"In the magnetic observatory at Agincourt, nine miles from Toronto, the bifilar magnet began to swing at 2 h. 35.0 m., Greenwich mean time, and was at its maximum swing at 2 h. 44.4 m. Facsimiles of the records at Toronto, Victoria and Agincourt are given in the accompanying figures, Nos. 1, 2, 3, respectively."

C. A.

WASHINGTON,
May 7, 1902.

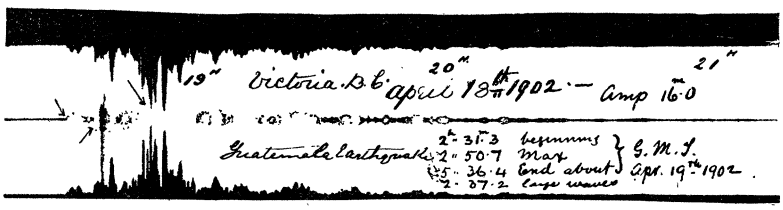

FIG. 2. Record of Milne Seismograph, Victoria, April 18, 1902.

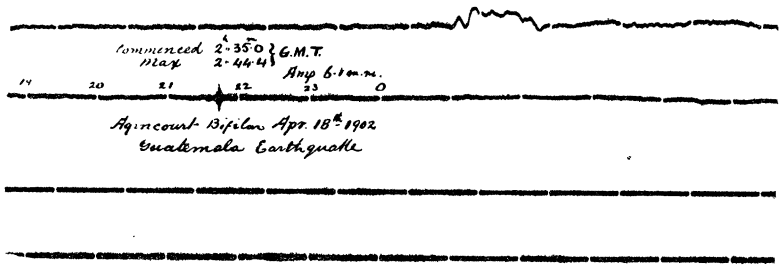

FIG. 3. Record of the Bifilar and other Magnets, Agincourt, April 18, 1902.

SHORTER ARTICLES.

INTRACELLULAR CANALICULI OF THE LIVER.

THE cells of the liver in one of the higher vertebrates are characterized by activities at once numerous and diverse. It should not be surprising therefore if a specialized mode of communication were found between the hepatic cells and the blood capillaries with which they are related. Such a connection has, in fact, been predicted.

In a series of studies published from Cracow, Browicz has indicated grounds for believing that minute channels exist in the cells of the liver, and that these are continuations of the vascular system. More recently, Schaefer* has noted the presence of such canaliculi in specimens injected in the laboratory of the late Professor Rutherford, of Edinburgh.

Some time ago the writer was at work on the vascular supply of the chief organs of vertebrates. In the course of these studies, many, probably fifty, injections were made with gelatine-carmine, well acidulated, of the livers of the rabbit, rat, cat and other mammals. The injection was made through the portal vein in every instance. The most painstaking precautions were always taken to secure the conditions which experience had shown to be necessary for proper injection, and some of the results were as nearly perfect as could be.

In sections made from successfully injected livers, the network of lobular capillaries is uniformly filled, there is no indication of extravasation, and the hepatic cells show no sign of distortion. In such specimens, exceedingly tenuous canaliculi may be seen within the cells, filled with the red injecting-mass, branching more or less, and anastomosing with each other. Under a high magnification, the blood capillaries do not present perfectly smooth walls, but exhibit minute, spine-like elevations at intervals. The connection between the intracellular canaliculi and the outpushings of the capillary wall may occa-

* Schaefer, E. A., *Anatomischer Anzeiger*, 1902, Bd. 21, S. 18–20.

sionally be seen with unmistakable definiteness. In fact, there can be hardly a doubt that the canaliculi constitute a series of fine twigs of the vascular system ramifying into the cytoplasm of the liver cells.

With such a direct relationship traceable between the interior of the cell and the stream of blood passing through the liver, it appears evident that the intracellular canaliculi noted must come to occupy a not unimportant place in our conceptions of hepatic functions. My only explanation as to why these structures have not been recorded before lies in the fact that injected material is usually examined only with low powers of the microscope.

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THE NICHOLS RESEARCH MEDAL OF THE AMERICAN CHEMICAL SOCIETY.

AT the first meeting of the New York Section of the American Chemical Society during the present session, the Secretary, Dr. J. A. Mathews, announced upon behalf of the executive committee that it was its intention to award a medal for chemical research, and to secure the necessary funds for the endowment of that medal in perpetuity and to raise a research fund from which grants might be made for the encouragement of scientific work. The executive committee became personally responsible for the award of the medal for the present year, and a committee on research fund and medal, with Dr. Maximilian Toch, chairman, was appointed. As the result of this movement, Professor Marston T. Bogert announced to the New York Section at its May meeting that Mr. William H. Nichols had conveyed to the American Chemical Society in trust for the New York Section, securities to the value of over $1,000 for the endowment of a medal to be given annually to the author of the best paper embodying original chemical research presented before the Section and subsequently published in the *Journal of the American Chemical Society*. It is not intended to limit this award to members either of the Section or of the Society at large, but to open the competition to all scientists.

Mr. William H. Nichols is a charter member of the American Chemical Society and is president of the General Chemical Company. In expressing its gratitude to Mr. Nichols the Section asked of him the honor of naming the medal 'The Nichols Medal of the New York Section.' Mr. Nichols, in acceding to this request, said that he did so in the hope that others would be induced to do likewise. Dr. Toch stated that other members and friends of the Section had contributed nearly enough to provide for the securing of an artistic design and die for this medal, for the annual presentation of which Mr. Nichols' generosity has provided.

*METEOROLOGY IN ARGENTINA.**

IT is well known that our countryman, Dr. B. A. Gould, of Cambridge, Mass., after having established an astronomical observatory in Argentina, turned his attention to climatology and inaugurated a meteorological office under the general directorship of Mr. Walter G. Davis, who had accompanied him from this country. After publishing about twenty annual volumes of meteorological observations and climatological investigations, Mr. Davis has now succeeded in realizing the great step in meteorology that has been taken by nearly every other climatological bureau. He has namely organized in Buenos Ayres, under the Argentine Department of Agriculture, a branch office that publishes a daily weather map based on telegrams from all available points. A recent letter from Mr. Davis states that "since the beginning of this year, I have had my time fully occupied in getting the daily weather may service organized; it is now fairly started, but far from being complete. We have free use of the national telegraph lines—as well as of nearly all the private railway wires—for the transmission of the 2 P.M. observations. At present there are nearly 70 stations sending in complete observations, and 350 pluviometric stations. Within the next few months I hope to have about 130 second class stations and a large increase in the rain-

* Prepared for the June number of the *Monthly Weather Review*.