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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JANUARY 31, 1923

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, 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 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 ¼ inch, time ranging from 2¾ hours to 3 hours and 36 minutes. The total movement in time ranging from 4 days, 1 hour and 55 minutes to 4 days, 2 hours and 8 minutes, ranged from 1 inch to 4¾ 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.

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.	66⅞ in.	4:13 P.M.	66¾ in.	3 hrs. 36 min.	⅛ in.
2	12:53 P.M.	50 in.	4:06 P.M.	50 in.	3 hrs. 13 min.	0
3	1:02 P.M.	35¼ in.	4:03 P.M.	35 in.	3 hrs. 1 min.	¼ in.
4	1:15 P.M.	28¾ in.	4:00 P.M.	28½ in.	2 hrs. 45 min.	¼ in.

	Aug. 30 time remeasured	Distance	Time elapsed	Distance ice moved
1	2:45 P.M.	65⅞ 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.	3½ in.
4	3:10 P.M.	24 in.	4 d. 1 hr. 55 min.	4¾ in.

These measuremeents 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.

WM. C. ALDEN

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.

Lack of iodine causes pathological changes which may become typical of certain geographical regions where local drinking water is devoid of iodides. The regular supply of the extremely small traces of iodine required by humans is easily and simply accomplished by a stroke of the pen: a food law requiring that common table salt contain a trace of iodides. In the manufacture of table salt, either from sea water or salines, iodides are present in the raw material and the incorporation of a trace of them into the sodium chloride requires no additional cost and presents no additional difficulty. By a slight change in the technic of crystallization the danger of iodine starvation would be thus eliminated once for all.

INGO W. D. HACKH

AN ENTOMOLOGICAL ANTIQUE

RECENTLY the California Academy of Sciences has received through the kindness of Colonel John R. White, superintendent of the Sequoia and General Grant National Forests, and Mr. Joseph D. Grant, member of the board of trustees of the academy, a section of an eleven-foot log of the Big Tree *(Sequoia gigantea)* from the Giant Forest, Tulare County, California. On examining this section I noticed that the tree of which this was a section had been struck by lightning about twelve hundred years ago and had then become infested by the larvæ of some wood-boring beetle. Later the tree had grown over the infested area and completely covered it with a growth of healthy normal wood, thus completely sealing up the work of the beetles. It occurred to me if I could secure some of this infested wood I might discover the dried remains of some of the beetles and thus be enabled to compare them directly with the same species as now found in this forest and learn if any change had occurred in the species during these twelve hundred years. I therefore went at once to the Giant Forest and through the kind assistance of Colonel White and his efficient helpers was able to secure a number of pieces of the infested wood from this portion of the log. On examining these in the laboratory I dug out two fairly complete specimens of *Trachykele opulenta* Fall, one shriveled larva of the same and the remains of two hymenopterous parasites associated with them. Later these specimens of the beetles were compared very carefully by Dr. E. C. Van Dyke and Mr. H. E. Burke with specimens of the same species in Mr. Burke's collection which were recently taken in the same forest and on the same species of tree now living there. The result of this comparison reveals the fact that this species has undergone no appreciable change during these twelve hundred years. This species is somewhat variable, but Mr. Burke has specimens that agree in every detail with the fragments taken from the log.

Some details regarding this redwood tree may be of interest. It started as a seedling in the year 217 A.D. When 421 years old it was struck by lightning, stripping the bark and burning the wood for a width of about one foot down the length of the trunk. This burned area became infested by the *Trachykele* larvæ and was mined to a depth of about two inches. The tree at once began covering the wound with a new growth of wood and this process was completed in about fifty years, since which time the work of the beetles has been hermetically sealed within the heart of the sound living tree. A period of 1,279 years elapsed from the injury to the tree, and probably first infestation of the beetles, until the tree fell in 1917. As these beetles must have been dead in their galleries before being sealed by the growth of the tree they certainly represent the species as it was more than twelve hundred years ago. It must, of course, be recognized that *Trachykele opulenta* pertains to an archaic type, perhaps the most primitive of our Buprestids, and undoubtedly the characters of the species had become well fixed long before the Christian era. In some more plastic group the results of such a comparison might have been very different. I should add that when it fell this tree was sound to its roots, that these beetles were taken from a point about forty feet from the ground level, and that I was able to follow the work of the insect for a distance of about fifty feet up the trunk beyond this point by the sawing of the log during the past summer.

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