accurate, while many of them are so complicated and the reagents so difficult to obtain and keep that they are of little practical use to the busy practitioner.

The scientific analyst no doubt finds them of great service for many delicate reactions and for estimating in a comparative way the volumetric amount.

The following list comprises some four or five of the most satisfactory tests:

(1) *Heat.*—Fill a long test-tube two-thirds full of the urine. Hold the test-tube by the bottom and apply the flame to the upper third until it reaches the boiling point. If this produces no precipitate it indicates either the absence of albumin or alkalinity of the solution so that the serum-albumin is not precipitated. Add a drop or two of nitric acid and again heat. If it still remains clear there is no albumin present. Should a precipitate form and not clear up but become more decided on the addition of a little more nitric acid albumin is present.

Before applying the heat it saves time to test the reaction of the sample with litmus paper and if found alkaline acidulate with a few drops of nitric or acetic acid.

(2) *Heller's or the Nitric Acid Test.*—Take a drachm of nitric acid in a test-tube and holding it obliquely with a dropper allow the suspected urine to flow gently down on the nitric acid. The urine being less dense will float on the surface of the acid, and if albumin be present a white cloudy segment will form at the junction of the two fluids. The action of the acid on the coloring matter of the urine will produce a colored segment at their junction. This, which is a variable *brown* according to the quantity of coloring matter and urates in the urine must be carefully distinguished from the *white* precipitate of albumin.

Any liability to error may be avoided by the following:

(3) *Nitric Acid with an equal volume of water.*—This is a modification of Heller's test. Pour in a drachm of nitric acid and then carefully add half a drachm of water. The fluids being of different density will remain for a time separate. Now add the urine as before. It will filter down through the water and striking the nitric acid the white segment of precipitated albumin will form with very little appearance of the brown marking.

This is a more delicate test than Heller's.

(4) *Xanthoprotein Reaction.*—Add strong nitric acid to the sample to be tested and then boil. After allowing the liquid to cool add ammonia. If there is albumin present it will produce an orange color.

(5) *Robert's Acid Brine Test.*—A standard solution of this test is made by adding one ounce of dilute hydrochloric acid to fifteen ounces of a saturated solution of sodium chloride.

Taking a drachm of this solution you treat the urine in precisely the same way as in Heller's nitric acid test.

A white segment will form at the line of junction if albumin be present.

This test has some advantages e.g., a solution can be kept on hand, does not stain and can be carried with less danger than nitric acid.

We have said the foregoing are the most satisfactory tests but even these will not enable us to distinguish the adventitious variety of albumin from the intrinsic. A reliable and practicable test of this kind is yet to be found, therefore we must decide which variety of albumin is present by the process of exclusion. If albumin has appeared in the urine for some considerable time without any of the prominent physical signs of renal disease such as oedema, dimness of vision, headache, contraction of the pupils, nausea and vomiting loss of appetite, asthma, etc., being present or the still more positive exclusive evidence furnished by the microscope in the absence of all *casts* and cast *débris* it is reasonable to suppose it is of the adventitious form.

On the other hand, the history of the case, the presence of albumin, the development of physical signs and the discovery of casts, etc., will usually leave little room for doubt and less for favorable prognosis.