

## SCIENCE NEWS A CENTURY AGO

## The Acoustics of Buildings

ON September 18, 1839, George Goodwin, jun., wrote to the editor of the *Civil Engineer and Architects' Journal*: "Sir. The report recently made to the Commissioners of Her Majesty's Treasury, by Messrs. Barry, De la Beche, W. Smith and Charles Henry Smith, on the sandstones, limestones and oolites of Great Britain . . . forms with the numerous tables and results of experiments by Messrs. Daniell and Wheatstone appended to it, one of the most valuable contributions to architectural science that has been made in modern times. . . ."

"This being the case, then it must, I think, seem desirable to all that government should continue the good work . . . and I would venture to suggest touching the next step to be taken, the importance of appointing a committee to inquire into the most desirable forms of buildings, and the best mode of construction in a phonocamptic point of view, to investigate the science of sound and to deduce principles to be hereafter applied in the erection of buildings. On this subject, which is of the most vital importance to the excellence of the new houses of parliament, we are confessedly entirely ignorant (and I speak of not architects *alone*), we do not know so much as would enable one to say with certainty before a building be finished, whether or not it will be well adapted for oratorical purposes. . . . Sincerely therefore do I hope that a commission will be immediately appointed to collect information on the subject, and conduct a series of experiments on a large scale, without which nothing effectual can be looked for. . . ."

## Chemical Powers of Light

"M. EDMOND BECQUEREL has recently communicated to the Académie des Sciences some important investigations on the chemical powers of solar light, which will probably lead to new and valuable results. It has been long known that light has the power of variously affecting certain chemical compounds; sometimes causing combination between two elements, and in other cases effecting the decomposition of compound substances; and it has been found that when a pencil of light is decomposed by passing through a prism of glass, those rays which possess this power are differently refracted from the coloured rays, and hence the existence of peculiar rays to which the name of Chemical Rays is given, has been deduced. The chief difficulty in experiments on these rays has been the slow nature of the action caused, and the difficulty of appreciating them. M. Becquerel has overcome these sources of uncertainty, and is enabled to study the chemical powers of light with ease, and measure the effects produced with considerable accuracy. The manner in which this is done is very simple. Two liquids of different densities, but both conductors of Electricity, and of such a nature as to act chemically upon each other when exposed to the influence of solar light are selected, and a portion of both is put into a cylindrical vessel blackened on the exterior". Plates of platinum are immersed in the liquids and connected to a delicate galvanometer. "If when thus arranged a ray of light is suffered to pass through the mass of the fluid, it causes chemical action to take place at the surface of contact of the two liquids, and a current of electricity which this sets in circulation is immediately rendered evident

on the galvanometer. As the angle of deflection of the galvanometer indicates the power of the electric current, and as that is in exact proportion to the chemical action which originates it, it is evident that the arrangement gives an accurate measure of the chemical rays of light, at different times, from different sources, and under various circumstances" (*Athenæum*, September 21, 1839).

## Tunnelling through the Alps

THE *Mechanics Magazine* of September 21, 1839, quoting from the *Mark Lane Express* said: "M. Vanino Volta, the engineer of Como, who in conjunction with M. Bruschetti of Milan, obtained in 1837, from the Austrian Government, a privilege of fifty years for the construction of a railroad between Milan and Como is now negotiating with the Swiss Cantons of Grisons and St. Gall, an enterprise which would vie in magnitude with the Thames Tunnel, viz., the piercing through the Grisons Alps. . . . M. Volta, reckoning that thirty years will be required to execute the works, demands an exclusive privilege of a hundred years with liberty to establish companies, in order to procure funds or to transfer his privileges to others."

## REPORTS AND OTHER PUBLICATIONS

(not included in the monthly Books Supplement)

## Great Britain and Ireland

- Scientific Proceedings of the Royal Dublin Society. Vol. 22, N.S., Nos. 15-17: Leaf Movement on Release of Sap Tension, by Prof. Henry H. Dixon; Studies in Peat, Part 6: The "Water Phase" in Azetotropic Extraction Solvents, by J. Reilly and D. F. Kelly; Studies in Peat, Part 7: Water Distribution in Peat Wax Azetotropic Extraction Solvents, by J. Reilly, D. F. Kelly, J. Duffy and E. Coughlan. Pp. 175-194. (Dublin: Hodges, Figgis and Co., Ltd.; London: Williams and Norgate, Ltd.) 2s. [258]
- North of Scotland College of Agriculture. Calendar, Session 1939-1940. Pp. viii+112. (Aberdeen: North of Scotland College of Agriculture.) [258]
- Scottish Society for Research in Plant-Breeding. Report by the Director of Research to the Annual General Meeting, 27th July 1939, Pp. 34. (Edinburgh: Scottish Society for Research in Plant Breeding.) [268]
- Town Planning Institute. Report on Planning for Air Raid Protection. Pp. 6. (London: Town Planning Institute.) 1s. [303]

## Other Countries

- U.S. Department of Agriculture. Miscellaneous Publication No. 336: The Mosquitoes of the Southeastern States. By W. V. King, G. H. Bradley and T. E. McNeel. Pp. 91. (Washington, D.C.: Government Printing Office.) 15 cents. [258]
- Contributions from the Biological Laboratory of the Science Society of China, Zoological Series. Vol. 12, No. 10: Oligochaeta from Hainan, Kwangtung. By Y. Chen. Pp. 375-423. Vol. 13, No. 1: On some New Gastropods from Anhui. By C. Ping. Pp. 8. Vol. 13, No. 2: Study of some Forest Insects of Nanking and its Vicinity, 2: Observations on Lappet Moth (*Mtanastris ampla* Walker). By C. P. Miao. Pp. 9-22. Vol. 13, No. 3: Dinoflagellata of the Hainan Region, 2: On the Thecal Morphology of *Blepharocysta*, with a Description of a New Species. By Da-shu Nic. Pp. 23-42. Vol. 13, No. 4: On the Distribution of the Motor Centers on the Normal and partly Decorticated Cerebrum of the Rabbit. By C. Ping. Pp. 43-56. (Shanghai: Science Society of China.) [258]
- Bee-keeping in India Series. Pamphlet No. 4: The Bechive. Pp. 40. (Naini Tal: Bhupen Apiaries.) 8 annas; 1s. [283]
- Commonwealth of Australia: Council for Scientific and Industrial Research. Pamphlet No. 90: Studies of the Physiology and Toxicology of Blowflies, 1: The Development of a Synthetic Medium for Aseptic Cultivation of Larvae of *Lucilia cuprina*. By F. G. Lennox. Pp. 24+1 plate. (Melbourne: Government Printer.) [288]
- Conseil Permanent International pour l'Exploration de la Mer. Rapports et procès-verbaux des réunions. Vol. 109. 1ère partie: Procès-verbaux (Mai 1939). Pp. 65. 3.00 kr. 2ème partie: Rapport administratif (1935-1939). Pp. 80. 4.00 kr. 3ème partie: Appendices (1935-1939). Pp. 34. 6.50 kr. (Copenhague: Andr. Fred. Høst et fils.) [289]
- Commonwealth Solar Observatory, Mount Stromlo, Canberra. Memoir No. 6: Fraunhofer Intensity Table 3924-4300 Å. By Dr. G. W. Allen. Pp. 37. Memoir No. 7: The Conduction of Electricity in the Lowest Levels of the Atmosphere. By A. R. Hogg. Pp. 24. (Canberra: Government Printer.) [288]