force the ponies up a deep, violent stream rushing over huge bowlders between precipitous, rocky cliffs, in which they noticed large, square holes pierced, suggesting to them that in former days this, the high road between Eastern and Western Asia, was probably improved by having a bridge over this difficult and dangerous part; then over the Chichiklik and Koh-mamak Passes and the Tagarma Plain, till they reached the neighborhood of Tash-kurgan, the northernmost point of Captain Younghusband's explorations in the previous year. Passing through the Little Pamir, they struck the Alichur Pamir near Chadir-tash at its eastern extremity, and from there they looked down a broad level valley, averaging four or five miles in width, to some high, snowy peaks overhanging Lake Yeshil-kul at its western extremity. The range bounding this Pamir on the north is free of snow in summer, but that separating it from the Great Pamir is of considerable height, the summits are always covered with snow, and the passes across it difficult. Traces of ancient glaciers are very frequent, and the western end near Lake Yeshil-kul is choked up with their moraines, forming a sea of gravel mounds, in the hollows of which numerous lesser lakes may be seen. On the borders of Yeshil-kul, at a place called Somatash, Captain Younghusband found the fragments of a stone bearing an ancient inscription in Turki, Chinese, and Manchu. This interesting relic, as far as Captain Younghusband has been able to get the rubbings he took of it translated, refers to the expulsion of the two Khojas from Kashgar by the Chinese in 1759, and relates how they were pursued to the Badakhshan frontier.

From the Ak-su Valley the two travellers ascended the sterile valley of the Ak-baital, which at this season of the year (October) has no water in it, and visited Lake Rang-kul. "On the edge of this lake is a prominent outstanding rock, in which there is a cave with what appears to be a perpetual light burning in it. This rock is called by the natives Chiragh-tash, i.e., the Lamp Rock, and they account for the light by saying that it comes from the eye of a dragon which lives in the cave. This interesting rock naturally excited my curiosity. From below I could see the light quite distinctly, and it seemed to come from some phosphorescent substance. I asked the Kirghiz if any one had ever entered the cave, and they replied that no one would dare to risk the anger of the dragon. My Afghan orderly, however, had as little belief in dragons as I had, and we set off to scale the cliff together, and by dint of taking off our boots and scrambling up the rocks, very much like cats, we managed to reach the mouth of the cave, and on gaining an entrance found that the light came neither from the eye of a dragon nor from any phosphorescent substance, but from the usual source of light — the sun. The cave, in fact, extended to the other side of the rock, thus forming a hole right through it. From below, however, you cannot see this, but only the roof of the cavern, which, being covered with a lime deposit, reflects a peculiar description of light. Whether the superstitious Kirghiz will believe this or not I cannot say, but I think the probability is that they will prefer to trust to the old traditions of their forefathers rather than the wild story of a hare-brained stranger. The water of the Rang-kul is salt, and the color is a beautiful clear blue. The mountains in the vicinity are low, rounded, and uninteresting, though from eastern end a fine view of the great snowy Tagarma Peak may be obtained."

The winter was spent in Kashgar. On July 22, 1891, Captain Younghusband left to return to India by way of the Pamirs and Gilgit.

"On reaching the Little Kara-kul Lake, a piece of interesting geography, which I believe had been first noticed by Mr. Ney Elias, on his journey through these parts some years ago, presented itself. Captain Trotter of the Forsyth mission saw from the plains of Kashgar a stupendous peak, the height of which he found to be 25,300 feet, and the position of which he determined accurately. From Tash-kurgan or its neighborhood he also saw a high mountain mass in the direction of the peak he had fixed from near Kashgar; bad weather prevented his determining the position of this second peak, but he thought there was no doubt that the two were identical. Such, however, is not the case. There are two peaks, about twenty miles apart, one on either side of the Little Kara-kul Lake. That seen from Tash-kurgan is the true Tagarma Peak, and cannot be seen from Kashgar; while that seen from Kashgar cannot be seen from Tash-kurgan. There appeared to me to be very little difference in height between the two. Both are remarkable not only for their extraordinary height, but also for their great massiveness. They are not mere peaks, but great masses of mountain, looking from the lake as if they bulged out from the neighboring plain; and one sees far more distinctly than is usually the case, the layers upon layers of rock which have been upturned like the leaves of a book forced upwards. It struck me, too, especially from the appearance of the rocks in the neighborhood of the northernmost peak, that these must have been upheaved far more recently than the worn-out-looking mountains in the centre of the region of the Pamirs. The appearance of these two great mountain masses rising in stately grandeur on either side of a beautiful lake of clear blue water is, as may be well imagined, a truly magnificent spectacle, and, high as they are, their rise is so gradual and even that one feels sorely tempted to ascend their maiden summits and view the scene from the loftiest parapets of the 'Roof of the World.'"

On Oct. 4 Captain Younghusband and a companion left the Tagh-dum-bash Pamir to explore "an interesting little corner of Central Asia, the point where the two watersheds — the one between the Indus on the south and the Oxus and Eastern Turkistan Rivers on the north, and the other between the Oxus on the west and the Eastern Turkistan Rivers on the east — join. If any point can be called the Heart of Central Asia I should think this must be it. Here on the Oxus side of the watershed are vast snow-fields and glaciers, and among these, with three of its sides formed of cliffs of ice — the terminal walls of glaciers — we found a small lake, about three-quarters of a mile in width, out of which flowed the stream which joins the Panja branch of the Oxus at Bozai-Gumbaz."

After this Captain Younghusband made his way down to Kashmir.

FURTHER CONFIRMATION OF THE DISCOVERY OF THE INFLUENZA BACILLUS.

IN January, 1890, Professor Babes of Bucharest investigated nine cases of influenza. The difficulty of studying them was increased from the fact that complications with other diseases were involved. Unfortunately, also, no experiments were made upon animals. Yet, from the results then found,[1] it will be seen that the bacteria are the same as those discovered by Pfeiffer, which Babes himself acknowledges.[2]

[1] Centralblatt für Bacteriologie, Bd. VII., No. 8, 15, 17-19.
[2] Deutsche Med. Wochenschrift, Feb. 11, 1892.

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