

itself; and I was soberly informed by a resident of the city that the greater number of the shocks at that time were occasioned by explosions of dynamite in the neighborhood. The desire to ignore the earthquake danger has not altogether prevented the legitimate influence of the catastrophe on building regulations and building practices, but there can be little question that it has encouraged unwise construction, not only in San Francisco but in other parts of the mallosoismic district.

The policy of concealment is vain, because it does not conceal. It reflects a standard of commercial morality which is being rapidly superseded, for the successful salesman to-day is he who represents his goods fairly and frankly. It is unprofitable, because it interferes with measures of protection against a danger which is real and important.

IS THIS ONE NATURAL METHOD OF MAKING SNOW ?

Mr. W. W. Neifert, Local Forecaster at Hartford, Conn., recently sent the Editor the following clipping from the *New England Palladium* for February 6, 1810.

Springfield, Mass.
January 15, 1810.

A very singular appearance was exhibited in this town on Friday last. The Thermometer standing at 0, and two degrees above, with the wind very high at North West. The river furnished an appearance of a heavy fog passing rapidly down it. On an appearance so extraordinary examination was made, and it was found that the wind took the small particles of water and carried them up into the atmosphere, where they immediately congealed into fine snow; they arose some as much as 40 feet above the surface of the water. Its commencement was about meridian, and continued through the day, but most conspicuous at 2 P. M. Several very aged people living in this vicinity do not remember ever seeing the like appearance.

WEATHER BUREAU MEN AS EDUCATORS.

J. W. Bauer, Section Director, Columbia, S. C., reports that the faculty and trustees of the University of South Carolina have just added an elective course in "Elementary and Practical Meteorology" to the curriculum of that institution. The course will begin about February 16, and will consist of 15 weekly lectures by the official in charge of the local office. Waldo's *Elementary Meteorology* will be used as a text. The class is expected to number about 15 students.

M. E. Blystone, Local Forecaster, Providence, R. I., reports that on January 4 he addressed the Men's Club of the Congregational Church, Seekonk, Mass., on "Weather Forecasts;" repeated this address on the 28th before the Men's Club of St. James Episcopal Church, Providence.

W. D. Fuller, Observer, reports that classes from the Pasadena and South Pasadena High Schools visited the Los Angeles, Cal., office on February 17 and 18; and from Throop Polytechnic Institute on the 23d. These classes visit the office regularly every year.

Eric R. Miller, Local Forecaster, Madison, Wis., reports that on February 28 he began a course in climatology at the University of Wisconsin. The class meets three times weekly for lectures, recitations, and practical exercises, using Hann-Ward's *Climatology* as a text. The enrolment is 1 student from the School of Agriculture, 2 from Engineering, 3 from Letters and Science, and 6 from Commerce.

E. H. Nimmo, Observer, Sandusky, Ohio, reports that a class from the Sandusky High School visited the local office on February 18, 1909.

G. H. Noyes, Local Forecaster, Lexington, Ky., addressed the Men's Club of the Second Presbyterian Church of that city on February 1, 1909. His subject was "The daily workings of the Weather Bureau."

H. W. Richardson, Local Forecaster, Duluth, Minn., reports that on February 10 he gave an illustrated talk before the Park Point Improvement Club on "The Weather Bureau."

J. Warren Smith, Section Director, Columbus, Ohio, reports that classes from the Central High School visited the local office on February 10 and 11.

Wilford M. Wilson, Section Director, Ithaca, N. Y., reports that during February he gave illustrated lectures on topics pertaining to the work of the Weather Bureau before the Cor-

nell Agricultural Association, the Political Study Club, Short Course Students' Association, Forest City Grange, Town and Gown Club, Ithaca Business Men's Association; also two lectures at the College of Agriculture during Farmers' Week.

M. L. Fuller, Observer, Canton, N. Y., reports that on January 26, he delivered a lecture on "The practical value of the Weather Bureau" before the "Farmers' Week" assemblage at Canton, N. Y. After the lecture a considerable portion of the audience visited and inspected the local office in the Carnegie Science Building, St. Lawrence University.

INFLUENCE OF MOUNTAINS AND COASTS ON STORMS.

By D. T. SMITH, M. D. Dated Louisville, Ky., March 1, 1909.

In the December number of the *MONTHLY WEATHER REVIEW* the Editor remarks that "It is very desirable that some one should explain in detail the mechanism by which a given range of mountains or the coast of a continent deflects the path of a hurricane center. The east-west ranges in the West Indian Islands and the northeast-southwest Appalachian Range appear to have appreciable influence on some storms, but not on others."

For more than twenty years the writer has been trying to attain the result suggested by the development of a theory that has grown with the development of facts.

The *MONTHLY WEATHER REVIEW* of June, 1906, 34:280, published this theory of mine which is that cyclones and hurricanes, which seem to be nothing else than cyclones moving under the more favorable conditions of tropical seas, derive their movement of translation from the necessity of the coincidence of their center of gravity and their axis of rotation.

At the request of Dr. Hugh Robert Mill, editor of *Symons's Meteorological Magazine*, this theory was set forth more elaborately in the issue of that journal for May, 1908.

The contention is that the upper constant currents blowing toward the west, in the Tropics, then circling around to become the constant westerlies of the temperate and polar regions, are continually beheading the cyclone, thereby creating a partial vacuum, and that the pressure of the surrounding air into this is the chief source of all cyclonic energy.

The cyclone measurably yields to these currents and leans over in the direction of their motion. The air rushing in from all sides fills up the space in front under the leaning body faster than the rear can be added to, and this shifts the center of gravity forward. Since the mass of the cyclone or hurricane is rotating, the axis must move forward continuously to correspond with the center of gravity, and thus the cyclone is kept constantly advancing. If a mountain chain lies across the cyclone path it will prevent the increase of diameter in front, and thus hold the center of gravity and axis, for a time, stationary. Or it may happen that the mountain chain will hold back the inrush of air in front until that already present is sucked up into the cyclone, thus moving back the center of gravity, and as a result the center of the cyclone will actually recede for a time and has been known to do so.

After a time the cyclone begins to be added to in front above the level of the mountains. This moves the center of gravity forward and the cyclone proceeds to cross the range.

A mountain range running in the direction of travel of a cyclone would deflect the path of a cyclone away from itself in proportion as the diameter of the cyclone's base was interfered with.

If the level of outflow in a cyclone should happen to be unusually high, it would not need to halt at an ordinary mountain chain, and it would be less affected by such a chain parallel with its path.

Continents affect cyclones variously, or rather the frictional resistance of continents must meet a variety of conditions. Tropical cyclones (and I much doubt if there are any other