

SCIENCE

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NOTICE OF NEW GIGANTIC FOSSILS.

While on a collecting trip the past summer in the Bad Lands of north-western Nebraska and south-western South Dakota my attention was called by Mr. Charles E. Holmes

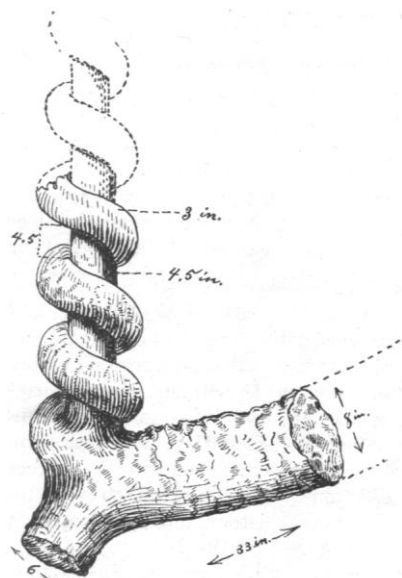


FIG. 1. — Devil's Corkscrew in the collection of C. E. Holmes. Drawn from nature.

(Yale, '84) to some gigantic fossils abounding in the extreme north-western corner of Nebraska. At that time I secured one large specimen, and noted and sketched several other forms, intending to return later and complete the work in that highly interesting field.

These fossils seem altogether so remarkable and of such imposing size and peculiarity of form, that I have felt great hesitancy in offering any suggestions as to what they are or in describing them at all; and what I now venture to publish is proposed tentatively, till I can return to this same spot and complete the work cut short last season. Not less than two genera and three species of the family were noted, and, because of their similarity to immense corkscrews, we dubbed them "Devil's Corkscrews," and I offer for them the provisional name *Daimonelix*. At least two gigantic and one small species were observed. They are almost mathematically exact and regular in form, and suggest a great three-inch vine coiled with strict uniformity of pitch about a four or five-inch pole. However, the vine and pole, as the cut will show, are just as much one as are the thread and screw which they so strikingly resemble. At the bottom of all is a transverse piece, indefinitely long, and about ten inches in diameter, rendering the appearance of the whole like that of the veritable corkscrew (See Fig. 1).

Just what this great "rizome" is, remains to be learned. In the mean time, suffice it to say, that, as far as observed, it consists invariably of a small obliquely descending por-

tion, and a large obliquely ascending one. The latter, as shown by all that have been dug out, at least, seems to curve upward gradually, and ultimately reach the surface.

The great "underground" stem of my own specimen (Fig. 2) was followed from the wall of a small butte some ten feet straight into its interior, and then the work of further excavating in rock so very soft and crumbling, yet so peculiarly difficult to work, had to be abandoned. In the two remaining forms especially noted, one gigantic, the other small, the coil had the form and pitch of the common open corkscrew (see Fig. 3).

They covered an area of several square miles, where I saw large numbers of them, all standing in the incompletely lithified sandstone as erect as so many titanic hop poles with so many titanic vines coiled upon them. I estimated that many could not be less than thirty or more feet in height; at any rate, we frequently saw in the vertical walls of small cañons or draws fifteen feet of exposed corkscrews, while an unknown amount had been weathered from the top, and an indefinite amount was still buried in the rocks below. Then,

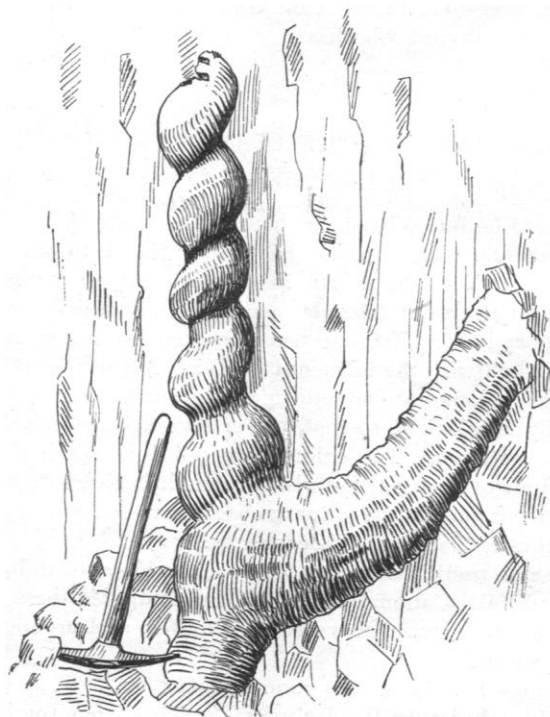


FIG. 2. — A sketch of Devil's Corkscrew (in my own collection) as it appeared when nearly dug out of the vertical bank. Top eroded away. Height about five to six feet.

again, I dug out the basal portion of one specimen fully thirty feet below the surface, where the tip-ends of others were exposed. These strange forms seem to be casts, no structure being visible to the eye, or under the glass. The gray matrix readily weathers away from the specimen, which on fracture shows a spongy, friable, white wall, surrounding a core or matrix; though of chalky appearance, the wall is strictly silicious.

While reminding one forcibly of some monstrous fossil bryozoan, it seems improbable that it is such, neither is it a plant, nor a mollusk, as I believe. Possibly it is the case of some ancient worm. I have shown the specimen to eastern as well as western geologists and botanists, besides sending drawings and descriptions of it to others, who pronounce it entirely new to them. As far as my own experience goes, I have neither seen anything of the kind in any of our large eastern museums nor have seen anything published relating



FIG. 3.—Diagram of another form of Devil's Corkscrew, as sketched in the field.

to it, and I feel reasonable confidence in offering a notice of what I believe to be a new paleontological specimen, trusting that, if nothing more, it may elicit information on the matter from anyone who has it to offer.

IRWIN H. BARBOUR.

CONFIRMATION OF THE DISCOVERY OF THE INFLUENZA BACILLUS.

To Dr. Pfeiffer of Berlin is due the discovery of the influenza bacillus. Dr. Kitasato has cultivated it to the fifth generation. Koch has shown, in an article not yet published, how pure cultures of tubercle bacilli can be obtained directly from the sputum. Kitasato has succeeded in employing the same method with the influenza bacilli. According to him, the single colonies are so uncommonly small that they can be easily overlooked, so that former investigators may have failed to see them. The colonies do not flow together as in other kinds of bacteria, but always remain separated; this is so characteristic that the influenza bacilli can be distinguished from all other bacteria with certainty.

The same bacilli have been found in the blood of influenza patients by Dr. Canon. Dr. Koch has compared these with the micro-organisms discovered by Pfeiffer, and pronounces them identical.

And now Dr. Canon has gone still further,¹ and has succeeded in cultivating the influenza bacillus from the blood of patients attacked with the disease. The cultivation is especially difficult since the bacilli in the blood-drops are very few in number, and the colonies, on account of their fineness, are concealed through the coagulated blood. The blood therefore was not inoculated in tubes upon glycerin or sugar-agar, but in the Petrian "Schalen." A great quantity was employed. By this method there was not only a greater probability of preserving colonies, but also the possibility of eventually seeking out the colonies with the microscope.

The blood is taken in the following manner: a finger-tip is cleansed with sublimate, alcohol, and ether in the usual

way; then with a red-hot needle the finger is pierced; an assistant presses the blood out of the opening in drops, being careful that they remain globular in form; from eight to twelve drops are placed upon the Petrian "Schale," and they are heated in a temperature of 37° C. The colonies show a slight development after twenty-four hours; in forty-eight hours they are distinctly seen. They are like those cultivated by Pfeiffer from sputum of influenza patients. In the cultures from the blood the colonies often lie close upon one another. The pure cultures from these colonies have the same appearance as those Kitasato has described.

Dr. Canon cultivated influenza bacilli from the blood of six patients, and in all the bacilli in the blood preparation were few in number and separated. And thus it appears that in those cases where the bacillus is wholly separated in the blood preparation, a sure diagnosis of influenza is given.

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NOTES AND NEWS.

THE University of Edinburgh in June, 1891, conferred upon Professor Simon Newcomb the honorary degree of doctor of laws (*in absentia*). Professor Newcomb was also elected, in June, 1891, an honorary member of the Royal Institution of Great Britain.

— At a meeting of the trustees of Johns Hopkins University, Dec. 15, 1891, it was determined to proceed to construct an academic hall on the property belonging to the university, at the corner of Monument and Garden Streets, running back to Little Ross Street. The trustees are enabled to take this important step by the gift of the late John W. McCoy, who made the university his residuary legatee. Sufficient funds have been received from his estate for the erection of a building which will furnish rooms for the classes in languages, history, and philosophy, with space for the present requirements of the library, and an assembly-room which will hold over six hundred persons. The trustees voted that the building should be known, in honor of the munificent donor, as McCoy Hall. The piece of ground on which the new hall is to be constructed is 100 × 185 feet, and is now taken up with residences used for purposes of the university. Messrs. Baldwin and Pennington have been selected to draw up the plans for the building.

— On 12th of May, 1890, while making a professional call in the outskirts of the town, B. H. Hartwell, M.D., of Ayer, Mass., was summoned into the adjacent woods by a messenger, who stated that her mother was "burned alive." In a paper read before the Massachusetts Medico-Legal Society, and published in the *Boston Medical and Surgical Journal*, Dr. Hartwell says: "Hastily driving to the place indicated (about forty rods distant) a human body was found in the actual state of conflagration. The body was face downward; the face, arms, upper part of the chest, and left knee only touching the ground; the rest of the body was raised and held from the ground by the rigidity of the muscles of the parts. It was burning at the shoulder, both sides of the abdomen, and both legs. The flames reached from twelve to fifteen inches above the level of the body. The clothing was nearly all consumed. As I reached the spot the bones of the right leg broke with an audible snap, allowing the foot to hang by the tendons and muscles of one side, those of the other side having burned completely off. Sending my driver for water and assistance, I could only watch the curious and abhorrent spectacle, till a common spading fork was found with which the fire was put out by throwing earth upon it. The flesh was burned from the right shoulder, exposing the joint from the abdomen, allowing the intestines to protrude, and more or less from both legs. The leg bones were partially calcined. The clothing unburned consisted of parts of a calico dress, cotton vest, woollen skirt, and thick, red, woollen undergarment. The subject of the accident was a woman, forty-nine years of age, about five feet five inches in

¹ Deutsche Med. Wochenschrift, Jan. 21, 1892.