

to the discovery of this effect were due to the fact that in some cases the apparatus faced north and south, and in others east and west. Lord Rayleigh's observation was doubtless due to the stray field of the electro magnet which was used to flatten the discharge against the wall of his quartz lamp.

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#### RATE OF MOVEMENT IN GLACIERS OF GLACIER NATIONAL PARK

IN consequence of letters sent to the U. S. Geological Survey, I send you the following note for publication:

I have hoped at some time to be able to make some careful measurements of the movement of the glaciers in Glacier National Park, as this is a matter of interest to all the tourists,

issued from below the ice. No. 3 was some distance farther north, and No. 4 near the ice cave which was then near the middle of this lobe where there was no moraine. The markers were set between 12:30 and 1:15 P.M., August 26, 1920, and the distances were measured at 4 to 4:13 P.M. of the same day. Again on August 30, after four days, mostly of chilly, rainy and snowy weather, I remeasured the distances with the results shown in the accompanying table. At No. 1, the spike had then fallen out of the hole in the ice but was stuck back in and the distance measured. At No. 2, the spike, though still in the hole, had tipped over so that the measurement is only approximately correct. The apparent movement on the bright sunny afternoon of August 26 ranged from 0 to  $\frac{1}{4}$  inch, time ranging from  $2\frac{3}{4}$  hours to 3 hours and 36 minutes. The total movement in time ranging from 4 days,

MEASUREMENTS OF ICE MOVEMENT IN GRINNELL GLACIER, AUGUST 26 TO AUGUST 30, 1920

No.	Aug. 26, Markers set	Distance	Aug. 26, time remeasured	Distance	Time elapsed	Distance ice moved
1	12:37 P.M.	66 <sup>7</sup> / <sub>8</sub> in.	4:13 P.M.	66 <sup>3</sup> / <sub>4</sub> in.	3 hrs. 36 min.	<sup>1</sup> / <sub>8</sub> in.
2	12:53 P.M.	50 in.	4:06 P.M.	50 in.	3 hrs. 13 min.	0
3	1:02 P.M.	35 <sup>1</sup> / <sub>4</sub> in.	4:03 P.M.	35 in.	3 hrs. 1 min.	<sup>1</sup> / <sub>4</sub> in.
4	1:15 P.M.	28 <sup>3</sup> / <sub>4</sub> in.	4:00 P.M.	28 <sup>1</sup> / <sub>2</sub> in.	2 hrs. 45 min.	<sup>1</sup> / <sub>4</sub> in.
Aug. 30 time remeasured			Distance	Time elapsed	Distance ice moved	
1	2:45 P.M.	65 <sup>7</sup> / <sub>8</sub> in.		4 d. 2 hrs. 8 min.	1 in.	
2	3:00 P.M.	48 in.		4 d. 2 hrs. 7 min.	2 in.	
3	3:00 P.M.	32 in.		4 d. 1 hr. 58 min.	3 <sup>1</sup> / <sub>2</sub> in.	
4	3:10 P.M.	24 in.		4 d. 1 hr. 55 min.	4 <sup>3</sup> / <sub>4</sub> in.	

but I do not know of any such that have been made thus far.

In my pamphlet on Glaciers of Glacier National Park (published by the National Park Service, 1914) I described (p. 6) some very crude measurements which I made in 1913 on Blackfeet Glacier, on Sperry Glacier (p. 15), on Chaney Glacier (p. 35), and on Vulture Glacier (p. 39). In August, 1920, I made similar crude measurements on Grinnell Glacier. Starting at the moraine on the north margin of the lower front of the ice I set spikes in the ice at four places along the frontal edge of the glacier and carefully measured the distances to marks made on the adjacent exposed bedrock directly in front. No. 1 was at the moraine where no bedrock was exposed, so a rock marker was set up. No. 2 was just south of the point where the main creek

1 hour and 55 minutes to 4 days, 2 hours and 8 minutes, ranged from 1 inch to  $4\frac{3}{4}$  inches. It is interesting to note that, as would be expected, the movement, small as it is, is increasingly greater from the side to the middle of the most advanced part of frontal lobe.

These measurements are of course too crude to form a basis for estimating the average daily or annual rate of advance of the ice, yet I think they are of some interest.

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#### SODIUM IODIDE IN TABLE SALT

TO THE EDITOR OF SCIENCE: No comment seems necessary regarding the importance of traces of iodides for the well-being of the human body. As iodine is a permanent constituent of several human organs the iodides must be regarded as an essential food material.