The bacteria showed the following peculiarities: —

1. In fresh cases the bacteria are found in large masses in the mucus, that is, in the inner of the leucocytes; they form a thick layer on the surface of the inflamed mucous membrane, and press into the superficial lymph-spaces and often also into the inner organs.

2. They form very fine, generally pointed, diplobacteria, or short rods, with a diameter of 0.2μ, often making chains. One recognizes in the inner of the same chromatic granules; these appear to be surrounded by a light zone, and they are without motion. With aniline colors they stain feebly, in single cases better, and are faint, or do not stain at all (except the chromatic granules), with Gram's method. In older cases and cultures, as in the inner of the leucocytes, the bacterium is found in a state of granular disintegration, frequently lessened in size or swollen so that the thickness of the individual bacteria can vary between 0.1 and 0.3 μ. The thickness also varies according to the coloring matter employed.

3. The bacteria can be cultivated in many cases, especially in glycerine. There are formed here, especially deep in the nutrient medium, very small rod-like colonies.

4. The bacterium is pathological for rabbits, since in some cases its introduction into healthy nasal cavities causes a sort of sepsis, pneumonia, and death of the animal.

From Babes's investigations it appears that white mice are not always immune against greater quantities of the culture or the products of the disease, and that they can die.

As there is now no special difficulty in recognizing and cultivating the very small bacteria in cover-glass preparations, it is to be hoped that they may be made valuable in diagnosis, and that a way for preventing and subduing the disease may be experimentally investigated.

Georgetown Medical School. A. MACDONALD.

LETTERS TO THE EDITOR.

Making an Herbarium or Preserving Plants.

THIS is the time of year when botanists are making plans for the summer campaign. I am not going through the subject by going into details, as *Science* has recently noticed several small manuals which treat fully of the subject. I wish to emphasize a few points which have received too little attention. I am somewhat familiar with the collecting done by the older botanists of this country, and with some in other countries.

We have a great advantage in many ways over the older collectors. We are learning all the time from each other. We are going deeper and deeper into the study of plants.

Almost everyone who preserves specimens, on the start hoards up a lot of worthless trash — of snips, tops, and mere fragments. Don't do it, but study the subject well from every side. I speak now more particularly with reference to grasses; but the following statement, I feel sure, will apply with almost equal force to most families of plants. This is the statement which I believe to be true, with very few exceptions: —

All truly good herbarium specimens have been made within the past twenty years, and a very large proportion of those prepared during the last twenty years are far from good. It is no injustice to others to say that, so far as I know, C. G. Pringle of Vermont, by his fastidiousness in this matter, started a reform which seems to be rapidly spreading. We should have an abundance of material, lower leaves, flowers, fruit, and root-stalks, if there are any, and little packages of nuts, flowers, and seeds on the sheet for study. Some years ago I spoke of the importance of preserving seedlings of many of our plants. This is a good time to refer to this part of the subject, since Mrs. Kellerman has illustrated the seedling blackberry. Turn to page ninety-four and study it. Go to raising seedlings, or pick them up wherever they can be found. Look out, too, for buds of trees and shrubs, and collect them before the inner scales have fallen — as they are opening. Do not be satisfied with mediocrity, but strive to have everything neat and complete. W. J. BEAL.

Agricultural College, Ingham Co., Mich., Feb. 22.

The Barn Owl a Winter Resident in Ohio.

THAT the barn owl, *Strix pratincola*, is, at least, a rare winter resident of central Ohio can no longer be questioned. A few days since two individuals were found in the hollow trunk of a sycamore tree at Utica, Licking County. One of them was killed by the fall of the tree; this I have not seen. The other was taken alive, and I had the satisfaction of seeing it last week in the possession of Mr. Newkirk of Newark, O. There is no doubt as to its identity, nor can I think there is any regarding the stated time and place of capture.

There are but few recorded instances of its occurrence in the State, and none of the dates at hand are in winter. Dr. J. M. Wheaton, in "Reports on the Birds of Ohio," says, "Rare visitor. Mr. Oliver Davie of this city [Columbus] has a specimen . . . killed in this vicinity Nov. 2, 1878. The dates of captures [Circleville, summer, 1873; Columbus, November, 1878; near Cincinnati, April, 1880] indicate that it is, at least, a summer resident of the State." It would seem that it is a permanent resident; in all probability rearing its young in central Ohio.

D. S. KELLICOTT.

Ohio State University, Columbus, Feb. 17.

A Magnetic Cane.

CAPT. D. P. SANFORD of this city owns a walking-stick that possesses magnetic properties, but how it came by them he is unable to explain. Several years ago he purchased a strong, heavy cane, having for its central portion a rod of excellent quality of steel, extending throughout its entire length. At the lower end it is about the thickness of the ordinary lead pencil; at the top nearly three-quarters of an inch in diameter. Its outer part is composed of leather, which, having been cut into rings, was forced, one ring upon another, till solid from end to end. This was rounded, smoothed and polished, and varnished. The cane was finished, first, by enclosing the lower end with a steel ferrule through which the central steel rod projected half an inch; second, by covering the upper end of the cane with a circular copper plate over an inch in diameter, and about one-sixteenth of an inch in thickness.

The cane was never near a magnet to its owner's knowledge; but recently he has noticed its magnetic property, which, in his belief, is growing stronger. Now, what causes this?

The water-tight non-conducting covering insulates the rod perfectly, except at the lower end, where, as a matter of course, it constantly comes in contact with the earth. The upper part, covered with the copper plate, is held in the warm and moist hand for hours at a time. Now, will the conditions of insulation, two metals, moisture of earth and hand, and difference in temperature between the two ends, account for the exhibition of magnetic properties? Will some one offer an explanation?

A. H. BEALS.

Milledgeville, Ga., Feb. 20.

[If the writer of the above will take any steel rod and give it a number of raps while held in a more or less vertical position he will find that it will become magnetic.—ED.]

AMONG THE PUBLISHERS.

THE question of "Speed in Locomotives," which for a time has superseded in popular interest the luxuries of railroad travel, will be discussed in the March *Scribner* by a notable group of railway authorities. M. N. Forney, editor of *The Railroad and Engineering Journal*, will consider the question of "The Limitations of Fast Running;" Theodore N. Ely, General Superintendent Motive Power, Pennsylvania Railroad, will treat of "Train Speed as a Question of Transportation;" H. Walter Webb, Third Vice-President of the New York Central, will describe "A Practical Experiment" — the running of the Empire State express. The views of three sueh authorities, presented in a popular way in one number, give for the first time an adequate knowledge to