THE RED RACE OF MADAGASCAR.

It is a curious fact that the older navigators who visited Madagascar describe a red race there, which now seems to be extinct. In the 'Bull. de la Soc. d'Anthropologie,' of Paris (Tome VII., fasc. 5), Dr. Bloch collects a number of extracts bearing upon this. The red people are described as tall, without beards, nose prominent, hair straight and long, the features of the European rather than Mongolian type, and the color of the skin red or reddish. This race, the description of which corresponds singularly with that of the North American Indian of the Algonquian or Iroquoian stock, appears to have passed out of existence about the middle of the last century. It is to be hoped that at least some ancient cemeteries may supply their osseous remains. One writer, Flacourt, believes them to have been the ancestors of the Hovas, but the physical traits do not correspond.

GLACIAL MAN IN OHIO.

Especial interest attaches to an article in the *American Geologist* for November, 1896, by Professor E. W. Claypole, on 'Human Relics in the Drift of Ohio.'

It is principally taken up with the description of a polished slate axe disinterred in 1886 from the bottom of a well, 22 feet deep, near New London, Ohio. It was neatly and symmetrically carved, and deeply weathered. The stratum was a late glacial deposit, lying directly upon the boulder clay.

Professor Claypole used all practicable precautions in examining the well digger who found the specimen (ten years before), and in confirming his statements. He presents the evidences of authenticity with as much conclusiveness as they will bear; and he meets the various objections which will arise from the length of time, from the artistic finish of the specimen and from the veracity of the witness. His article is excellently studied, and if it fails to convince, it will be from the weakness of the case, not from deficiencies in presenting it.

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NOTES ON INORGANIC CHEMISTRY.

The question as to whether illuminating gas or fuel gas is completely consumed in an ordinary burner possesses a considerable interest, not only from an economic, but also from a hygienic standpoint, since even small quantities of carbonic oxid are dangerous to health. Investigations have shown that in free burning flames, as well as in the Welsbach burner, practically no unconsumed gas is given off, but doubt has been thrown by the experiments of Vivian B. Lewes on flames which impinge on cold surfaces, as in gas stoves for cooking and under water baths in the laboratory. This point has been carefully studied at the Technische Hochschule at Karlsruhe by F. Haber and A. Weber, and their results show that with a sufficient supply of air, even under cold surfaces, the gas is completely burned, but if the air supply is insufficient decided quantities of carbonic oxid may be formed. Thus with the laboratory Bunsen no danger is to be apprehended, but with gas stoves care is necessary to see that there is a plentiful air supply.

In continuing his work upon metallic lithium M. Guntz finds that it has a strong affinity for carbon, forming a carbid Li_2C_2, which is decomposed by water with the formation of acetylene. When lithium is heated in contact with carbon it unites with it directly. When compounds which give lithium by dissociation, as lithium hydrid or lithium nitrid, are heated with carbon, the carbid is formed, in the latter case accompanied by large quantities of lithium cyanid. Carbonic oxid and carbon dioxid

are both absorbed by lithium with formation of the carbid. Heated in an atmosphere of acetylene or of ethylene, the gas is completely absorbed and a definite mixture of lithium carbid and lithium hydrid formed. Lithium seems, however, to be almost without action upon methane.

M. PETIT has carried out a series of experiments at the University of Nancy on the action of waters containing dissolved salts upon iron. He was led to the work by the fact that the waters of the Moselle (and the same is true of many other waters) attack iron pipes and reservoirs, often penetrating them, while large quantities of iron oxid are deposited. The action is due, he finds, chiefly to the action of carbonic acid, free or in the state of combination in calcium bicarbonate. Such water rapidly attacks the iron with liberation of hydrogen. The iron is at first present in solution as ferrous carbonate, but is rapidly oxidized by dissolved oxygen and deposited as ferric oxid. If other salts are present the action is increased. Thus alkaline sulfates are reduced by the iron to alkaline sulfids, and these are changed by the carbonic acid to alkaline carbonates, while the liberated sulfur forms, with the iron, ferrous sulfid. Common salt acts most energetically, here also sodium bicarbonate being formed. This action of iron upon calcium bicarbonate and on carbonic acid explains the action of such waters on iron pipes, and also the purification of water by spongy iron.

The action of certain hard waters on brass (faucets, etc.), may possibly be similarly explained, the carbonic acid acting upon the zinc and leaving the brass in an almost porous condition. J. L. H.

SCIENTIFIC NOTES AND NEWS.

A DIRECTOR OF SCIENTIFIC WORK FOR THE DEPARTMENT OF AGRICULTURE.

THE Secretary of Agriculture, in his fourth annual report to the President, calls special attention to the benefit that has resulted from the use of the classified civil service in the Department, and urges that this system should be completed by the appointment of a permanent director of scientific work. We have already urged this step, but it may be well to repeat the arguments of the Secretary of Agriculture.

The Secretary, being a Cabinet officer, must be changed with each new administration, and the Assistant Secretary is subject to the same conditions. These executive officers are necessary, but another officer is needed to direct the work of the various scientific bureaus of the Department, under the general authority of the Secretary, and to give permanence to the policy of the Department. In order to accomplish the best results, the Department must have a settled policy with regard to all its scientific work. This Department has less relation to the general executive business of the government, and less connection with what is usually called politics, than any other Department of the government. In fact, the scientific work of the great bureaus, divisions and surveys should be kept free from politics to be efficient and impartial. The numerous bureaus and divisions do not have under the present organization, in fact cannot have, the attention and direction which the interests involved demand. After a change of administration the Department is practically headless, and to a great extent helpless, until the new Secretaries have had time to master the details of the technical work. A director of scientific divisions is needed, therefore, if for nothing else, to carry on the scientific work of the Department from one administration to the next. Further, the Secretary of Agriculture cannot be expected in all cases to unite the necessary executive ability with adequate scientific training, and his duties are already onerous, a large part of the work of the Department extending over the whole country.

The Senate Committee on Agriculture and Forestry last year recommended the passage of the bill establishing the office of 'Director in charge of scientific bureaus and investigations for the Department of Agriculture,' but the bill was introduced too late for consideration dur-