

## Paris Academy of Science.

*Meeting of Jan. 6th, 1879.*

Abstractor, P. CASAMAJOR.

### *On the Formation of Organic Ultramarines, M. de FORGRAND.*

—Silver ultramarine is prepared by the process of Mr. Heumann.\* By heating the silver ultramarine in the dry, with a chloride of a metal, the author obtained chloride of silver and an ultramarine of the metal. This process was published in the *Bulletin de la Société Chimique*, vol. xxx, p. 112. As this reaction is very general, he applied it to the production of organic ultramarines, by heating silver ultramarine with the chlorides and iodides of the various alcoholic radicals.

The silver ultramarine is placed in a closed vessel and heated to 180° C., with an excess of ethylic iodide. After heating 15 to 18 hours, the product is washed with sodic hyposulphite and water, and heated again in the closed vessel in presence of an excess of ethylic iodide. This operation is repeated until the product, after being washed, contains no more silver, this metal having been removed in the state of iodide.

The result is a light grey powder which, on being heated, gives ethylic sulphide. If the powder is mixed with pulverized sodic chloride and the mixture is heated, ethylic sulphide is not given off, and the powder turns from grey to blue, reproducing ordinary ultramarine with all its characteristics.

To ascertain the presence of ethyl in this substance, the author collected the substances resulting from its decomposition by heat in mercuric chloride. The crystalline precipitate, on being analyzed, shows, that the substance obtained was a true ethylic ultramarine.

Analogous reactions were obtained with the iodides of other alcoholic radicals, also with a certain number of iodides of ammonium quaternaries. These results will be given in future communications

*Researches on Ozone and Electricity, M. BERTHELOT.*—The most important experiment of the author is the following: "The decomposition of pure carbonic acid by electricity, in a space free from mercury and from oxidizable substances, gives rise to interesting phenomena which lead us to suspect the existence of per-carbonic acid. After passing electricity for 12 hours in the annular space

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\* Deutsche chemische Gesellschaft, vol. x, p. 991.

between concentric tubes closed by melting over the lamp, I found 16 cubic centimeters of decomposed carbonic acid. This gas attacked mercury and oxidizable bodies with extreme violence. If the oxidizing portion of this gas is ozone, the quantity of this substance was 30 p. c. of the liberated oxygen in one case, and, in another case, 41 p. c. These quantities are enormous compared to those obtained with pure oxygen.

"It would be very interesting to isolate the oxidizing substance formed in this reaction, but when we have tried to separate the carbonic acid and carbonic oxide of the preceding mixture, the oxidizing gas is destroyed by the reagents used for this separation. This gas might be considered as oxygen strongly charged with ozone or with per-carbonic acid,  $C_2O_6$ , but I have not been able to discover any properties by which to distinguish this last compound from ozone mixed with carbonic acid."

*On the Formation of Ethers of Hydracids in the Gaseous State*, M. BERTHELOT.

*Researches on the Compressibility of Gases*, M. L. CAILLETET.—A description of his new apparatus, and the results obtained with nitrogen.

M. MONOT presented to the Academy specimens of *Results Recently Obtained in the Manufacture of various kinds of Crystal Glass*.

"Aventurine is obtained by reducing copper by iron.

"To obtain an imitation of the glass called *vermeil*, a glass of any kind is covered with a thin layer of glass charged with copper. The metallic surface is then obtained by a reducing gas.

"The metallic crackled glass is obtained by using a crystal glass charged with oxide of silver. This is covered with some other glass of any color. By taking off this glass in places, the silver glass is laid bare, and metallic effects are obtained by a reducing flame."

*New Compound Prism, for Direct Vision Spectroscopes of great Dispersive Power*, M. THOLLON.

*Note on the Spectroscope of M. Thollon*, M. LAURENT.

*Syntheses of Uric Derivates of the Alloxan Series*, M. E. GRIMAUX.