TABLE I.

Solution injected with bacteria	Average number of bacteria in lymph per cc.	Time of appearance after injection
Alkaline solution and egg white	500 to 1000	1st 5 min. and lasting for 30 min.
Neutral solution and egg white	None	
Alkaline solution	None	
Neutral solution	None	
Alkaline solution and bile	50 to 100	1st 5 min. and lasting for for 20 min.
Neutral solution and bile	3 to 5	During first 30 min.
Alkaline solution and dog's serum	None	
Neutral solution and dog's serum	None	

The duodenum is permeable to living bacteria when the contents are suddenly alkalinized in the presence of a foreign protein; this also takes place when alkalinized bile is placed in the lumen of this part of the intestinal tract. Bile and normal salt solution with bacteria are associated with a slight degree of permeability. This is a preliminary report upon the problem of vaccination by oral ingestion of the antigen.

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Simplified Electrical Method to Distinguish Toxigenic from Non-Toxigenic Diphtheria Bacilli.

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In an earlier paper, Falk, Tonney, White and Jensen[1] reported some details concerning the use of a simple cataphoresis apparatus to distinguish toxigenic from non-toxigenic diphtheria bacilli. There are four shortcomings of the technique: (1) Use of pure cultures; (2) at least 48 hours' incubation; (3) three washings of the bacteria with distilled water; and (4) focussing the microscope on the "stationary level," which have been eliminated by modification of the method.

We now cultivate the suspected culture from the swab on Löffler's blood serum at 37° C. for 12 to 24 hours. The growth is taken off with a sterile, clean wire loop or wooden applicators, and is emulsified in a little distilled water. A little of the emulsion is used for a stained preparation and examined under the microscope. If diphtheria-like organisms are observed, the remainder of the emulsion is used in the capillary tube of the new cataphoresis apparatus.

The principle of the simplified, capillary method was developed by Mooney.[2] The carefully cleaned tube (0.45-0.50 mm. outside and 0.15-0.25 mm. inside) is dipped into the bacterial suspension. It fills by capillarity. It is then laid across the electrodes in the simple chamber which had been previously filled with distilled water. The chamber is merely a rectangular glass dish with a pair of platinum electrodes bent to hold the capillary in a horizontal position. The "cataphoretic velocity" of the bacteria in the middle of the capillary is determined by the method which has already been described in detail.[1] The measurement recorded here, however, is not the true cataphoretic mobility of the bacilli, but the difference between this mobility and the velocity of the endosmotic streaming in the capillary.

[1] Falk, Tonney, White and Jensen, *Am. J. Pub. Health*, 1927, xvii, 714.
[2] Mooney, *Phys. Rev.*, 1927, xxix, 218.

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Chemical Constitution and Germicidal Action.

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In two recent papers Tilley and Schaffer[1, 2] have reported upon the extraordinarily constant relations between chemical constitution and germicidal activity of alcohols, phenols, resorcinols and corresponding intermediate ketones. By correcting the phenol coefficients with the ratio of the molecular weights of the test substance to the molecular weight of phenol, the computed germicidal action for certain organisms is found to vary in a constant ratio with the addition of alkyl groups.

Hence it seemed of interest to determine whether a similar constancy would appear in other chemical series. We have utilized the data reported by Kligler[3] in his studies on the antiseptic properties of certain organic compounds. In a number of series, recomputation of Kligler's data on the germicidal activities of these substances for *Bacterium coli A* (of his series) shows the following ratios: