

head of department; consulting orthodontists, George C. Ainsworth, Alfred Rogers and Lawrence W. Baker; assistants, Arthur L. Morse, Harry W. Perkins, Ernest W. Gates and Norman G. Reoch.

The trustees of the institution, besides Thomas Alexander Forsyth, Director Cross and John Francis Dowsley, the president of the State Board of Registration in Dentistry, are Edwin Hamlin, Chester Bradley Humphrey, Edward Walter Branigan (deceased), Harold Williams, Timothy Leary, Gordon Robert McKay, Erwin Arthur Johnson and Nelson Curtis. Theirs is a good work well begun.

G. V. N. D.

FIRST EXPLORATION OF AN ALASKAN GLACIER

THE first exploration of the Harvard Glacier and the continuation of the observations of previous scientific expeditions in regard to the great glaciers of Prince William Sound, Alaska, have resulted from a field expedition recently completed by Miss Dora Keen, of Philadelphia, with the aid of three men.

Leaving Valdez, Alaska, on August 15, 1914, in a small launch, the party was set down next day near the head of College Fjord, with six weeks' outfit and two small boats, to one of which a detachable motor was affixed. The *object* of the expedition was twofold: (1) *to explore the sources of the Harvard Glacier* in the unmapped section of the Chugach Mountains. If a pass were found, it was planned to cross the divide and return to tidewater down the Matanuska Glacier and the Valley trail of the same name—a traverse of some 50 miles of snow and ice, almost entirely without timber, and a succeeding 100 miles of a hard trail chiefly through uninhabited country. (2) *To continue the observations of the changes taking place in the glaciers of College Fjord and Harriman Fjord*, by means of photographs taken from lettered stations variously occupied since 1899 by the Harriman Expedition, U. S. Geological Survey, and the National Geographic Society's Expeditions. Both of these objects were accomplished, in spite of

almost constant rain or snow, during an expedition that lasted six and a half weeks actually in the field.

The expedition was a private one, but undertaken at the suggestion and under the guidance of the junior leader of the National Geographic Society's Expeditions, Professor Lawrence Martin, of the University of Wisconsin. *The party* consisted of Miss Keen, leader, whose previous experience had been on the glaciers of the Alps and in two extended expeditions in Alaska, entirely on the glaciers of the Wrangell Mountains and resulting in the first ascent of Mt. Blackburn, 16,140 ft.; Mr. G. W. Handy, of McCarthy, Alaska, who had been responsible for the success of her second attempt on Mt. Blackburn; G. A. Rabehl, also an old timer in Alaska, and Mr. H. L. Tucker, of Boston, topographer, whose previous experience had been on the 1910 Parker-Browne Expedition to Mt. McKinley and with the Yale Peruvian Expedition on Coropuna, 21,000 feet.

Exploration of the Harvard Glacier

The Harvard Glacier has a tidal ice cliff a mile and a quarter wide and 350 ft. high, from which ice breaks constantly in summer, causing danger to small boats. Still, a landing was effected in safety on one side and supplies gradually relayed to a point seven miles from the face, where the ice was at last smooth enough to make travel on the glacier itself possible. Over another nine miles of crevasses the party succeeded in reaching the sources of the glacier, to a point where further progress was impossible, even on snowshoes, because of the shattered condition of the glaciers flowing from the steep divide. No pass being found, the return was made from this point, by the same route. All the way, food, tents, etc., and for most of the distance fuel, had to be relayed on the backs of the party, and all the going was hard, so that three and a half weeks were spent in reaching an altitude of 6,100 feet, sixteen miles from the face of the ice.

Danger from snow slides also prevented any high ascent, but data of value were secured

from which the first map of the region will be prepared. Observations of snowfall and temperatures will also throw light on the alimentation of the glacier and its many tributaries.

Photographs of the Glaciers of Prince William Sound

Observations of some 20 glaciers in College Fjord, Harriman Fjord and Columbia Bay constituted the second part of the work, which is a continuance of the study of the advance and recession of these glaciers with a view to determining their causes. Some glaciers appear to have receded as much as a quarter of a mile in a year, while others near-by seem to have advanced as great an amount.

In spite of great difficulty and some risk in forcing a frail row-boat through solid jams of icebergs, which threatened to crush it, this part of the expedition also was accomplished without accident.

SPECIAL ARTICLES

AN EARLY OBSERVATION ON THE RED SUNFLOWER

UNTIL the present month (November, 1914) I supposed that the red sunflower found at Boulder was the first of its kind ever seen by a botanist. I have, however, recently learned from Dr. David Griffiths, of the U. S. Department of Agriculture, that as long ago as 1892 he found a few plants of the wild annual sunflower on the Missouri River bottom in Potter County, South Dakota, having the rays marked at the base with maroon, about the same color as is seen in the dark forms of *Lepachys*. Again, in 1897, he saw in the Sundance region of Wyoming (probably within 15 or 20 miles of Sundance) a single plant having the rays maroon, with only a narrow fringe of yellow. Dr. Griffiths discussed the matter with Mr. T. A. Williams, who had also seen a plant somewhere, he thinks in the Bad Lands of South Dakota. It thus appears that the red sunflower has arisen independently as a "sport" in at least three widely separated places, a fact which may have a certain bearing on the suggestions of Professor Bateson regarding its nature. It is to be noted that the two cases reported by Dr. Griffiths represent

different subvarieties, both different from the original Boulder one.

In *Botanical Gazette*, October, 1914, Professor E. C. Jeffrey has a very interesting article on the relation between hybridism and imperfection of pollen.¹ The various forms of red sunflowers which have been developed for horticultural purposes result from crossing the original wild sport of *Helianthus lenticularis* with various garden forms ascribed to *H. annuus*. Speaking broadly, these crosses, in all directions and through several generations, have been perfectly fertile, at least in the sense that they have produced abundant seed. Deficiency of pollen has however been common, especially in dark red varieties and doubles. My wife, who made the crosses, was sometimes unable to get pollen from some of the most beautiful plants, though she could obtain seed from these by using pollen from others. According to Dr. Jeffrey's criteria, this might seem to indicate that *H. lenticularis* and *annuus* are distinct species, although in this case it seems nearly certain the species *annuus* arose in cultivation. It is possible, of course, that the prairie sunflower, *H. lenticularis*, is a mixture of more or less different things. Thus we obtained seed of the wild Californian form, which appeared to be true *lenticularis*, but had the physiological peculiarity of remaining in flower after the Colorado plants were over. If, however, the present red sunflower of horticulture is in any sense a "crypt-hybrid," it certainly presents a very different case from the hybrids between it and the undoubtedly distinct species *H. cucumerifolius*. These latter hybrids, of various kinds according to the particular varieties used, are some of them very attractive. They can be produced in quantity as F_1 plants, but so far it has proved impracticable to get enough F_2 seed for horticultural purposes. The behavior here is much more like that usually expected of hybrids.

¹ With regard to *Sorbus*, which is specially cited by Dr. Jeffrey in illustration of his theory, it is to be noted that this genus was apparently producing hybrids in Miocene times. (*Amer. Jour. Science*, Jan., 1910, p. 76.)