

quantities, distribution becoming less as the clarity of the solution diminishes.

The distribution of arsenic and sulphur between the two phases has not yet been studied; it is possible that even when arsenious acid and hydrogen sulphide have been added in equivalent quantities the upper layer may contain more sulphur than is equivalent to the arsenic it contains. Nor has the effect (if measurable) of the sulphide on the composition of the system at the plait-point, or on the temperature at which a system of given composition becomes homogeneous, been determined. These matters, together with a quantitative investigation of the effect of hydrogen sulphide on the distribution ratios will be taken up in this laboratory during the coming winter.

**Arsenic trisulphide, water, ether, acetone**

The composition at the plait-point is about: water 4 cc, ether 5 cc, acetone 8 cc. Distribution was observed.

**Arsenic trisulphide, water, ethyl acetate, alcohol**

See Tables 1 and 2 and Fig. 1. Distribution may be observed here also, though not so readily as when ether is employed. The observation is interfered with by the saponification of the acetate which may render a heterogeneous system homogeneous on standing.

**Arsenic trisulphide, water, ethyl acetate, propyl alcohol**

The composition at the plait-point is about: water 12 cc, ethyl acetate 5 cc, propyl alcohol 7 cc. Distribution was observed.

**Antimony trisulphide, water, ether, alcohol**

A dilute solution of tartar emetic was substituted for the arsenious acid. Distribution was observed; after a few days the upper layer had become colorless, and finally all the antimony sulphide subsided from both layers.

**Antimony trisulphide, water, chloroform, alcohol**

No distribution was observed; the sulphide remains in the upper layer as is the case with arsenious sulphide. We