

Molybdenum Carbide.—Under date of April 4th, Mr. C. H. Ehrenfeld sends the following additional information upon the supposed molybdenum carbide (see page 388 of this issue):

"Further investigation of the supposed molybdenum carbide has shown that it is undoubtedly only a mechanical mixture. Analyses of different yields of material gave no concordant results. The amount of carbon present seems to depend very largely upon the conditions under which the compound is obtained. For example, when the operation is conducted slowly, at the comparatively low temperature of a Bunsen burner, the percentage of carbon is much greater than when the material is obtained by using the high heat of a blast-lamp."

The Gas contained in Uraninite is, according to Profs. Ramsay and Crookes (*Chem. News*, 71, 151), a mixture of helium and argon with a little nitrogen. Prof. Crookes' measurements of the helium line give, as the wave-length, 587.45, while according to Angstrom the wave-length of the helium line is 587.49, and according to Cornu 587.46. In this connection the following extract from Hillebrand's paper describing the occurrence of nitrogen in uraninite is of interest (*Am. J. Sci.*, [3], 40, 384).

"The nitrogen is set free from the mineral as nitrogen gas by the action of a non-oxidizing inorganic acid, and by fusion with an alkaline carbonate and probably also caustic alkalies in a current of CO_2 . As obtained by the use of acids the gas is colorless, odorless, a non-supporter of combustion, unchanged by mixture with air, neutral to litmus papers, not absorbed by caustic alkalies, and insoluble in water, at least its coefficient of absorption is so small as to be inappreciable without elaborate experimentation. When subjected in a eudiometer to the ordeal described by Bunsen¹ there results no alteration in volume, other than that caused by the union of the hydrogen and oxygen added.

This evidence, while fairly conclusive as to the nature of the gas, was purely negative, and proof of a more positive character was sought. Nitric acid is formed from a moist mixture of the gas with pure oxygen by long continued passage of the electric spark, and ammonia is produced by the so-called silent discharge

¹ Gasometrische Methoden, 2d ed., pp. 73 and 74.

through a mixture of the gas with three volumes of electrolytic hydrogen. The contraction produced in the latter case could be measured by cubic centimeters, and water used as an absorbent of the ammonia colored red litmus paper deep blue, besides giving a strong ammonia reaction with Nessler's reagent. With dilute hydrochloric acid as an absorbent there was obtained an abundant precipitate of ammonium platinic chloride. In a Geissler tube under a pressure of 10^{mm} and less the gas afforded the fluted spectrum of nitrogen with great brilliancy.'

“ Throughout the whole list of analyses in which nitrogen has been estimated the most striking feature is the apparent relation between it and the UO_2 . This is especially marked in the table of Norwegian uraninites recalculated, from which the rule might almost be formulated that, given either nitrogen or UO_2 the other can be found by simple calculation. The same ratio is not found in the Connecticut varieties, but if the determination of nitrogen in the Branchville mineral is to be depended on, the rule still holds that the higher the UO_2 the higher likewise is the nitrogen.”

Compounds of Argon.—Berthelot finds that argon combines with the vapor of benzene under the influence of the silent electric discharge giving a yellow resinous odorous substance condensed on the surface of the two glass tubes between which the electric action is exerted. This substance, when heated, is decomposed, leaving a bulky carbonaceous residue. The volatile products of decomposition turn litmus blue, indicating that an alkaline substance is contained in them. (From a translation of Berthelot's article in the *Chem. News*, **71**, 151.)

ERRATA.—In Professor Venable's article in the February number the name of Victor Meyer occurs in several places. It should read Lothar Meyer.