

of Italy indicates, that, with the exception of the northern part of the Adriatic, the peninsula is quite free from the disease.

— Fish-commission car No. 1 left Havre de Grace, Md., on Sunday last, with 1,500,000 young shad for Broad and Saluda Rivers, South Carolina. On its return it will take the same number of shad fry to Portland, Ore., for stocking the Columbia River basin.

— The Hibbert lectures for 1886 are now being delivered in London on Mondays, Wednesdays, and Fridays, and are repeated at Oxford on Thursdays and Saturdays. The lecturer this year is Professor Rhys of Oxford, and his subject is 'The origin and growth of religion as illustrated by Celtic Heathendom.'

— Mr. D. P. Wainright of the coast survey has completed the trigonometrical work in the vicinity of Cape Fear River, North Carolina. The field-parties from the south will begin to arrive in Washington about the middle of June. Parties will be sent east and north for field-work about the first of June.

— The ethnological collections of the British museum are now said to be for the first time adequately displayed. New rooms, formerly occupied for zoölogy, have been devoted to them, and recently thrown open to the public. The collection is now thought to be the best and most representative in the world.

— Messrs. James Pott & Co. have brought out an edition of Pressensé's 'Study of origins,' which first appeared in its English version in December, 1882. The author is a learned and accomplished Protestant minister of Paris. His position is that of a Kantian who firmly believes in God, the soul, and the future life; but he is liberal and broad, vindicating the complete independence of science, and saying unequivocally that neither the Bible nor the councils have any prescriptive right to control science. He is convinced that experimental science is not hostile to the principles of theism; and that, if 'the possibility' of a divine and moral world be conceded, there are processes of experiment which will supply the demonstration. From this basis the author discusses the problems of knowledge, being, and duty in the light of modern German, French, and English philosophical writings.

— The publishing-house of Justus Perthes has recently begun a new edition of Berghaus's 'Physikalischer atlas,' which will contain seventy-five maps. The first *lieferung* contains a map showing the distribution of the flora of Europe; another, the isotherms of the world; and a third,

the soundings in the Mediterranean and Black seas, and also the character of various portions of the shore, which is undergoing rapid changes.

LETTERS TO THE EDITOR.

*** Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

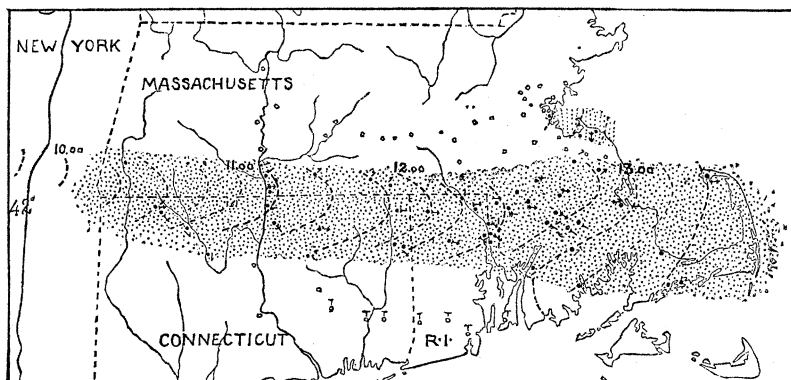
A thunder-squall in New England.

THE study of thunder-storms that was undertaken as a special investigation by the New England meteorological society in the summer of 1885 was successful in gathering records from a good number of volunteer observers, on which a tolerably complete statistical account of the storms may be based: thus there appears a distinctly earlier afternoon maximum of storm-frequency in western than in eastern Massachusetts, implying that distance from some at present unknown district of origin, as well as high temperature, exerts a control on the time of the storm's arrival east of the Hudson. In several of the better-developed storms the data accumulated were sufficient to define the more prominent physical features of the storm with considerable accuracy: this was especially the case with the small but violent thunder-squall that crossed New England about noon on July 21, 1885. The storm belongs to a class first clearly defined by Dr. Hinrichs, director of the Iowa weather-service, several years ago, and differs distinctly from the tornado in having a blast of out-rushing air in front of its rain. The example here described came to us from western New York, where certain observations furnished by Prof. H. A. Hazen of the signal service reported it about six or seven o'clock in the morning; two of our observers in central and eastern New York recorded it at later hours; and at a little after ten o'clock it entered New England near the notorious Boston Corners, the former south-western angle of Massachusetts; thence it followed an almost due-east path, gradually broadening its rain-area, as it advanced, until it ran out to sea a little after noon, its average hourly velocity being forty-eight miles. All observers agree in giving it a rapid approach, a short, violent passage, and a quick disappearance. Very soon after its clouds were seen and thunder heard, the brief wind-squall came rushing in advance of the pouring rain; and an hour or so later the whole storm was out of sight in the east. With the wind came a rapid fall of temperature and a distinct increase of pressure. The thermograph, barograph, and anemograph curves, furnished from the city engineer's office in Providence, are here particularly interesting, as they record fluctuations produced by the nearly central passage of the storm. The temperature fell 13° in half an hour as the storm came overhead, and soon rose again to a high afternoon maximum as the clouds cleared away. The barometer quickly rose four-hundredths of an inch at the arrival of the storm, and the wind increased from a gentle breeze to a rate of about forty miles an hour.

The persistent individuality of this storm, maintaining a constant association of its several features over the greater part of its observed path, justifies the construction of a 'composite portrait,' by means of which all the observations are thrown into their proper position with respect to two governing lines, — the rain-front and the storm-axis. In this figure, the curved lines, convex to the east, measure fifteen

minutes in time, or twelve miles in distance, ahead of or behind the rain-front; and the straight lines, parallel to the storm-axis, mark the paths of the several stations through the storm, as if they moved westward while the storm stood still. Appropriate figures and signs for temperature, wind, sky, etc.,

The 'portrait' would doubtless have been truer if our stations had been more plentiful in north-eastern Connecticut and south-eastern Massachusetts; but, in a first season's work, it was impossible to secure a sufficient number and an equable distribution of observers. Especial attention will be given to these

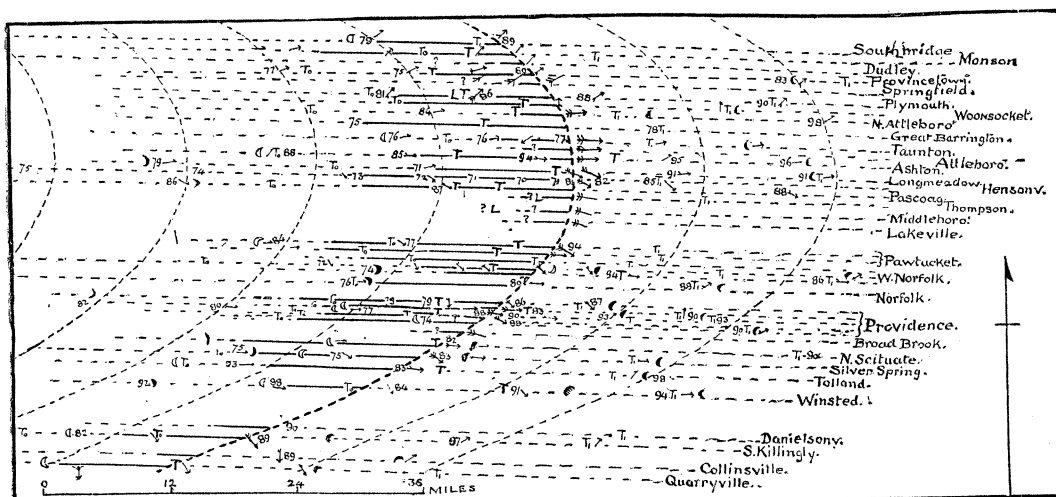


placed on the line of their station and at their proper time-interval before or after the beginning of the rain, then represent all the records that were gathered, and bring them together on a single diagram. Thus we see the gradual fall from high tem-

peratures during the coming season, when the investigation will be continued with improved opportunities, and all careful observers will be encouraged to co operate in the work.

W. M. DAVIS.

Cambridge, Mass.



COMPOSITE OF THUNDER-SQUALL, JULY 21, 1885.

(All observations thrown in their proper place with respect to rain-front and middle path.)

Interval between curves, 15 minutes.

Numbers give temperature (F.).

T₁, T, T₂, first, loudest, last thunder.

C, clouds in west.

G, clear in west.

L, lightning-stroke.

—>, light wind.

⇒>, heavy wind.

—, duration of rain.

peratures, as the clouds (shown by black crescents) became visible, and the thunder became audible; the sudden increase of the wind velocity, and its radial direction at the front of the rain-area; the longer duration of the rain, and the greater fall of temperature, at the centre than at the margin of the storm; the gradual warming-up again as the rain ceased and clear sky (white crescents) appeared:

The Davenport tablets.

In the November number of the *American antiquarian* there appeared an editorial wherein it was charged that Rev. J. Gass, a member of the Davenport academy, by exchange had imposed upon Mr. A. F. Berlin certain alleged fraudulent mound-relics, and it was there plainly intimated that these disclosures tended to place all that gentleman's dis-