To obtain crystals composed of elements scarcely or not at all volatile, we may have recourse to stratagem. Sulphate of barytes, for instance, may be formed by placing under the same glass, a vessel of fuming hydrochloric acid, and a foot glass holding water, sulphate of lime, and carbonate of barytes.

A solution of a salt of pure lime generally affords crystals under the form of primitive rhombohedrons with their principal modifications, while solutions of arragonite furnish simultaneously crystals of the form of iceland spar, and other crystals of the form of carbonate of barytes.

Idem.

On the Employment of Metallic Sulphurets, prepared in the moist way, in Chemical Analysis. By M. ANTHON.

Certain oxides, as is well known, have the property of precipitating others from their solutions. The metallic sulphurets prepared in the moist way, produce the same effect: the precipitated oxide is then transformed into a sulphuret, while the metal of the sulphuret combines, in the state of oxide, with the acid of the dissolved salt.

It results from the experiments that I have made with regard to silver, copper, lead, calcium, iron, nickel, cobalt and manganese, that when these metals are arranged in the above order, the sulphuret of one of them precipitates the solutions of all the metals which precede it, and occasions, on the contrary, no change in the solutions of the metals which follow. Thus the sulphuret of nickel precipitates the salts of silver, copper, lead, cadmium, and iron, and does not affect the solutions of cobalt and manganese.

There is one exception, however, and only one: the sulphuret of iron precipitates nitrate of lead, while the hydrochlorate and nitrate of the peroxide of iron are partially precipitated by the sulphuret of lead.

Idem.

On the Preparation of some Amalgams. By BÖTTGER.

I have succeeded in preparing a certain number of amalgams which hitherto had resisted my efforts. For this purpose I decompose the metallic chlorides by an amalgam of sodium. Hydrogen is disengaged, a hydrated metallic oxide is abundantly precipitated, and the mercury, which was united with the sodium, is now found allied with a certain quantity of the metal. The amalgams I have prepared by this process are those of nickel, cobalt, manganese and iridium.

The amalgams of nickel and cobalt have but little consistency; they do not act upon the magnetic needle, but the action becomes sensible when they are heated so as to expel a portion of the mercury. When the mercury is all volatilized by heat, a black very magnetic mass remains, composed of metal and oxide. The amalgam of manganese is much thicker—it is strongly charged with manganese, and it decomposes water slowly. The amalgam of iridium is prepared by decomposing a solution of the double chloride of iridium and sodium by the amalgam of sodium. This amalgam is thick enough; heat separates from it metallic iridium.

I have tried the same reaction on concentrated solutions of the chlorides of tellurium, aluminium, cerium, calcium, and nitrate of uranium, but have not succeeded in obtaining amalgams.

Idem.