with a green fluorescence was obtained, the prismatic crystals being dissolved while the needle-like crystals appear to be quite insoluble. Upon evaporation of the benzene solutions red prismatic crystals were obtained which became colorless with ammonia, and on evaporation of the solution so obtained gave a colorless crystalline mass.

The difficulty in preparing even small amounts of ricinine has materially interfered with the process of the investigation. The writer is now germinating seed in the dark, and hopes to be able to contribute further in the near future.

UNIVERSITY OF CINCINNATI,
December 29, 1899.

NOTES.

Retention of Moisture by Asbestos.—In the use of the Gooch crucible error may result from ignoring the fact that asbestos (some asbestos at any rate) retains moisture with great tenacity, so that after being dried at 100° C. to constant weight, the Gooch apparatus will suffer a further and notable loss of weight upon ignition over a Bunsen burner.

	Grams.
1. Dried one hour at 100° C., weighed	21.0452
Again dried one hour at 100° C., weighed	21.0450
Then ignited ten minutes, weighed	21.0441
2. Dried one hour at 100° C., weighed	21.0436
Then ignited five minutes, "	21.0429
3. Dried one hour at 100° C., "	21.0418
Again dried one hour at 100° C., weighed	21.0418
Then ignited five minutes, weighed	21.0409
4. Dried two hours at 100° C., "	20.7304
Then ignited one-fourth, weighed	20.7293
5. Dried three hours at 103° C., weighed	20.8250
Then ignited one-fourth hour, weighed	20.8246
6. Not dried in air-bath	.....
Ignited five minutes	21.0950
Then ignited again one hour	21.0944
7. Asbestos in larger quantity from a Hirsch funnel dried in a platinum crucible six hours at 90°–100° C.	20.2828
Then ignited one hour	20.2811
8. Ignited in a platinum boat in porcelain combustion tube in current of oxygen, then dried three hours at 100° C	21.1742
Then ignited one hour	21.1726

The asbestos used in these experiments was, of course, previously ignited and purified.

It is therefore necessary, when the weight of a dried precipitate is to be found, either to get the preliminary weight of the Gooch crucible by drying the same length of time, and at the same temperature as is intended with the precipitate; or much more conveniently, to find, once for all, the weight of the moisture retained by the dried Gooch crucible, and make the necessary correction when getting weights of precipitates.

GEORGE AUCHY.

The Determination of Graphite by Loss.—The figures given in the above note show that it is necessary to observe precaution in determining graphite in pig iron by the method of loss upon ignition, if the operator prefers the use of asbestos to that of a weighed paper disk or to counterpoised filters. Although the proposers of this method of determining graphite (Eggertz, Tamm, Crobaugh, Dougherty, Rodgars) are unanimous in directing the use of weighed paper for filtering, asbestos seems preferable for the reason that by its use the time and labor of drying and weighing the paper disk, or of drying and counterpoising the filters, is saved. With asbestos no weight is taken except that of the Gooch crucible plus graphite, etc., after drying, and again after ignition, the loss representing graphite. In the absence of a Gooch crucible the filtration may be made in a Hirsch funnel, or a Shimer funnel, and the asbestos and graphite then transferred to an ordinary crucible with the graphite part of the asbestos pressed against the wall of the crucible, as is also done when a Gooch crucible is used.

In using this method of loss upon ignition (filtering through counterpoised filters) Crobaugh obtained somewhat variable results (3.53 per cent. to 3.75 per cent.) which he attributed chiefly to non-homogeneity of the drillings. The presence of hydrated silica could not serve as an explanation, because the elimination of the silica by the addition of hydrofluoric acid during solution of the drillings, is a distinguishing feature of his method. The writer of this note also obtained varying results by the method, which, in his opinion were due, not to any lack of homogeneity in the drillings (mixed as they were by the aid of alcohol as recommended and found necessary by Shimer), nor