surface is the first of the kind ever published.

NOTES.

WORD has been received of the death, on October 25th, of Dr. Alberto Sanchez, director of the Meteorological and Astronomical Observatory of San Salvador.

A PAPER on Climate was read by Dines before Section III. of the Sanitary Institute, at its meeting at Newcastle-on-Tyne last summer, and has been separately published as a reprint from Vol. XVII., Part III., of the Journal of the Sanitary Institute.

R. DEC. WARD.

HARVARD UNIVERSITY.

NOTES ON INORGANIC CHEMISTRY.

IN the last number of the *Chemical News*, Prof. Crookes describes an examination of the alleged new element 'Lucium' which was patented by Barrière. The lucium was furnished by M. Barrière, and after both spectroscopic and chemical investigation was found to be impure yttrium. Didymium, erbium and ytterbium were also found to be present, which may account for the atomic weight given for lucium, 104, that of yttrium being 89. Prof. Crookes also worked up a specimen of monazite according to Barrière's patent and found that the 'lucium' obtained was the same impure yttrium.

In the same number of the *Chemical News*, Prof. Fresenius makes a disclaimer of any confirmation of Barrière's discovery of lucium.

THE constitution of the so-called nitrogen-iodid is the title of a paper in the Proceedings of the Chemical Society (London) by F. D. Chattaway. This explosive substance, the exhibition of which is familiar to every student of elementary chemistry, has had several different formulæ assigned to it, but its composition has never been satisfactorily settled, in spite of the numerous chemists who have studied it. The author concludes that it is not a mixture, and that its formula is either NHI_2 or NH_3I_2, most probably the latter, which would make it an additive and not a substitution product. This suggestion appears never to have been put forward before, and accounts well for many of the reactions of the substance.

S. HAGA in the same Proceedings considers how mercurous and mercuric salts change into each other. In general mercuric salts are changed into the mercurous when in contact with mercury and water. Mercurous salts in solution or moist when exposed to strong daylight are dissociated even at ordinary temperature into mercury and mercuric salts. In boiling water the change takes place more readily, the mercury distilling with the steam. Only at a higher temperature than boiling water are mercurous salts oxidized to mercuric, at lower temperatures the change being a dissociation. This would seem to offer an explanation of the darkening which sometimes takes place in calomel. Exposed to sunlight when slightly moist it would dissociate into mercury (occasioning the darkening) and corrosive sublimate. Old calomel is sometimes considered to be dangerously active. The physiological action of calomel would also seem to be due, not to an oxidation to the bichlorid, but to a slow solubility of the calomel in the fluids of the stomach and intestine. J. L. H.

PSYCHOLOGICAL NOTES.

THE January number of the *American Journal of Psychology* will contain a characteristic and very interesting article by President G. Stanley Hall entitled 'A Study of Fear.' President Hall sent out from Clark University thirty-two questionnaires relating to the child's mind and its development, and has secured in answer to these an enormous mass of material. He has worked over the data of one of the syllabi only, that concerned with fear, and though