

another individual, seemingly equally healthy, has a minimum amount of this valuable protective substance. In other words, it is perfectly possible for two people apparently in perfect health and equal strength to be exposed to diphtheria, one being stricken, the other escaping. The interesting point for the clinician is to determine which one will be stricken and which one will escape. This is of particular interest to him when the somewhat remote danger of anaphylaxis is considered, and still more so when he is called upon to determine as to the wisdom of administering diphtheria antitoxin to a large number of individuals in a family, the members of which have been exposed; or to the still larger number of individuals in an institution where the malady threatens to run riot.

For many months past evidence has constantly been accruing to the effect that it is possible for us to determine which patient needs antitoxin and which patient does not need antitoxin, and this is done by a test closely allied in its nature to the so-called von Pirquet reaction, or test, introduced by that clinician. The test consists in introducing into the skin itself, not subcutaneously, by means of a sharp-pointed fine needle a minute amount of standard diphtheria toxin, not antitoxin, which is diluted, and which contains 0.5 per cent. carbolic acid to preserve it. This standard solution or mixture of diphtheria toxin when about to be used is diluted still further by normal salt solution so that 0.2 Cc. contains $1/50$ of the minimum lethal dose for a guinea-pig of 250 grammes. The injection is usually given upon the flexor portion of the arm or forearm. The reaction which it induces varies considerably in different individuals. If the part so treated develops a definite, well-marked hyperemia, or redness, this indicates that the patient possesses very little if any diphtheria antitoxin; a fainter reaction shows that there is more diphtheria antitoxin present; and if there is no reaction the patient can be considered immune for at least a time. Schick, who brought forward this test, claims that about $1/30$ of a unit of antitoxin is present in each cubic centimeter of the patient's blood to render this test negative; or, in other words, to indicate that the patient is so immune that after exposure to the disease an injection of antitoxin is not required. Naturally such a test in orphan asylums when properly applied possesses not only a humane but a pecuniary value which is most important.

It is interesting to note that not only do certain individuals vary greatly in their reaction to the Schick test, but that groups of persons forming families vary as groups. Park states that where there are a number of children in a family and the youngest child gives a negative reaction, or in other words, is not suscep-