proceeding from the plate grounded on the water pipe.

By the use of this grounded plate and by replacing the thick hard-rubber cover of the plate holder by a thin sheet of black paper, in two cases distinct images have been produced by the positive discharge. In this case only a few millimeters of air separated the discharge wire from the film. It is then, however, very difficult to prevent the electric stresses from forming the branching images. When this begins the results are quite uncertain. When a negative discharge of the same spark length is used under the conditions which gave the faint positive image, the image produced covers a couple of square inches of plate. Five spark discharges of the negative produce a much greater effect than was produced by a hundred of the positive, in the two cases when the latter discharge produced any effect. The behavior of the positive line is somewhat perplexing. An X-ray tube will operate in this line, the cathode being connected on the cylinder hung in air. But these cathode particles do not appear to be active at the angle.

It may be possible to devise some method of electrometer examination which will not result in the destruction of the instrument. The continuous current has not yet been examined. This, however, involves different conditions from those existing in the circuits here examined. There are many precautions necessary in this work which can not be here discussed, but which will be presented as soon as final results can be given. It has required the use of sixty dozen photographic plates in order to reach the results already attained.

It is evident that the effects here described point to the action of the β and α "rays," in radio-active phenomena.

Francis E. Nipher

DINICHTHYS INTERMEDIUS NEWBERRY FROM THE HURON SHALE

In the spring of 1907 Dr. Lynds Jones found part of a dinichthyid mandible in the Huron shale near Huron, Ohio, and the writer collected it for the Geological Museum of Oberlin College. The specimen includes all of the cutting blade of the mandible excepting about one centimeter of the posterior end. The length of the cutting blade is sixteen centimeters. This indicates that the entire length of the mandible was about thirty-five centimeters. The width is eleven centimeters. In size it agrees with mandibles of *Dinichthys intermedius* Newb. and in form it agrees closely with the same species, differing in the greater and more regular concavity of the top between the second cusp and the posterior end of the cutting edge, and in the prominence of the cusp-like projection between the anterior tooth and the main cusp. As pointed out by Hussakof,[1] the prominence of this projection is probably an individual variation and is not of specific value. In the writer's opinion the first difference mentioned is not of specific value. The denticles on the posterior part of the cutting edge are smaller than in most specimens of *Dinichthys intermedius*. Teeth are absent from that part of the jaw where they are prominent in *Dinichthys hertzeri*. The differences between this mandible and those of *Dinichthys intermedius* are so slight that the writer has no hesitation in referring it to that species. The specimen is important in demonstrating the presence of a second species of *Dinichthys* in the Huron shale and in showing that the type of mandible of *Dinichthys intermedius* and *Dinichthys terrelli* did not develop from the *Dinichthys hertzeri* type.

A figure of this specimen will be published later with figures of other specimens recently collected from the Huron shale.

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SOCIETIES AND ACADEMIES

SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE

The twenty-eighth meeting of the society was held in the physiological laboratory of the New York University and Bellevue Hospital Medical College, April 15, 1908. President Lee in the chair.

Members elected.—Otto C. Glaser, Alfred G. Mayer, John B. Murphy, Isaac Ott.

[1] *Bull. Am. Mus. Nat. Hist.*, Vol. XXI., p. 411.