

Illinois on December 6 and 7. Partly in connection with the exercises of the dedication of the new ceramics building, there will be held the annual session of the Illinois Municipal League, the 7th and 8th of December. University men giving addresses at this meeting will be Professor F. H. Newell, who speaks on "City Pavements"; Professor Edward Barton, on "The Latest Methods of Sewage Treatment"; Professor J. E. Smith on "Delays in the Execution of Public Works"; H. E. Babbitt on "Organization of Water Departments," and Professor J. M. Mathews on "Law Enforcement and Home Rule."

MRS. W. L. MARSDEN, of Seneca, Oregon, has given to the University of California extensive texts, grammatical notes and a vocabulary of the northern Piute language, recorded by her husband, the late Dr. W. L. Marsden. It is intended that these materials shall be edited by Professor A. L. Kroeber, for publication in the University of California publications in American archeology and ethnology.

WE learn from the *Journal* of the American Medical Association that Nielsine Nelson, the first woman physician in Denmark, bequeathed to the medical faculty of the University of Copenhagen three funds of 20,000 crowns each for scholarships for needy women medical students, and a further 50,000 crowns for the same purpose in the name of Ludvig Trier, a friend who had aided her and other students.

DR. GEORGE E. VINCENT, president of the University of Minnesota, has been appointed president of the Rockefeller Foundation, and will take up this work on May 15, 1917. He succeeds Mr. John D. Rockefeller, Jr., who will become chairman of the board of trustees, a newly created office. It will be remembered that Mr. Jerome D. Greene recently resigned the secretaryship of the board.

PROFESSOR ERNEST LINWOOD WALKER, of the University of the Philippines, has been appointed a lecturer on tropical medicine at the Harvard Medical School.

MR. W. L. DORAN, for the last two years graduate assistant in botany at the Massachusetts Agricultural College, has been appointed

instructor in botany and assistant botanist at the New Hampshire Agricultural College and Experiment Station.

DR. ROY G. HOSKINS has been appointed associate professor of physiology in the Northwestern University Medical School.

DISCUSSION AND CORRESPONDENCE

OBSERVATIONS OF THE AURORA OF AUGUST 26 FROM BRITISH COLUMBIA AND ALASKA

SINCE the auroral display of August 26 has been reported from so many places I will take occasion to slightly extend the area over which it was observed by advising that it was a very conspicuous feature of the northern sky at Victoria, Vancouver Island, British Columbia. It was therefore observed from Atlantic to Pacific.

KAY ALEXANDER

November 15, 1916

I HAD an unusual opportunity for observing the auroral display of August 26, being at that time camped on the recently discovered Mount Alexander Mackenzie, on the crest of the Rockies of British Columbia in latitude $53^{\circ} 57'$, longitude $120^{\circ} 27'$.

Auroral displays are not unusual in this region even in summer, but the phenomenon of August 26 was by far the most brilliant and remarkable I have observed. It occurred at a very opportune time for me, as I was then returning after an exploration of the great west glacier. I got off the ice at 7:45 P.M., as the last rays of twilight faded; as I had still three miles to travel to camp, including the crossing of a steep 2,000 foot canyon, I was facing a chilly night under the stars, when quite suddenly the whole heavens became brilliantly illuminated and I was thus enabled to make the difficult climb back to camp.

The display began about 8:30 P.M. Pacific (120th meridian) time, with the formation of a bow of light in the north, surmounting a dark area which suggested the Crookes dark space in a vacuum tube. This increased in brilliancy and was supplemented by other irregular bows or bands of light, crossing the sky from east to west. These were the principal

sources of brilliant illumination, but in addition the whole sky, almost to the southern horizon, was swept with darting and shimmering beams and shafts and curtains of light.

I shall not attempt to rival the vivid description of Professor Nutting, for words fail to express the wonderful beauty and complexity of the display. One of the most striking features was the weaving of curtains of light, appearing as if composed of parallel shafts or filaments, which brightened and paled in waves passing sometimes in one direction and sometimes in the other. These waving curtains interweaved in the most marvellous fashion, sometimes two or even three distinct and overlapping motions being visible in the same area, the shafts of light appearing to glide to and fro like the figures in a complicated but tremendously silent dance.

A little later the display took on the most varied colors, though this phase of the phenomenon was comparatively brief.

The display ceased suddenly at about 9:45 P.M., just as I reached camp. Some of the bands were so brilliant and stable that I determined to try to photograph them. I went into the tent to get my camera and tripod and when I emerged not five minutes later the sky was nearly dark.

FRED K. VREELAND

NEW YORK CITY,
November 15, 1916

It has seemed odd to me, a layman, that no scientist has yet reported to you the far western occurrence of the remarkable auroral display of August 26 last.

One year spent at Rampart on the Yukon about thirty-five miles south of the Arctic Circle had made me familiar with the varied manifestations of the aurora, its marvelously brilliant colors and the crepitation which occasionally accompanied them.

On August 26 I was hunting brown bear near Spass Kaia Bay on Chichagoff Island W. of 136° Long. and N. of 58° Lat. About 7:30 P.M. as nearly as I could guess, my attention was attracted by auroral streamers near the horizon. Looking up to the zenith the whole sky in every quarter was flooded and suffused with one of the most vivid and brilliant dis-

plays I have ever seen. The play of the glow and of the streamers was as rapid as that of heat lightning. The colors seemed to be of every shade of the spectrum. The play of the colors was the most remarkable manifestation to my mind, for they would alternately appear and disappear, the same streamer being full colored at one instant, gray and colorless the next, and colored full again. It is unusual to have so general and so vivid a display so far south even in Alaska, and the natives commented on the fact, saying it was a very rare occurrence and a sure sign of early sharp frost and winter.

ERASTUS BRAINERD

SEATTLE, WASH.,
November 21, 1916

I WISH to add one more report to the long list already published, relating to the aurora of August 26. I was in Glacier Bay, Alaska, at the time, and saw a marvelous display on that evening. It began shortly after sunset, between eight and nine, Alaska time, when there was still considerable daylight in the sky. In its first appearance it was a sinuous band composed of pale green lances of light, seen first in the east, and winding over toward the west, fading into the still bright sunset light. This was shortly duplicated farther to the north; then four such bands were seen at once. Later, various colors appeared in rapidly changing sheets, working toward the zenith. The climax came with a great burst of color directly above us, almost like an explosion, but remaining in full brilliancy for at least some minutes, constantly changing with marvellous rapidity. The colors included purples, heliotrope, pink, light and dark green. This burst faded away, then repeated itself, and faded again. During the remainder of the evening the lights were pale and diffuse.

I have tried to deduce some general conclusions from the numerous reports that have appeared, with the following results. The aurora was visible over the whole of the northern two thirds of North America, the farthest stations reporting being Nova Scotia, Washington, D. C., Nebraska, Portland, Oregon and Glacier Bay. Plotting these stations on the

map, with whatever data concerning brilliancy and colors are available, the conclusion seems plain that the northern stations across the continent show the most variety in color. Reports from northern Michigan, Hector, B. C., and Glacier Bay indicate brilliant and varied colors, and these are the farthest north of stations reporting in their respective longitudes. Four others report less striking color effects: Ephraim, Wis., Lake Minnetonka, Minn., Beartooth Mts., Mont., and possibly Teton Co., Mont.; and all of these speak of pink or rose. All of those reporting from farther south mention or imply lack of color except the usual pale green. It appears therefore that variety of coloring increased northward. Another interesting point is that the display began everywhere at approximately the same hour, local time: that is, in the neighborhood of eight or nine P.M., or soon after sunset. Apparently then it moved westward across the continent, though it is barely possible that it merely became visible in each case with oncoming darkness. One or two of those reporting mention a streaming movement from east to west, which may or may not be of importance.

It is perhaps worth mentioning that during the week following August 26 two other auroras were visible, on August 30 and September 2. The latter was a very fine one—a bright greenish glow covering the whole northern sky almost to the zenith.

WILLIAM S. COOPER

MINNEAPOLIS, MINN.,
November 16, 1916

It seems worth while to place on record the fact that the auroral display of August 26, 1916, recorded in so many parts of the continent, was especially brilliant at Juneau, Alaska. I noted it from about eight until after ten P.M. and was told by others that it continued until nearly midnight. It was the first one that I noted last summer, but I can not recall any of its details except that it was one of unusual brilliancy.

ALFRED H. BROOKS

WASHINGTON, D. C.,
November 13, 1916

I HAVE read with great interest, in the issues of October 20 and November 10, the letters recording the auroral display of August 26. I notice that the most western record, as given in *SCIENCE*, is from Collins, Washington, and the most northern one, in western North America, from the Selkirk Range in British Columbia. It may interest you to know that the auroral display on August 26 was a most magnificent one on the coast of Alaska. I was at the time a few miles south of Skagway, Alaska, and had an opportunity to witness the phenomenon in all its splendor. The display of all the colors of the spectrum rushing together from all directions into a gigantic whirlpool in zenith and then dispersing, lasted for at least half an hour. I may add that for a few days before the auroral display the electric conditions in the air were such as to render it almost impossible to use wireless telegraphy between points in Yukon and Alaska.

My colleague, Mr. H. T. Gussow, Dominion botanist, informs me that he witnessed a most brilliant auroral display on the 26th of August in the Straits of Georgia, between Vancouver Island and the mainland of British Columbia.

M. O. MALTE

CENTRAL EXPERIMENTAL FARM,
OTTAWA, CANADA,
November 13, 1916

THE AURORAS OF 1859

So much has been said about the aurora of August 26 of this year that I have been thinking it might be well to make a note on the similar displays of August 28 and September 1, 1859, which few of the present readers of *SCIENCE* probably saw, but which seem to have been more splendid and remarkable. In both of these the streamers covered the whole sky, north and south, east and west, as seen from the Atlantic coast, in about latitude 43, where the present writer was then located, and converged to a point south and a little east of the zenith, indicating that they were in fact parallel to the dipping compass needle, the variation of which was a little west, for the north end.