

the N-methyl derivative of the *l*- form of lysine, valine, leucine, and isoleucine fail to do so. It is interesting to note that whereas the N-methyl derivative of *l*-phenylalanine is utilized by the rat neither the N-ethyl nor the N,N-dimethyl derivative supports growth.

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Serological Classification of *C. diphtheriae*.

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The recent introduction of the serological classification of *beta* hemolytic streptococci by Griffith¹ has helped greatly the epidemiological studies of scarlet fever.^{1, 2, 3} Classification of *C. diphtheriae* has been found of similar value by Durand and Guerin,⁴ and Eagleton and Baxter.⁵ The former described 5 distinct agglutinable types and the latter, 10. No standard serological classification, however, has as yet been universally adopted. Recently, Robinson and Peeney⁶ working with *gravis* strains distinguished 5 serological types among this group.

The tube method of agglutination was employed by previous workers. In dealing with the large number of cultures which an epidemiological study will necessarily involve, the tube-method would be time-consuming and a relatively large amount of material would be required. Besides, technical difficulties, such as rapidly settling cultures, autoagglutinable and granular strains may frequently be encountered. To obviate some of these difficulties, we have made use of the slide-agglutination technic as introduced by Coca⁷ for cholera examination, and later utilized by Krumwiede^{8, 9} for the identification of meningococcus and typhoid-paratyphoid organisms, and by Griffith¹ for the serological classification of *beta* hemolytic

¹ Griffith, F., *J. Hyg.*, 1934, **34**, 542.

² Swift, H. F., Lancefield, R. C., and Goodner, K., *Am. J. M. Sc.*, 1935, **190**, 445.

³ Wu, C. J., and Sia, R. H. P., *Chinese Med. J.*, 1939, **55**, 150.

⁴ Durand, P., and Guerin, J., *C. R. Soc. biol.*, 1921, **84**, 980.

⁵ Eagleton, A. J., and Baxter, E. M., *J. Hyg.*, 1923, **22**, 107.

⁶ Robinson, D. T., and Peeney, A. L. P., *J. Path.*, 1936, **43**, 403.

⁷ Coca, A. F., *Bull. Manila Med. Soc.*, 1910, **2**, No. 1.

⁸ Krumwiede, C., *J. A. M. A.*, 1917, **69**, 358.

⁹ Krumwiede, C., *J. Inf. Dis.*, 1918, **23**, 275.

streptococci. We have found it to be simple, rapid, economical and satisfactory.

In the absence of standard type-cultures, the production of type-agglutinating sera was necessarily slow. Immunization of rabbits was first carried out with several strains of diphtheric bacilli chosen at random. Other strains found not to be agglutinated by these sera were used to produce new sera. In this way, 10 different types have been obtained.

Typing was done by placing drops of a thick bacterial suspension on a slide; then with each drop, a loopful of one of the agglutinating sera was mixed. With the aid of a hand-lens, agglutination in one of the drops could be observed immediately.

By this method, 95 strains of virulent diphtheric bacilli isolated from clinical cases of diphtheria treated in this hospital during the last 2 years have been classified as follows:

(1) Type D30	23 strains	(5) Type D14	10 strains
(2) " D25	18 "	(6) " D40	8 "
(3) " D41	16 "	(7) " 6287	5 "
(4) " 12190	12 "	(8-10) " D15, D43, 1382,	1 strain
			each

Type D40 and 6287 strains showed slight cross-agglutination. However, the type-specificity of all the sera has been confirmed by the reciprocal absorption-tests.

Summary. For serological classification of *C. diphtheriæ* the slide-agglutination technic has been used. Of 95 strains obtained locally from clinical cases, 92 fell into 7 distinct serological types.

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Experimental Trichophytid in Guinea Pigs.*

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The term "trichophytid" was introduced by Bloch to designate a generalized eruption occurring during the course of a localized trichophytosis. It has also been used to designate localized skin lesions

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