types common to the Antilles and Ecuador, and these resemblances are most abundant in the islands most accessible to the South American continent. It is also noted that one quite peculiar form of stone axe, with a depression at the butt and rounded lateral arms, which seems to have reached its perfected development in Ecuador, has been discovered also, both in stone and copper, in tombs of the IVth and XIIth dynasties of Egypt; another illustration of the parallelism of artistic development. The pottery of Ecuador, as shown in the collection, is closely assimilated to that of Chiriqui and other parts of Central America.

THE BERBERS OF MOROCCO.

THE most accurate description of this people since that of Quedlinberg is given by Mr. W. B. Harris in the *Journal* of the Anthropological Institute for August. He notes their complexion as nearly always fair, while many are red-haired, red-bearded, and with blue eyes. The Susis, however, south of the Atlas, and claiming to be of unadulterated Berber blood, are copper-colored, with high cheek bones and narrow dark eyes. This would seem to bear out Dr. Collignon's theory of a dark and light Berber type. The Riffians are distinguished by a 'scalp-lock,' which they allow to grow thick and long. It is plaited or twisted, and wound around the head. Mr. Harris does not explain its significance. In the central Atlas they still call themselves 'Berber' (plural Berebber), but the meaning of the term was not obtained.

They apparently have no knowledge of the old Hamitic or modern Tuareg alphabet, and he asserts that no writing in their tongue exists, though it is occasionally written in Arabic characters. Many tracts of the Riff country of the north have never been visited by Europeans, and the Sultan of Morocco exerts a merely nominal control over it.

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NOTES ON INORGANIC CHEMISTRY.

A CONTRIBUTION to the much discussed subject of the use of alum in foods is given in the last *Journal* of the American Chemical Society, by Professor C. F. Mabery and L. Goldsmith. The authors describe a series of tests as to the influence of varying quantities of alum on the peptic digestion of blood fibrin. In every case the digestive action was retarded by alum, even when present in very small quantity. In order to test the action under actual conditions, two loaves of bread were prepared, one with alum baking powder and the other with a cream-of-tartar-soda powder. Here, again, the peptic digestion was retarded in the case of the bread containing alum. Similar experiments carried out with salicylic acid, boric acid and with formalin showed that while there was with these antiseptics some retardation of the peptic digestion it was slight in comparison with that when alum was used.

THE cause of the rusting of iron which is covered with a protective layer of paint is usually attributed to minute cracks in the paint, occasioned by the unequal expansion of the iron and paint. Edmund Simon gives in *Dingler's Polytechnisches Journal* the results of a study of the conditions of this rusting, and concludes that paint stands changes in temperature, but is always hygroscopic, and when swollen by moisture is pervious both for water and gases. The best way to prevent such rusting is to use three or four coats of a paint, which adheres as closely as possible to the iron, and which contains the largest possible quantity of oil.

IN the *Zeitschrift für physikalische Chemie* John Gibson contends that in all cases the chemical action of light is such that the new products have a higher conductivity than the original. This is true in the case of selenium, sulfur, phosphorous and mercuric sulfid, in the combination of hy-

drogen and chlorin, and in the reduction of silver and mercury salts. The action of light on nitric acid seems to be the only exception, but this is only an apparent exception, as the conductivity of nitric acid solution increases up to 32 per cent. when the maximum is reached, whilst the decomposition by light ceases when the concentration has fallen to 47 per cent.

J. L. H.

SCIENTIFIC NOTES AND NEWS.

THE anniversary meeting of the Royal Society will be held on Tuesday, November 30th, when the officers for the ensuing year will be elected. Lord Lister will be recommended for re-election as President.

THE new house of the American Society of Civil Engineers, 220 West Fifty-seventh street, erected at a cost of $200,000, was formally opened on November 24th. Addresses were made in the new auditorium in the afternoon by the President of the Society, Mr. B. M. Harrod, of New Orleans, and there was a reception in the evening.

THE Danish Geographical Society has awarded its gold medal to Dr. Sven Hedin.

DR. GUIDO SCHNEIDER has been appointed Director of the Biological Institute recently established at Sebastopol.

THE death is announced of Professor Henry Calderwood, since 1868 professor of moral philosophy in the University of Edinburgh, on November 20th, at the age of sixty-seven years. He was the author of numerous publications on education and philosophy, among the more important of which were the 'Relations of Science and Religion' (1881) and the 'Relations of Mind and Brain' (1879), the latter being one of the first systematic treatises on physiological psychology.

THE *Athenæum*, in announcing the death, on November 1st, of the Rev. Peter Bellinger Brodie, of Rowington, in Warwickshire, at the age of 82, states that while a student at Cambridge, Mr. Brodie, like so many others, acquired an enthusiastic love for geology, under the teaching of Professor Sedgwick. His name soon came to be identified with the study of fossil insects, and in 1845 he published a work on this subject. Mr. Brodie was elected a Fellow of the Geological Society as far back as 1834; and the Society recognized the value of his work by the award, in 1887, of the Murchison Medal. A selection from Mr. Brodie's extensive geological collections was acquired a short time ago by the British Museum.

WE regret also to record the following deaths among foreign men of science: Dr. G. H. Otto Vogler, aged seventy-five, a versatile writer on natural history; Dr. Johannes Frentzel, Director of the Biological Station on the Müggelsee, near Berlin, aged 38 years; Dr. L. A. Buchner, professor of pharmacology at Munich, aged eighty-four years; Professor Karl Müller, Director of the Experiment Station for Agricultural Chemistry at Hildesheim, and of Dr. Fr. Stohman, honorary professor of agricultural chemistry at Leipzig, aged sixty-five years.

THE report of the Commissioner of Patents upon the business of the Patent Office for the fiscal year ended June 30, 1897, shows that there were received within that year 43,524 applications for patents, of which 23,994 were granted, including reissues and designs. The number of patents which expired was 12,584. The number of allowed applications which were by operation of law forfeited for non-payment of final fees was 5,034. The total receipts were $1,343,779; the expenditures, approximately, were $1,026,644, leaving a surplus of $317,135. The moneys covered into the Treasury of the United States on account of receipts from fees, etc., in patent cases, from July 4, 1836, in excess of the cost of the management of the Patent Office, amounted to $5,093,614.

Nature states that an instructive fisheries exhibition, arranged to illustrate the fishing industries and the application of science to agriculture, has been opened in the Zoological Museum of the University College, Liverpool. The exhibits are fully described in a guide to the exhibition published by the authorities. There is a series of the food fishes of this district, with the more important food matters of each; also a series of useful and useless fishes