

## RECENT PUBLICATIONS.

By HERMAN W. SMITH, Librarian, Weather Bureau.

- Austria-Hungary—Krakow—Sekeye Meteorologiczna Komisyi Fizyograficznej Akademii Umiejtnosci. Materyaly do Klimatografii Galicyi, 1896. Krakow, 1897. 8vo. 232 pp.
- Cape of Good Hope—Meteorological Commission. Report for 1896. Cape Town, 1897. 46 pp.
- Cordeiro, F. J. B. Thermics and thermo-dynamics of the body. Brooklyn, 1897. 8vo. 16 pp. Reprint from the Sanitarian. Vol. XXXIX. Pp. 2-16. July, 1897.
- Faye, H. Nouvelle étude sur les tempêtes, cyclones, trombes ou tornados. Paris, 1897. 8vo. 140 pp.
- Freshfield, D. W. The exploration of the Caucasus. Vol. I and II. London, 1896. 4to. ii.
- Germany—Aachen—Meteorologische Station. Deutsches meteorologisches Jahrbuch 1896. Ergebnisse der meteorologischen Beobachtungen an der Station 1. Ordnung. Karlsruhe, 1897. F. 68 pp.
- Germany—K. preuss. meteorologische Institut. Ergebnisse der Gewitter-Beobachtungen in den Jahren 1892-1894. Berlin, 1897. F. 55 pp.
- Germany—K. sachs. meteorologische Institut. Wetterbericht. (Täglich), 1895-1896. Chemnitz, 1895-1896. 8vo.
- Gilbert, G. K. Modification of the Great Lakes by Earth movement. Washington, 1897. 8vo. 15 pp. Reprint from the National Geographic Magazine. Vol. VIII. No. 9. Pp. 232-247.
- Great Britain—Royal Institution. Proceedings. Vol. XV. Part I. London, 1897. 8vo. 292 pp.
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- Oregon—State Weather Service. Biennial report of 1895-1896. Salem, 1897. 8vo. 559 pp.
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- Smits, A. Untersuchungen mit dem Mikromanometer. Utrecht, 1896. 8vo. 62 pp.
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- White, W. H. The means by which the temperature of the body is maintained in health and disease. London, (1897). 8vo. 77 pp.
- Wyoming—University of. Seventh Annual Report of the Agricultural College and the Agricultural Experiment Station for the year ending June 30, 1897. Laramie, 1897. 8vo. 149 pp.

## SEISMIC NOISES.

[During the past three years public attention has been frequently called to the noises known as "mistpouffers" on the coast of Holland, "barisal noises" in the Delta of the Ganges, and by various names on many other coasts. In this country, also, there are recorded the "moodus" noises in Connecticut, the rumbling and shaking preliminary to landslides in North Carolina and Pennsylvania, and the noises that prevailed for weeks in South Carolina after the Charleston earthquake. Occasionally noises are attributed to earthquakes that are really due to the passage of meteors overhead, but the two following articles certainly refer to noises issuing from the ground. In general, all such phenomena are worthy of investigation, and the Editor thinks it not improper to publish the two following papers, since it may well be that the phenomena here recorded are sometimes due to the action of frost and rain in the rocks beneath us.—C. A.]

## EXPLOSIVE NOISES AT FRANKLINVILLE, N. Y.

By Dr. J. W. KALES (dated September 18, 1897).

About 9 o'clock a. m., October 10, 1896, the writer was driving on the Cuba road (see Chart VI) toward Franklinville,

N. Y. At the point marked 1 on the map a loud explosive sound was heard which appeared to come from the center of East Hill. When point 2 was reached a similar sound was heard, also at point 3. These sounds succeeded each other at intervals of about five minutes. They closely resembled the sounds produced by coarse black powder used in blasting rocks in the construction of tunnels. The same sounds were heard at the same time by Mr. McStay at his residence, marked McStay. McStay attributed the sounds to the firing of cannon at Cuba, but there was no cannon at Cuba, 13 miles distant. East Hill lies between McStay's and Cuba. The dotted lines on the map all run through the center of East Hill. This hill is about 500 feet high, i. e., using the valley at Franklinville as a base. This region is covered with deep drift. The valley at Franklinville is filled with "till" 100 to 150 feet deep. The underlying rocks belong to the Chemung group, dip to the southwest, and are formed of thin lamellæ of sandy shale and thick beds of sandstone. The surface of the soil is strewn with quartz and limestone pebbles, sandstone, and granite boulders. Many moraines extend along the hillsides, showing that this section was once covered with glaciers. On the summit of East Hill is a large sandstone boulder in which is a depression—a mortar—said to have been formerly used by the Indians for grinding corn. Single sounds, like those described, are heard in the hills about here, but so far as the writer knows no series of sounds have been so closely located as those of October 10, 1896, in East Hill; they appear to be due to breaking of the strata of underlying rocks.

## SEISMIC NOISES IN NORTH CAROLINA AND GEORGIA.

By BARRY C. HAWKINS, Voluntary Observer (dated October 8, 1897).

There are several instances of sounds in nature, for which no reasonable or proved explanation can be found and, probably, the most remarkable of these is the phenomenon known as the "barisal guns." The facts relating to these seem to be as follows: At a certain point near the seacoast in India, sounds are heard resembling distant cannon firing. These sounds have been extensively studied, but no reasonable hypothesis has been advanced which accounts for the "guns."

Mention has been made in the MONTHLY WEATHER REVIEW of certain sounds heard on Black Mountain, N. C., in 1876, and obviously caused by the slow falling or sliding and crushing of rocks. But I am going to describe a phenomenon which seems to be very similar to the famed "barisal guns," and located right in the United States. No account of these sounds has ever been published, and no scientist has ever taken the slightest interest in them, or paid any attention to them, so far as the writer knows.

In northern Georgia, in the extreme north of Rabun County, close to the North Carolina State line and thirty-fifth parallel of latitude, is Rabun Bald Mountain, forming one of the highest peaks on the very crest of the Blue Ridge. This mountain has the same bulky shape and long rambling ridges running for miles in all directions as are spoken of by Hugh Miller as characterising the gneissic mountains of Scotland. On the east side there is a small cliff over which a small stream falls in wet weather, and from the ranges to the east the peak appears in form exactly like a brace, viz.,

The entire mountain is of gneiss. Now, on this mountain are heard mysterious sounds resembling distant cannon firing, and these sounds have been heard for many years, probably at least fifty; they have been heard in all kinds of weather and at various points on the mountain.

Numerous observers have noted the sounds, and two reliable gentlemen once spent a night on the summit. About 10 o'clock p. m., sounds were heard which were supposed to be

cannon firing in Walhalla, S. C., in celebration of the presidential election, this being in November, 1884; but soon the sounds were found to issue from the ground and from a ridge to the southwest of the mountain. The explosive sounds continued till late in the night. At times they seemed to proceed from the ground immediately under the observers. In early days when bears were plentiful the pioneers said the sounds were caused by these animals rolling small boulders off the mountain sides in search of worms, snails, etc., but the bears have passed and the sounds still continue. Later the sounds were ascribed to "harnts" (haunts or ghosts); two men were murdered in "the sixties" and buried at some unknown point on the "Bald." Some have heard these sounds so near them in the woods that the sound was like that of a falling tree. But ordinarily the sound is like distant firing, as noted above. They are not heard at all times, people having spent the night on the peak and heard nothing. The writer can verify all the statements made above. They are strictly true, and it is with the hope of calling the attention of scientific men to the subject that I present this brief account of the mystery of a mountain.

HURRICANE OF SEPTEMBER 6.

In connection with the hurricane of September 6 Mr. Joseph Ridgway, Jr., of St. Thomas, W. I., forwards the following extract from the report of Captain Rusch of the German steamship *Rhenania* from Hamburg, which encountered a severe hurricane September 6-7, N. 31° 45', W. 47° 25':

Up to 6 p. m., September 6, there was no appearance of bad weather; at 11 p. m., wind southeast by east; on September 7, 1 a. m., encountered full force of a hurricane, with wind northeast by north, force 12 on the Beaufort scale; barometer 29.55. At 4 a. m., wind southeast by east; barometer 29.20. At 5 a. m., foretopmast overboard; heavy seas cleared the deck; two officers' staterooms smashed; engine skylights and part of bulwarks washed overboard; one boat smashed; barometer 28.95. At 6:30 a. m., wind at its greatest force during the storm; barometer 28.70. At 7 a. m., wind south by east; barometer 28.75. At 8 a. m., wind southwest. At 11 a. m.; wind moderated and at noon wind haddied away. On the 4th Captain Rusch had spoken the English steamer *Wooler*, of London, which was then repairing her engine, probably after having passed through the same storm.

METEOROLOGICAL OBSERVATIONS MADE TO DETERMINE THE PROBABLE STATE OF THE SKY AT SEVERAL STATIONS ALONG THE PATH OF THE TOTAL ECLIPSE OF THE SUN, MAY 28, 1900.

By Prof. FRANK H. BIGELOW.

Having regard to the cost of establishing temporary eclipse stations, and the losses to science in case a clear view of the sun is not secured during totality, it is proper to determine as far as practicable the probable state of the sky along the path, with the view of selecting the best sites for the observations. To do this a study may be made of the cloud conditions prevailing annually along the shadow-track for a period of time including the date of the eclipse. Certain areas may show greater tendency to cloudiness than others, and this fact will have some weight with observers in choosing their stations.

The meteorological features are, of course, of too uncertain a nature to make it possible to precisely forecast the type of weather that will occur, because storm conditions in transit over the United States might for the day in question supersede the average normal state prevailing in the eclipse districts.

Attempts to thus give an idea of the probable weather conditions likely to occur have already been made in previous cases, at the suggestion of Prof. D. P. Todd. He claims complete success in Chili in 1893, and a partial success in Japan in 1896. The path of the eclipse in India, January, 1898, is

being similarly studied. The observations in Japan and in India have been made by the Government Services. The eclipse track for May 28, 1900, passes over the Southern States, from New Orleans, La., northeastward to Norfolk, Va., and it will accordingly be surveyed by the United States Weather Bureau for the benefit of the astronomical expeditions.

The plan proposed by Professor Todd has been followed in this investigation as follows: Beginning with May 15, 1897, and continuing until June 15, 1897, so as to include May 28 centrally, observations were made at 66 stations, whose locations are shown on Chart VII, covering quite uniformly the portions of the States of Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, and Louisiana, over which the track is plotted. The only observations made at stations outside the northern and the southern limits of the path and included are Saluda, S. C., and Athens, Ga. The general state of the sky at 8 a. m., 8:30 a. m., and 9 a. m., was noted under the instructions, "observe carefully the state of the sky over the whole heavens, and enter the following notation: 0=sun entirely clear; 1=sun  $\frac{1}{2}$  cloudy; 2=sun  $\frac{1}{4}$  cloudy; 3=sun  $\frac{3}{4}$  cloudy; 4=sun all cloudy." At the same hours the state of the sky near the sun was observed using the notation: "0=sun clear from clouds; 1=sun in scattered clouds; 2=sun in a mass of clouds; 3=sun quite invisible." The observers, whose names appear in Table 2, were generally volunteers who did this work at the request of the Weather Bureau. Their cooperation has, therefore, been highly appreciated.

A specimen of the tabulation for Raleigh, N. C., is inserted for inspection as Table 1, but it is impracticable to reproduce the whole set of stations in the WEATHER REVIEW.

TABLE 1.—Observations made at Raleigh, N. C., May 15 to June 15, 1897, by C. F. von Herrmann.

Date.	General state of sky, a. m.			Sky near sun, a. m.			General description of the condition of sky. (Seventy-fifth meridian time.)
	8:00	8:30	9:00	8:00	8:30	9:00	
May 15	4	4	4	3	3	3	Disk of sun just barely visible occasionally between 8 and 9.
16	3	3	2	2	2	2	Disk of sun visible, but through thin to thick cirrus clouds.
17	0	0	0	0	0	0	Considerable haze, but not enough to interfere with astronomical observations.
18	0	0	0	0	0	0	Clear, except a few white cumulus clouds here and there.
19	0	0	0	0	0	0	No clouds, but considerable haze.
20	0	0	0	0	0	0	A little haze.
21	1	2	2	0	1	1	Thin cirro-cumulus over face of sun, 8:25 to 9:35, disk visible.
22	1	0	0	1	0	0	Thin cirrus at 8 a. m., soon disappearing; light haze remained, not thick.
23	0	0	0	0	0	0	Very little haze.
24	3	3	4	1	1	2	Cirro-cumulus.
25	0	0	0	0	0	0	Rather thick haze, approaching fine cirrus in texture.
26	0	0	0	0	0	0	Rather thick haze in vicinity of sun.
27	0	0	0	0	0	0	Cirrus, sun mostly clear of clouds.
28	1	1	1	1	1	1	} Cloudy, rainy weather.
29	4	4	4	3	3	3	
30	4	4	4	3	3	3	} Cloudy, rainy weather, strato-cumulus.
31	4	4	4	3	3	3	
June 1	1	3	4	0	1	2	Nearly clear at 8 but becoming quite cloudy by 9 a. m.
2	4	4	4	3	3	3	} Cloudy, rainy weather, strato-cumulus.
3	4	4	4	3	3	3	
4	4	4	4	3	3	3	} Alto-cumulus, cumulus.
5	4	4	4	3	3	3	
6	1	1	1	1	1	1	} Strato-cumulus.
7	4	4	4	3	3	3	
8	4	4	4	3	3	3	} A few alto-cumulus.
9	4	4	4	3	3	3	
10	1	1	1	1	1	1	} Few cirrus, not near sun.
11	0	0	0	0	0	0	
12	2	2	3	2	2	2	} Cirrus over face of sun, not obscuring disk.
13	0	0	0	0	0	0	
14	4	4	4	2	2	2	} Some haze in vicinity of sun.
15	0	0	0	0	0	0	
Total.	62	64	66	44	44	47	

In order to present the result in compact form, the sums of