

## Science News a Century Ago

### Meteorology in America

On October 29, 1834, a joint committee of the American Philosophical Society and the Franklin Institute issued a circular with the object of obtaining a complete knowledge of all the phenomena accompanying one or more storms of rain or hail, not only where the violence of the storm was felt but also at and beyond its borders. Various hints were given to observers on the observation of the wind and clouds. They were asked particularly to "inquire the course of the wind at the commencement of the storm, and at its termination; the width of the storm; its direction; its velocity; the direction of the wind at its sides; how the wind veers round—whether in different directions at its sides, or not; whether in case of hail, there are two veins, or only one; where there is the greatest fall of rain . . . and whether this fall takes place near the beginning, middle, or end of the storm; whether the clouds are seen moving with the wind or against it; and whether differently among themselves; and everything else which you think may tend to an explanation of this most interesting phenomena." The circular gave instructions for the construction and use of simple apparatus for taking the dew-point, but it said nothing about observing the movements of the barometer.

### Road Travel a Century Ago

On Friday, October 31, 1834, the *Times* published a long account of a dinner given two days earlier in Glasgow to the Earl of Durham. At the same time it gave some information as to the methods by which news had been obtained so quickly. "Our express," it said, "left Glasgow at 12 o'clock on Wednesday night and reached us at half past 7 o'clock this morning. . . . On completing a second journey of considerable length and extraordinary speed we should be guilty of great injustice if we did not offer our warmest acknowledgements to the innkeepers throughout the whole line for the zeal and ability with which they accomplished their essential part of the task. . . . The mode by which a more expeditious communication between London and Edinburgh may be obtained is obvious. All local feelings and prejudice should be laid aside. An accurate survey of the whole extent of the road should be procured, similar to that which was made some years ago of the country between London and Holyhead. . . . It will be found that in Scotland the distance may be reduced not less than 30 miles, and a new road from Doncaster to Selby affords a further reduction of five miles. The mail may thus perform the journey from Edinburgh to London in three hours and a half less than the present time, without increasing the speed to a degree which would be dangerous to the passengers and ruinous to the contractors".

### Public Education in Great Britain

A Select Committee of the House of Commons was appointed in June 1834 to inquire into the state of education in England and Wales, but by the end of the session, it had only examined 21 witnesses and thus was not in a position to issue a report. Certain evidence was, however, printed, and on November 1 the *Times* published some of that given by the Lord Chancellor. To the question, "Do you think that a system of primary education established by law would be beneficial?" he had replied, "I

think that it is wholly inapplicable to the present condition of the country, and the actual state of education. Those who recommend it on account of its successful adoption on the Continent, do not reflect upon the funds which it would require". It was probable, he said, that the present schools supported mainly by voluntary contributions were capable of educating nearly 1,400,000 children. For the Government to establish schools throughout the country for 2,000,000 children, no fewer than 40,000 schools would be required "which allowing only 50£ a year for all expenses of salary and rent would cost 2,000,000£ a year". The Lord Chancellor also considered that compulsory education was not justifiable on principles of public utility or expediency.

## Societies and Academies

### PARIS

Academy of Sciences, September 17 (*C.R.*, 199, 593–608). CHARLES CAMICHEL, EUGÈNE FISCHER and LÉOPOLD ESCANDE: The use of different vertical and horizontal scales in studies on reduced models in hydraulics. The practice is common in laboratory experiments in hydraulics. There is no geometrical similitude between the work and the model: the latter is a conventional representation of the work to be studied and there is no theoretical reason for assuming that the hydraulic movements existing in the model will be the representation, on the same conventional bases, of phenomena capable of being reproduced in the work. Experiments bearing on this problem are described and it is found that in some respects, such as the surfaces examined in the actual study, there is no concordance between the various models. PAUL DELENS: Isothermal families of developable surfaces. A. J. MACINTYRE: A theorem on ultraconvergence. R. DE MALLEMANN and P. GABIANO: The magnetic rotatory power of hydrogen arsenide and of hydrogen phosphide. Hydrogen arsenide gave a Verdet constant of  $A_D^{60} = 68 \times 10^{-6}$  (minute); hydrogen phosphide,  $A_D^{60} = 57 \times 10^{-6}$  (minute). J. WOHLGEMUTH: Study of the binary systems water — sodium hydrazoate, water — potassium hydrazoate. T. TARA-DOIRE: The action of sulphur on chlorates. Mixtures of barium chlorate and sulphur, or of lead chlorate and sulphur are stable when dry and can be kept for a long time in closed vessels without alteration. On adding water, these mixtures after a time inflame spontaneously at the ordinary temperature. The presence of combustible material is not a necessary condition for inflammation. LOUIS FAUCONNAU: The action of ethylene oxide on acetylene magnesium compounds: the preparation of substituted acetylenic alcohols of the type  $R.C \equiv C.CH_2.CH_2.OH$ . The preparation and properties of the alcohols containing amyl, hexyl and phenyl are described. ALFRED CARPENTIER: Contribution to the study of the male fructifications of the Neuropteridæ.

September 24 (*C.R.*, 199, 609–620). D. POMPEIU: The definition of analytical functions of two variables. Mlle. SUZANNE VEIL: Qualitative chemical observations in flat sheets of gelatine. The two drop method on a gelatine plate, previously studied from the point of view of the periodicities of precipitation, can be used as a general method of qualitative analysis. Some examples are given. HENRI GAULT and ALBERT ROESCH: Dimethylmalonic acid and