

examination of one or two of the slides under the $\frac{1}{8}$ " objective completes the study.

A few explanations follow: The two 15 cc. samples taken from the well-shaken urine are each fully large enough to include, in correct proportion, all of the kinds of suspended solids in the main specimen. The use of the alum in alkaline solution insures the formation of a coagulum which entangles and precipitates all morphologic elements of the urine and checks the findings in test tube "a." The sediment must be mixed before taking the drop upon the slide because the solids do not settle uniformly. The illustration, Fig. 4, shows one of the centrifuge tubes ready for taking away the drop for microscopic examination—AD is the pipette; BD is the centrifuge tube; and CD is the sediment with accompanying liquid.

THE DETERMINATION OF THE CHEMICAL REACTION OF URINE.

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One having but little experience with the use of litmus paper in determining the chemical reaction of urine would think that no test upon the urine could be more simple in performance or more certain in its results. As a matter of fact, however, there are many fallacies in this apparently simple test. The fallacies arise mainly from the use of dry litmus paper and from the oftentimes faintness in the change of tint. The eye needs a control color-guide in order to render the results certain. I have for several years been employing, with much satisfaction, the following procedure, in which I believe the chances for erroneous results have been eliminated:

HOW TO CONDUCT THE TEST.

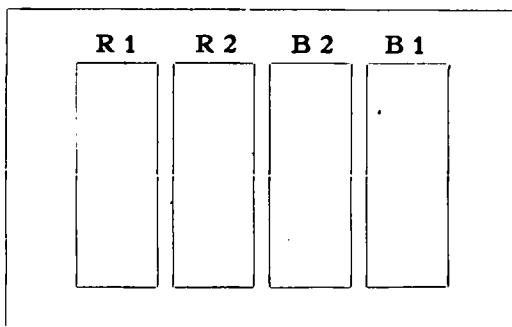
Half fill a small beaker with urine. Lay a clean white tile (or any other clean glazed surface) upon the table near the beaker. Take up two slips of red litmus paper—which for clearness in description we will call R 1 and R 2. Wet both slips of red litmus paper with neutral water. Lay R 1 upon the tile and hang R 2 against the side of the beaker so that the paper adheres to the beaker and is about two-thirds immersed in the urine. Take up two slips of blue litmus paper—B 1 and B 2, and proceed as with R 1 and R 2. After R 2 and B 2 have remained in the urine three minutes, remove them and lay them beside R 1 and B 1 on the tile. The order upon the tile should be R 1, R 2, B 2, B 1, as shown diagrammatically below. The tints will now lie side by side and the eye can readily detect any color change that may have occurred.

There are three possible alterations in tint: I.—Of R 2 to bluish, which means that the urine is alkaline. II.—Of B 2 to reddish, which means that the urine is acid; and III, of R 2 to bluish and B 2 to reddish, which means that the urine is amphoteric.

If an alkaline reaction be observed, it is important to determine whether or not the alkalinity is due to ammonium carbonate. To gain this information, heat the tile gently until the four slips of litmus paper upon it are thoroughly dried. If

R 2, which had become bluish in the urine, regains its reddish tint by drying, then the alkalinity of the urine is due to ammonium carbonate. (This means that the bladder is infected.)

If R 2 becomes frankly blue, the urine is said to be sharply alkaline. If R 2 becomes but faintly bluish, the urine is said to be slightly alkaline. Similarly, when B 2 becomes frankly red or faintly reddish, the urine is said to be respec-



tively, sharply acid or faintly acid. It is my experience that in health the most common reaction for the mixed urine for twenty-four hours is the amphoteric reaction and not the acid reaction, as is customarily stated.

NOTES.—R 2 and B 2 are apt to fade slightly where immersed in the urine, due to solubility of the coloring matter, but no importance is to be attached to this change. The hands, if not washed carefully, are apt to have some unsuspected power to change the color of litmus paper.

REPORT OF THE COMMITTEE ON THE U. S. PHARMACOPOEIA.

L. D. HAVENHILL, CHAIRMAN.

The work of the committee this year has been very much handicapped. It has suffered the loss of both of its efficient officers, Chairman George M. Beringer resigned, and Secretary C. S. M. Hallberg, by death. Because of subsequent misunderstanding, the committee was not reorganized until late this spring. The short time then remaining and the fact that five of the members are actively at work in the Pharmacopoeial Committee of Revision and two in the Committee on the National Formulary, made it inadvisable to attempt concerted action along any line of investigation. The report, for these reasons, will necessarily be brief and confined to a few miscellaneous topics.

Aquae. Considerable complaint is heard concerning the use of Purified Talc as a distributing agent in the preparation of the aromatic waters. Mr. Mittelbach says, in this connection: "I do not like Talcum or Magnesium Carbonate or any