

been first described by Klebs in 1883, and first grown in artificial cultures by Löffler, but that the author, in the Report of the Medical Officer of the Local Government Board for 1889-90, had shown that two kinds of bacilli occur in diphtherial membranes, the second of which is the more virulent of the two. This more virulent bacillus acts very powerfully upon guinea-pigs by subcutaneous injection, producing a local tumour which precisely resembles, both in pathology and in microscopic section the diphtherial membrane of the human subject. In human diphtheria the bacillus is present only in the diphtherial membrane, but neither in the blood nor in the diseased viscera; and the same holds good with inoculated guinea-pigs. In subcutaneous inoculations with artificial cultures, although it causes in these animals disease and death, and although the lungs, intestines, and kidneys are greatly congested, the diphtherial bacillus remains limited to the seat of inoculation; from whence it has been concluded that the diphtherial membrane is the sole seat of multiplication of the bacillus, but this produces a chemical poison which is absorbed into the system, and which causes the generally diseased condition, and often death. Roux and Yersin have separated from artificial broth cultures the chemical products alone, and by injection of the latter into guinea-pigs have produced a general effect. In this year's Report of the Medical Officer to the Local Government Board the author has shown that such injection of cultures into guinea-pigs produces an active multiplication of the bacilli at the seat of injection, and that they can be obtained in pure culture on gelatine both from the local tumour and from the nearest lymph glands. On various occasions during the last three years the author has received information from health officers of a curious relation between a disease in cats and human diphtheria; such that a cat or cats were taken ill with a pulmonary disease, and when ill were nursed by children, and then these latter sickened with well-marked diphtheria. Or children were taken ill with diphtheria, and, either at the same time or afterwards, the cat or cats sickened. The disease in the cat was described as an acute lung trouble; the animals were quiet, did not feed, and seemed unable to swallow. In some cases they recovered; in