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INORGANIC CHEMISTRY.

HENRY FAY, REVIEWER.

The Action of Zinc on Copper Silicide. BY G. DE CHALMOT. *Am. Chem. J.*, 20, 437-444.—In a previous paper (*this Rev.*, 4, 40) it was shown that sulphur decomposes copper silicide with the liberation of free silicon. It is now shown that zinc acts in a similar manner, setting free crystalline silicon. With the addition of small quantities of zinc, there is no liberation of silicon, owing to the fact that the zinc combines with the free copper in the silicide. By varying the amounts of zinc it has been estimated that the combination of the zinc and copper ceases when the two elements are present in the proportion to form the compound ZnCu_2 , so that for the same quantities of zinc there is more silicon liberated the smaller is the quantity of free copper in the silicide.

The Action of Sulphur upon Metallic Sodium. BY JAMES LOCKE. *Am. Chem. J.*, 20, 592-594.—Sulphur in varying proportions dissolved in hot toluene, when brought into contact with sodium under boiling toluene, reacts to form a sulphide which, after washing with hot toluene, has approximately the composition expressed by the formula Na_2S_2 . In two experiments where there was some residual sodium, it was bright and clear, showing that it was without action at this temperature on the polysulphide formed. At the temperature of melted naphthalene there was likewise combination; but there was no evidence in either case of the formation of sodium monosulphide.

On Some Compounds of Trivalent Vanadium. BY JAMES LOCKE AND GASTON H. EDWARDS. *Am. Chem. J.*, 20, 594-

606.—The vanadates of sodium and ammonium were reduced by alcohol and hydrochloric acid to vanadyl dichloride, and this was further reduced to vanadium chloride by means of mercury amalgam in a special apparatus arranged so that all of the work could be carried out in a current of hydrogen. From vanadium hydroxide new salts were prepared so as to study the influence which the atomic weight exerts upon the development of the properties common to aluminum, chromium, manganese, iron, and cobalt. By evaporating *in vacuo* the green solution obtained by dissolving vanadium hydroxide in hydrochloric acid, crystals of the compound $\text{VCl}_3 \cdot 6\text{H}_2\text{O}$ were obtained. This salt had previously been obtained by Piccini, but was not described by him. It is similar in composition and properties to the chloride of iron, aluminum, and chromium. Double salts could not be obtained from vanadium chloride and the alkali chlorides. The bromide, $\text{VBr}_3 \cdot 6\text{H}_2\text{O}$, prepared in a similar manner, is described; but the iodide could not be obtained. Potassium vanadicyanide, $\text{K}_3\text{V}(\text{CN})_6$, was prepared by dissolving the anhydrous chloride in as small a quantity of water as possible, and by adding to this an excess of a concentrated solution of potassium cyanide. From this solution the new compound was precipitated by the addition of alcohol. This salt forms a member of the series $\text{K}_3\text{M}(\text{CN})_6$ and gives colored precipitates with solutions of inorganic salts. It was impossible to prepare the sodium and ammonium salts. Potassium vanadisulphocyanide, $\text{K}_3\text{V}(\text{SCN})_6 \cdot 4\text{H}_2\text{O}$, was made by bringing together vanadium trichloride and an alcoholic solution of potassium sulphocyanide and crystallizing in a vacuum. It crystallizes in dark-red crystals, which are readily soluble in water and alcohol, the solution, however, being extremely unstable.

On the Decomposition of Concentrated Sulphuric Acid by Mercury at Ordinary Temperatures. BY CHARLES BASKERVILLE AND F. W. MILLER. *J. Am. Chem. Soc.*, 20, 515-517.—The authors state that the acid used by them in previous experiments contained 99.65 per cent. H_2SO_4 , and that it does react with mercury, notwithstanding the evidence to the contrary cited by Pitman. (*This Rev.* 4, 41.)

BIOLOGICAL CHEMISTRY.

W. R. WHITNEY, REVIEWER.

Proteids of the Pea. BY THOMAS B. OSBORNE AND GEO. F. CAMPBELL. *J. Am. Chem. Soc.*, 20, 348-362.—The authors have discovered that the legumin of the pea, previously described by them, was contaminated with another proteid,