

FIG. 1.—ANIMALCULES IN AN INFUSION OF HAY.

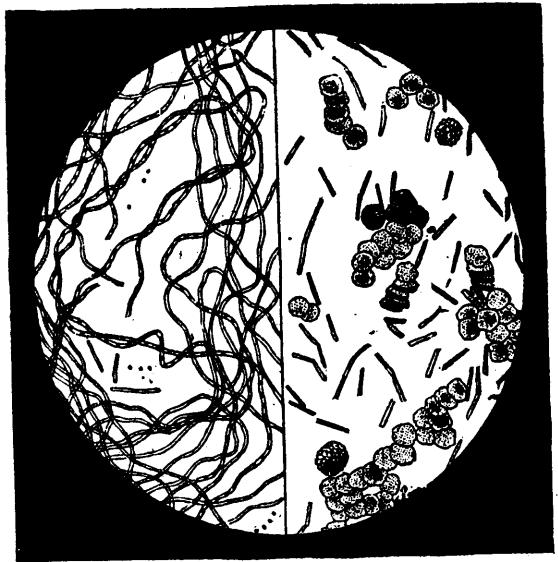


FIG. 2.—BACTERIA OF CHARBON.

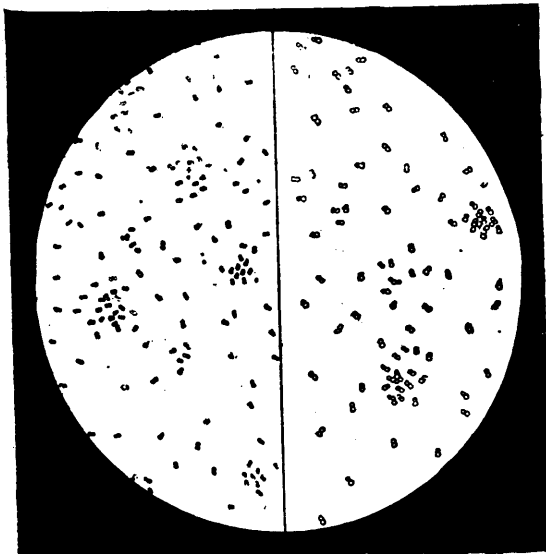


FIG. 3.—MICROBIA OF CHICKEN CHOLERA.

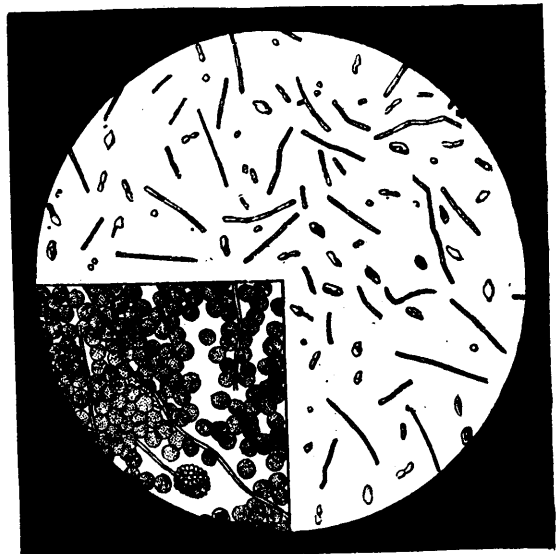


FIG. 4.—SEPTIC VIBRIOS.

Chemistry, Physics, Technology.

FERMENTS AND DISEASES.

"There are scourges that the human species bring upon itself and there are others that it suffers; and that it considers as being more inevitable than the former. Among the latter, epidemic diseases stand in the first rank, and to these man is accustomed to furnish uncomplainingly immense hecatombs, and it is difficult for him to imagine a world in which there is no pest, nor cholera, nor typhus, nor yellow fever, nor syphilis, nor scarlatina, nor many other diseases that I might name did I not limit my enumeration systematically to those whose contagious nature is known and accepted by all. Twenty years ago nothing at all was known about all such diseases, and, had some one taken it into his head to allege that a day would perhaps come when the human species would be rid of them, he would have been met with only a smile of incredulity or even of disdain. To-day, however, such a dream assumes shape, such a hope does not seem unrealizable, and those who do not

accept it have no longer the right to consider it as foolish and to reject it with disdain."

Thus expresses himself Mr. E. Duclaux, at the beginning of the remarkable work that he has just published, under the title of "Ferments and Diseases," and in which he gives a complete *exposé* of those modern labors and doctrines of which Mr. Pasteur was the initiator. Our readers are assuredly acquainted with the principles that have been revealed to this illustrious chemist through the study of these innumerable, infinitely small, organized beings which swarm in nature, which make their appearance where the life of superior animals is extinguished, which multiply with a rapidity and fecundity that bewilders the imagination, and which appear to be the true cause of the most dreaded contagious diseases.

There is no one who has not heard speak of the bacteria of charbon, of microbiums, or of vibrios; but those infinitely small beings have not been seen under the microscope by everybody, and it has, therefore, seemed to us that it would be of interest, by making use of the beautiful plates in which Mr. Duclaux's book abounds, to present a few specimens to our readers. The annexed illustrations were drawn under