

## PROFESSIONAL REVIEW.

## THE NURSING EDUCATION BULLETIN, U.S.A.

The *Nursing Education Bulletin*, published semi-annually since 1928, of which the Editor is Miss Isabel M. Stewart, Professor of Nursing Education, Teachers' College, Columbia University, New York, will henceforth be issued for the Department of Nursing Education of Teachers' College when ready, and not at any specified date. A subscription of one dollar will entitle the subscriber to two copies of the *Bulletin*.

The Dean of Teachers' College then described it as dedicated "to the breakdown of isolation . . . and to the dissemination of experience that progress may result," and later Miss Nutting pictured it as "a journal hospitable to new ideas, generous in its encouragement of all study and experiment which holds promise of enlarging our knowledge of our work, vigorous and fearless in criticism, particularly of ourselves." Each member will deal with some special subject relating to Nursing or Nursing Education, and Bulletin I of the new series, which is now before us, contains interesting articles by Miss Isabel M. Stewart on "A Search for More Exact Measures of Reliability and Efficiency in Nursing Procedures"; "An Opportunity to Co-operate in a Plan for Improving Nursing Practice," by Maurice A. Bigelow, Director of the School of Practical Arts and of the Institute of Practical Research; on "Opportunities for Nursing Research in the Institute of Practical Arts Research," on "The Variability in Existing Nursing Practices and Methods of Determining their Validity," by Martha Ruth Smith, Instructor in Nursing Education, Teachers' College, Columbia University; and "The Science Laboratory as an Aid in Improving Nursing Practice," by Jean Broadhurst, Professor of Bacteriology and Research, Associate in Institute of Practical Arts Research, Teachers' College, Columbia University, a particularly interesting and stimulating paper.

Appended are some "Tests of Nursing Methods and Materials," from which we print the following examples:—

## TESTS OF NURSING METHODS AND MATERIALS.

## The Hand Scrub.

BY EDNA C. MORSE.

This experiment includes about forty hand washing tests in which the hands were experimentally contaminated with the well-known prodigious organism. After allowing the organisms to dry on the hands, the hands were scrubbed with Ivory soap in different ways, and the scrub tested by later rinsing the hands in 100 cc. of sterile water. Next 10 cc. of this water was centrifuged and the bottom cubic centimeter of the centrifuged tube was used for making agar plates. The scrubs used were (1) 5 minutes: scrub each hand  $1\frac{1}{2}$  minutes, rinse each hand 1 minute; (2) 3 minutes: scrub each hand 1 minute, rinse each hand  $\frac{1}{2}$  minute; (3) 3 minutes: scrub each hand  $\frac{1}{2}$  minute, rinse each hand 1 minute; (4) 3 minutes: scrub each hand  $1\frac{1}{4}$  minutes, rinse each hand  $\frac{1}{4}$  minute; (5) 3 minutes: scrubbing constantly under running water, soap reapplied several times. (Between uses, the brushes were kept in bichloride of mercury (1:2,000).)

1. Prodigious bacteria were recovered in all but five of the tests, and in all but one test other bacteria appeared on the plates, sometimes 100 to 500 per plate (or 10 cc. of wash water).

2. Methods 1, 2, and 5 gave the best results.

3. Low counts (0 to 10 bacteria per 10 cc. of wash water) were obtained only when the nails were given special attention. Then the total counts of bacteria dropped markedly, the five-minute scrubs (1) averaging 18 instead of 225, the three-minute scrub (2) averaging 35 instead

of 330, and the running water scrub (5) averaging 32. The lowest averages for prodigious recovery were found in (1) (six colonies) and (5) (nine colonies).

Since tap water is not sterile, the count ranging from practically zero to hundreds or occasionally thousands per cc., we cannot expect any hand scrub with tap water to give sterile hands.

The survival of prodigious indicates the necessity of a stronger chemical agent than ordinary soap, and the desirability of finding one which is not irritating to the skin under such strenuous measures as the prolonged skin irritation involved in even the three-minute scrub.

## The possibility of Bacterial Contamination of Fluids used in Infusions.

BY FLORENCE A. HIXON AND HELEN SHANK.

Five types of containers (Kelly bottle, upright flask, inverted flask, glass irrigating can, enamel irrigating can) were used, with and without covers, to compare the bacterial content of the liquids at four different stages of an infusion: the beginning, the middle, one inch of fluid left in the can, one-quarter inch of liquid left in the can. Five hundred cubic centimeters of sterile water was used in every case.

1. In forty-five paired experiments, bacteria were found in samples of 1 cc. each, taken from five of the covered containers and from seventeen of the uncovered containers.

2. The bacterial counts were usually low—less than 10 per cc. sample. In a few cases the later counts reached 30 to 80 per cc., and these, averaged with the lower counts of earlier samples of the same can, indicated a possible total of 4,000 to 10,000 per container.

3. The best record was made by the Kelly bottle, bacteria being found in but one of the seventy-two samples taken from the nine covered and nine uncovered Kelly bottles.

4. The poorest records were made by the containers with a large aperture for air contact and with a side outflow.

All open containers have one common contaminating factor, the air drawn into the bottle. It is, therefore, important that the cover should be a filter rather than a mere cover. These experiments should be repeated, using a moist sterile cotton pad between the sterile towel layers, or in the small aperture flasks, a cotton plug moistened (but not dripping) with sterile water.

The side outlet may set up currents which mix the upper surface of the liquid with that below. This would mean that no protection would be obtained by refraining from using the last inch or so of the liquid. Attempts to demonstrate such currents were unsuccessful, probably because the powdery substances used were too heavy.

The act of refilling a container mixes any surface-held bacteria with the new liquid, and shows the need of filtering the air that enters the container.

The application of these results to blood transfusion is obvious, and suggests a change in the type of plug or cover used in the blood transfusion or other infusion container.

## Is mere Boiling sufficient to prevent Disease Transfer by Dishes?

BY BEULAH LEHR.

Full tray sets of dishes (spoons, forks, cups, plates, etc.) were inoculated with soft egg yolk containing fresh cultures of bacteria (coli and staphylococcus.) These dishes were allowed to dry for ten minutes, and were then boiled or steamed for periods varying from five to twenty minutes. The survival of the test organisms was shown by swabbing the dishes and incubating the swabs in appropriate kinds

[previous page](#)

[next page](#)