

Science News a Century Ago

Societies and Academies

Engineering Education

THE *Athenæum* on September 29, 1838, in a review of some recently printed pamphlets, gave its views on engineering education. At the head of the review it mentioned the "Program des Cours de l'École Centrale des Arts et Manufactures"; regulations for students in civil engineering in the University of Durham; arrangements for conducting the various departments of King's College, and the prospectus of the class of civil engineering and mining, University College, London. In the course of the review, the *Athenæum* remarked: "But no man pursues his trade or art successfully or well, who does not, beside the practice, possess the science of it; and the great distinction between artificers, for the most part practically equal, is this, that some have and some have not the knowledge of the science of their art. Science is everywhere aiding man in his contest with the physical difficulties of his position, and ministering to him new powers and capabilities of thought and action."

Treatment of Wounds by Heat

"THE rapid cicatrization of wounds by heat has been the object of several experiments made by Drs. Breschet and Jules Guyot. To severe wounds and amputations they apply a heat of 36° of the centigrade thermometer. The apparatus consisted of a box, carefully constructed, in which is a glass, through which the progress of the wound may be watched, and communicating with a tin tube, adapted to a lamp; precautions are taken to prevent the contact of the wound with the wood of the box, and a piece of linen or other material surrounds the orifice, and ties above the wound; when once adjusted, the apparatus is left on without any other application till the wound is healed. M. Larrey has remarked on this, that the heat of Egypt seemed to him to be highly favourable to the cure of wounds, inasmuch as they were healed in half the ordinary time; but he doubts whether the application of local and artificial heat will have the same effect as that of atmospheric air" (*Athenæum*, September 29, 1838).

Whitby and Pickering Railway

IN its early days, the Whitby and Pickering Railway, opened in 1836, was worked by horses, the carriages consisting of stage coaches with flanged wheels. It had heavy gradients and at one of these a tank was provided, mounted on railway-wheels, at the top of the incline. To assist in drawing a coach up the incline, the tank was allowed to descend the reverse slope and at the bottom the tank would be emptied. Airy, the Astronomer Royal, who was visiting Yorkshire at the time, wrote from Brampton, near Chesterfield, on September 30: "On Wednesday morning at 8 we started by the railroad (from Pickering) for Whitby in a huge carriage denominated the Lady Hilda capable of containing 40 persons or more drawn by one horse, or in the steep parts of the railway by two horses. The road goes through a set of defiles . . . descending in one part by a long crooked inclined plane, the carriage drawing up another load by its weight. . . . The rate of travelling was about 10 miles an hour. Betsy declares that it was the most agreeable travelling that she ever had."

Paris

Academy of Sciences (*C.R.*, 207, 265-312,
July 25, 1938).

E. JOUGUET: Secular stability when positional forces do not admit of potential.

A. COTTON: Remarks on a note of M. Brylinski entitled "On the symmetries of the magnetic field".

R. GARNIER: Extension of the Euler-Savary formula to the most general movement of a solid.

E. BAUMGARDT: A method for the determination of the adiabatic moduli of elasticity. Measurement of the speeds of ultra-sonic waves in three different directions through a cubic crystal would give data for calculating the three moduli of elasticity.

R. GRANDMONTAGNE: Colour of the night sky. New observations emphasize the importance of the red radiations.

D. G. DERVICHIAN and C. CLARK: Use of the ring method for the measurement of surface tension. A simple empirical relation is found.

E. BADAREU: Remarks on the explosive potential in benzene vapour.

R. FORRER: Cause of the anomaly of magnetite at low temperatures. There are two kinds of magnetite, distinguished chemically by the power of adding on chlorine. That which does not add on chlorine shows, in a thermomagnetic apparatus, a sudden increase of magnetization at -138° to -118° C. The anomaly is thus attributed to a bond between two iron atoms generally considered divalent but actually trivalent.

R. SERVANT: Rotatory power of quartz in the far ultra-violet and in the Schumann region.

G. COSTEANU: Raman spectrum of ammonia and of the ammonium ion.

M. DODE and B. PONTECORVO: A radio-element produced in cadmium under the action of rapid neutrons.

MME. T. GUILMART: Study by reflection of the absorption spectra of organic substances in the solid state.

J.-J. TRILLAT and P. NARDIN: Influence of temperature on the interfacial tension of the system castor oil-water. Rise of temperature opposes orientation.

H. GAULT and A. CHABLAY: Kinetic study of the phenomena of acidolysis.

H. VINCENNE: Alteration of cretaceous flints in the Upper Sands of the Perte du Rhône, at Bellegarde.

C. SAUVAGE: Germination of *Lepidium sativum* L. in presence of salt.

P. RIOU and G. DELORME: Distribution of iron and manganese in the maples of the Province of Quebec.

L. RAPKINE: Role of sulphhydryl groups in the activity of triosephosphate oxidoreductase.

RAYMOND-HAMET: Secondary vasodilatory action of adrenalin.

M. LAFON: The qualitative requirement of nitrogen in *Drosophila melanogaster* Meig.

M. POLONOVSKI and P. BOULANGER: Influence of the structure of amino-acids on ammonia in the renal blood vessels.