

tube was introduced into the rectum and cultures made on agar-agar plates. The investigation of fermentative properties of the organisms was carried on chiefly in milk. Seventeen children selected from those sent to the Thomas Wilson Sanitarium outside Baltimore were studied; a perfectly healthy child taken as a control experiment. Some were fed on breast-milk and some on condensed milk. Eighteen different varieties of bacteria were isolated, the differentiation being made by their morphology, characters of the growth in different media by feeding inoculated milk, and by hypodermic injections. All but one were bacilli. *Bacterium coli* (Escherich) was found in all but the two with dysentery. It was present in smaller numbers in the most serious cases, especially in cholera infantum. One was found very similar to *B. lactis aerogenes* (Escherich), not positively identical. A liquefying bacillus with marked pathogenic properties was found in four cases of cholera infantum. The single variety of micrococcus found was present in three cases of cholera infantum and three of catarrhal enteritis.

In plate cultures the healthy feces always showed a greater number (immense numbers) than did pathological feces; but there was always a greater number of varieties in pathological feces.

Two varieties especially produced marked pathological effects in feeding and inoculation experiments on animals. A liquefying bacillus which was found frequently but not constantly in cholera infantum effected changes in albuminous compounds which proved rapidly fatal when injected in small quantity into the veins of rats, and milk cultures of the same when fed, usually resulted in death to man and Guinea-pigs. None were found capable of multiplying in ordinary hydrant water, and cultures could not be obtained from it in any case 48 hours after it had been inoculated. All thrived in milk, some producing coagulation with acid reaction, some rendered milk sour with coagulation, some rendered it alkaline with coagulation, some no apparent effect, and one coagulates it with alkaline reaction.

#### NEUROLOGY.

##### Multiple Neuritis (Peripheral).

In no direction has the study of nervous diseases advanced more satisfactorily during the several past years, than in the study of peripheral neuroses.

The practising physician is so accustomed to associate dermal hyperæsthesia with hysteria and other functional disorders on the one hand, or central lesion on the other, that disturbances owing to diseases of the nerves themselves have been largely overlooked. There have been studies published occasionally, but to, Jaccoud, Grainger, Stewart, Duplaix, and Starr, we owe our principal knowledge of the subject. Of it there are several forms; (1) a perineuritis, affecting solely or principally the sheath of the nerves; (2) a parenchymatous or degenerative neuritis in which the connective tissue between the nerve fibres is chiefly attacked; (3) a diffused neuritis in which all parts of the nerve bundle are more or less affected. A clinical distinction between these forms has not yet been found possible. In parenchymatous inflammation the myelin is gradually absorbed and the cylinder axis disappears, leaving but an atrophied tube deprived of its contents. Erb and others consider with much show of reason that these atrophic changes are secondary and due to spinal changes. The difference vainly must be considered as a true inflammation, as might readily result from local injury. Segmental periaxillary neuritis has been noticed by several writers as associated with lead poisoning, diphtheria, and alcoholism. The change seems to be interstitial. As to causes, as may be expected, we have (1) idiopathic, (2) infectious, (3) toxic, (4) epidemic, as in *beriberi*. Of the more important are those doubtless resulting as complications of or sequelæ of local inflammations as of pharyngitis, diphtheria, scarlatina, syphilis, puerperal infection, etc., and to these we may add rheumatism and gout.

Some of the symptoms noted are motor paralysis, anæsthesia and abolition of the reflexes and electro-contractility. Fatal results may rapidly supervene, if the larynx, œsophagus, etc., are involved. In alcoholic cases, there may be a history of gastric catarrh, tremor, sleeplessness, and erratic pains, numbness, etc. We have other abnormal sensations referred to different nerves, as tingling, burning, boring, tearing, etc., cramps, girdle-feet, coldness, etc. Skin reflexes may be excited or depressed, and great alterations in the reflexes may occur. Vaso-motor changes vary much in amount, from a deep purple to extreme lividity. Treatment must vary in some degree with the history of causation; the usual list of drugs is re-