

LETTERS TO EDITOR

STATUS OF REDUCTION AND PUBLICATION OF THE MAGNETIC OBSERVATIONS MADE ON AMUNDSEN'S NORTHWEST PASSAGE.¹

You ask to be informed how soon the magnetic observations made by Captain Amundsen on his Northwest Passage will be published. With the aid of two assistants, I am still working out the large mass of material, consisting of the absolute observations of the three magnetic elements and of the magnetograph registrations.

I intend to publish hourly values, local time, for H , D , V , obtained from the magnetograms, and the mean values of the ordinates for every one hour's interval, Greenwich time, 19 months at Gjøahavn, and 6 months at Kings Point. All of the magnetograms, 720 daily plates, will be reproduced in natural size.

Numerous absolute observations were made for determining the constants of the instruments. It has been a troublesome work to find out the most reasonable values by means of observations made so near the magnetic pole. The determinations of the scale values and of the base values for the variometers have been very difficult, especially concerning the vertical intensity, and they are not yet concluded.

The observations occasionally made in the neighborhood of Gjøahavn and towards the magnetic pole will not be reduced until all the constants are settled upon. It is not possible exactly to say how soon the whole work will be published, but I should believe it will take two or three years more until we can begin the publication. The magnetic part of the entire work will probably comprise 2 volumes of text, and 4 volumes of diagrams.

It will not be possible to give a definite position of the north magnetic pole, because the pole, after my opinion, is not a fixed point attached to a certain geographical latitude and longitude, but must be defined as that point on the surface of the Earth where the horizontal intensity at the moment is zero. I expect that the observations from the Gjøa-expedition will show that the point so defined has a mean daily and yearly periodic motion, and besides also more or less irregular displacements. Perhaps it will be possible to find a mean position of the pole, or the form and dimensions of a closed curve within which the pole always is to be found.

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PROGRESS OF THE MAGNETIC SURVEY OF THE RUSSIAN EMPIRE.²

The project³ of the magnetic survey of the Russian Empire laid before the government by the Academy in 1914, not yet having been approved by it, the activities of the Commission have necessarily been limited to the means appropriated by the Academy and by the provinces.

The survey has been continued during 1914 in two regions; in the

¹ This letter to editor, written (Dec. 30, 1914) shortly before Dr. Steen's lamented death on May 10, 1915, was in response to inquiries received by the Journal at various times regarding the position of the north magnetic pole, as found by Amundsen's expedition.—*Ed.*

² Abstract of the Report of the Magnetic Commission of the Imperial Academy of Sciences of Petrograd for the Year 1914; *president*, M. Rykatchew, *vice-president*, E. Stelling; and *secretary*, D. Smirnow.

³ See *Terr. Mag.* v. 16, pp. 31-32, 1911.