SCIENTIFIC PROCEEDINGS

ABSTRACTS OF COMMUNICATIONS

One hundred twenty-sixth meeting.

University and Bellevue Hospital Medical College, New York City.
November 15, 1922.

President Wallace in the chair.

33 (1993)

A modified Gram stain.

By NICHOLAS KOPELOFF and PHILIP BEERMAN.

[*From the Department of Bacteriology, Psychiatric Institute, Ward's Island, New York City.*]

The following method of Gram staining is based upon the satisfactory results obtained by the use of modifications devised by Burke and Atkins:

1. Air dry a thinly spread film and fix with least amount of heat necessary to kill the organisms and fix them to the slide.

2. Flood slide with dye solution. This is prepared by previously mixing in a beaker about 30 drops of a 1 per cent. *aqueous* solution of methyl violet 6B (Coleman and Bell) with 8 drops of a 5 per cent. solution of sodium bicarbonate. Allow the mixture to remain on slide 5 minutes or more.

3. Flush off the excess stain with the iodine solution and cover with fresh iodine solution for 2 minutes or longer. The iodine solution consists of 2 gm. iodine dissolved in 10 c.c. normal sodium hydroxide solution, to which is then added 90 c.c. of water.

4. Drain off the excess iodine solution, without blotting (no water being used) but the film is not permitted to become dry.

5. Add acetone (100 per cent.) drop by drop until no color is seen in the drippings from the slide, which is slightly tilted. This usually requires less than 10 seconds, and should be reduced to a minimum.

6. Air dry the slide.

7. Counter stain for 10-30 seconds with 0.1 per cent. aqueous solution of basic fuchsin.

8. Wash off excess stain by short exposure to tap water and air dry. If slide is not clear, immersion in xylol is recommended.

This method has yielded particularly good results in staining milk slides for *Bacillus Acidophilus* and in staining fecal specimens. By this method gonococci and diphtheria bacilli are particularly well differentiated and more easily identified than by the older methods. The same was found to be true for a number of common pathogens and saprophytes studied.

34 (1994)

Permeability of the cell: the surface as contrasted with the interior.

By ROBERT CHAMBERS.

[*From the Department of Anatomy, Cornell University Medical College, New York City.*]

Protoplasm is known to be permeable to some substances and not to others. The microinjection method appears to be the only method of determining whether this semi-permeability is a property of the entire mass of protoplasm or of its surface film only.