces the discovery of tellurium in the concretions on the inner wall of the crater of Vulcano (Lipari Islands). These concretions are largely of potassium aluminate; thallium, cesium and rubidium also being present. In the same region large quantities of potassium fluosilicate are found. The amount of tellurium recovered was about 2 gm. per 3 kilos material. Selenium is present in the stalactites of sulfur, but in far smaller quantities than tellurium.

PROFESSOR LEBEAU has been experimenting on the action of the heat of the electric furnace on the emerald in a carbon tube. The experiments were carried out in some cases on as much as 100 kilos of emerald. With a current, 950 ampères, 45 volts, most of the silica distils off and there is left a melted mass with metallic luster. This is a mixture of carbids of aluminum and of glucinum, and silicids of iron and of carbon. Dilute acids dissolve the mass, giving solutions of aluminum and glucinum. If hydrofluoric acid is used, fluorid of glucinum is

obtained, fluorid of aluminum being insoluble.

IN another number of the *Comptes Rendus*, M. Lebeau describes fully the fluorid of glucinum. It is exceedingly soluble in water and even alcohol, and is deliquescent. It fuses at a fairly high temperature in an inert atmosphere, but heated in the air it forms an oxyfluorid $5\text{GlF}_2, 2\text{GlO}$, also soluble in water.

ACCORDING to Wm. A. Bone and John Wilson, in the latest *Proceedings* of the Chemical Society (London), acetylene when exposed in closed glass tubes to the sunlight is gradually decomposed. In June a faint brownish deposit is observable at the end of two or three days. No deposit is found on any part of the tube not exposed to the sunlight. The nature of the black deposit has not yet been fully determined, but it seems to be a very dense hydrocarbon; no benzene nor naphthalene could be found. This decomposition is what might be expected from the endothermic character of acetylene, and it may possibly come to play a part in the industrial manufacture.

J. L. H.

SCIENTIFIC NOTES AND NEWS.

THE CHICAGO ACADEMY OF SCIENCES.

WE have received the 14th annual report of the Chicago Academy of Sciences, covering the year 1897. From the report of the Secretary and Curator, Mr. F. C. Baker, it appears that the number of visitors to the Museum during the year was over 245,000, including the formal visitation of 133 classes from the Chicago schools, attended by their teachers. Thirteen popular lectures were given, with an average attendance of 300. The accessories to the Museum numbered 15,457, twenty-eight collections having been presented. The President of the Academy, Professor T. C. Chamberlin, in his report states that the survey of the natural phenomena of Chicago and its environment, which has been in progress

since 1892 under the auspices of the Academy, has made progress during the year. Its work has been so connected, by an informal understanding, with that of the United States Geological Survey as to avoid needless duplication and to render the work of each serviceable to the other. As the fruit of this and by the generous assent of the Director of the United States Geological Survey, a bulletin on the Pleistocene formations of the Chicago area and of the outlying territory, prepared by Mr. Frank Leverett, of the National Survey, has been published by the Academy, and has already proved itself helpful to citizens of Chicago and especially to students of the geology and geography. An elaborate and amply illustrated bulletin on the mollusks of the Chicago area by Mr. Baker is now in press. Three additional manuscript reports are essentially completed, and it is anticipated that bulletins on well-borings, on birds and on the Phenogamous and Cryptogamous Plants of the region will be issued during the coming year. The National Survey has during the year completed the field work upon four of its standard atlas sheets, embracing the greater part of Chicago and its environment, based upon contour maps previously prepared. While these are wholly the work of the United States Geological Survey, and will be published by it, they contribute effectively to the ends sought by the Survey of the Academy, in the presentation to the people of Chicago and to the schools, of ample and trustworthy data relative to the natural phenomena of the city and its environment.

GENERAL.

PROFESSOR RUDOLF VIRCHOW has been made an Associate of the Paris Academy of Sciences. He was for many years a corresponding member.

PROFESSOR ROBERTS-AUSTEN has been elected president of the British Iron and Steel Institute.

MR. HERBERT BOLTON, who for the last eight years has held the post of assistant keeper in the geological department of the Manchester Museum, has been appointed to the curatorship of the Bristol Museum. The Manchester Museum advertises for a successor to Mr. Bolton. It offers a salary of \$400 a year!