Mr. R. F. Stupart, director of the Canadian Service, showed that temperature inversion effects occur in Alberta, similar to those previously found by Bigelow over the Rocky Mountain region in the northwestern states, showing that the warming adiabatic currents flow as a sheet eastward over the mountains for many hundred miles in a north-and-south line, from northern Alberta to Colorado.

Mr. E. Gold gave a paper with summary regarding the effects of radiation on the height and temperature of the isothermal layer over cyclones, anticyclones, in the tropics and the temperate zones generally. The interrelations of this complex problem were briefly considered, the result being that many more observations are needed, especially in the tropics.

Professor F. G. Baily exhibited diagrams and models of a sensitive seismograph, being an extension of a vertical bifilar system, the mirror being suspended from a bifilar hanging on a bifilar. The records are promising and the instrument is not heavy or bulky.

All the papers were of an excellent quality, and the discussions, though limited for lack of time, were intelligent, showing that these subjects are of primary interest in England.

There are other matters of importance just now occurring, under the able administration of Dr. W. N. Shaw, in the British Meteorological Service. The old office in Victoria Street, London, is being removed to South Kensington, for the sake of enlarged quarters, and the personnel of the service is being strengthened. The Kew Magnetic Observatory, Dr. C. Chree, director, long an independent and well-known institution for magnetic work, has been amalgamated with the Meteorological Office, and they now form one service. This office is also in close touch with the South Kensington Solar Physical Observatory, Sir Norman Lockyer, director, so that the allied branches of solar physics, atmospheric electricity and magnetism, meteorological records and forecasting, are acting in close harmony. This would be like uniting the astrophysical observatory of the Smithsonian Institution, the magnetic department of the Carnegie Institution so far as it relates to atmospheric phenomena, and the Weather Bureau, a policy which I think should be advocated until it has been accomplished. There is great scientific disadvantage in carrying on these lines of research independently, and it should be remedied before large masses of valuable observations accumulate. Mr. Stupart informs me that the Canadian government is establishing, in connection with the magnetic observatory at Agincourt, about ten miles from Toronto, a fully equipped institution for balloon and kite work, for atmospheric electricity in all its relations to ionization, and for solar radiation. The balloon work will be valuable in supplementing the Mt. Weather work on cyclones and anticyclones, because the location of the southern station is such that the great majority of the storms run to the northward of it, so that the data are over-abundant in the southern and scanty in the northern quadrants, and make a difficult distribution of material for any important discussions. I am also informed that the Argentine government is making large extensions of their service along similar lines of general physics. Since it is necessary that meteorology should be carried on by governments with considerable resources, on account of the necessity in forecasting of an elaborate organization for collecting data promptly, it follows that they at the same time assume the responsibility for the maintenance of researches tending to improve the service for the public utility.

Meteorology is a difficult subject, and it requires unusual effort and expenditure of money to make any important progress. It is evident, however, that scientists in all parts of the world are in agreement with the policies pursued by the three governments just mentioned as the most practical way of attacking the great problems in question.

Frank H. Bigelow

Sheffield, Eng.,
September 7, 1910

THE TENTH ANNUAL NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL EXCURSION

The party will assemble late Friday afternoon, October 21, at the Hanover Inn, Hanover, N. H. After supper there will be a preparatory meeting, at which short expositions

will be given of certain phases of the geology of northern New England, and questions will be raised upon which the subsequent field trip should throw light. Opportunity will be given to inspect Hitchcock's large geological model of New Hampshire and Vermont (scale 1 inch to one mile), the various rock collections made during the progress of the State Surveys of 1861–79, Dr. Hawes's original set of "thin" sections of New Hampshire rocks, Warren Upham's original maps of the surface deposits of the Connecticut and Merrimac valleys, and other exhibits at the Dartmouth College Museum which illustrate pioneer work on the geology of northern New England.

On Saturday morning short excursions will be made to several points in the valley near Hanover, and in the afternoon to the vicinity of White River Junction. Some of the features to be seen and questions to be discussed are: The Connecticut valley esker; its relation to other deposits in the valley? Clays, which compose the "highest terrace"; their original extent? of glacio-fluvial or glacio-lacustrine origin? Deltas at mouths of tributary valleys, at altitudes above the "highest terrace"; their significance? Ice-contact slopes and kettle-holes, how discriminated from subsequent stream-carved topography? Erosion slopes of the Connecticut River, local trimming and local obliteration of the esker; intercision of a tributary stream by the master stream at a point some distance above their original junction; protective influence of ledges among the terraces? Unprotected terraces and abandoned courses (of incised meandering pattern) of tributary streams. Accordant altitudes of unprotected terraces up- and down-valley. Do some of these represent long pauses between stages of regional up-warping? Was the post-glacial elevation of New England steady and continuous, or interrupted by an interval of halting or subsidence?

The field excursion will close at White River Junction before the departure of the 5.35 P.M. train for Boston.

HERDMAN F. CLELAND,
Secretary

WILLIAMSTOWN, MASS.,
September 24, 1910

THE ILLUMINATING ENGINEERING SOCIETY

THE fourth annual convention of the Illuminating Engineering Society will be held October 24 and 25, 1910, in Baltimore, Maryland. The convention will meet at the Johns Hopkins University.

Following the two days convention there will be given at the university a course of thirty-six lectures on illuminating engineering. These lectures will be given in the physical laboratory from October 26 to November 8. A large number of those who will attend the convention have already arranged to take advantage of the opportunity offered by the lecture course. The lecturers have been invited by the university upon the advice of the society.

Plans are rapidly maturing for the convention proper. There will be two sessions on each day of the convention—morning and afternoon. On Monday evening there will be a public lecture in McCoy Hall to be followed at 9.30 by a reception in the physical laboratory and an exhibition of the apparatus to be used in the lecture course. On Tuesday evening there will be a banquet which will conclude the convention.

The lectures on illuminating engineering are as follows:

"The Physical Basis of the Production of Light" (three lectures), Joseph S. Ames, Ph.D., professor of physics, The Johns Hopkins University.

"The Physical Characteristics of Luminous Sources" (two lectures), Edward P. Hyde, Ph.D., president, Illuminating Engineering Society; director of Physical Laboratory, National Electric Lamp Association.

"The Chemistry of Luminous Sources" (one lecture), Willis R. Whitney, Ph.D., director of Research Laboratory, General Electric Co.; past president, American Chemical Society.

"Electric Illuminants" (two lectures), Charles P. Steinmetz, Ph.D., consulting engineer, General Electric Co.; professor of electrical engineering, Union University.

"Gas and Oil Illuminants" (two lectures), (1) M. C. Whitaker, B.S., M.S., professor of industrial chemistry, Columbia University. (2) Alexander C. Humphreys, M.E., Hon. Sc.D., presi-