

STEVENS: The attributes of tones. Two tones of different frequency are presented alternately, and the energy of one is altered until the two sound of equal pitch, volume or density. Equal volume requires increased intensity and equal density requires decreased intensity of the higher tone. Increased intensity, with constant frequency, causes drop in pitch with low tones and rise in pitch with high tones, 3,100-3,300 cycles remaining constant for all intensities. There are thus four types of response in the ear.

Forthcoming Events

[Lectures marked with an asterisk are open to the public.]

Sunday, November 4

BRITISH MUSEUM (NATURAL HISTORY), at 3 and 4.30.—M. Burton: "Protective Disguise among Animals".*

Monday, November 5

UNIVERSITY OF LEEDS, at 5.15.—Prof. Hans Driesch: "The Relations between Science and Philosophy".*

IMPERIAL COLLEGE—ROYAL SCHOOL OF MINES, at 5.30.—Dr. S. G. Brade-Birks: "The Relation of Pedology to Agriculture" (succeeding lectures on November 7 and 9).*

Tuesday, November 6

KING'S COLLEGE, LONDON, at 5.30.—Sir Murdock MacDonald: "Estimation of Flow and Storage. Dams and Reservoirs".*

INSTITUTION OF CIVIL ENGINEERS, at 6.—Sir Richard Redmayne: Presidential Address.

Wednesday, November 7

CHADWICK PUBLIC LECTURE, at 8.15—(at the Royal Society of Tropical Medicine and Hygiene, 26, Portland Place, W.1).—Dr. Margaret Fishenden: "Health and Indoor Climate".*

ROYAL SOCIETY OF ARTS, at 8.30.—J. A. Milne: "Arts and Commerce Promoted" (Inaugural Meeting).

Friday, November 9

CHADWICK PUBLIC LECTURE, at 7.30—(at the Technical College, Huddersfield).—Dr. Matthew B. Ray: "Fifty Years of Public Health Progress".*

ROYAL INSTITUTION, at 9.—Dr. Franklin Kidd: "The Respiration of Fruits".

Official Publications Received

GREAT BRITAIN AND IRELAND

Technical Publications of the International Tin Research and Development Council. Series A, No. 12: A Rapid Test of Thickness of Tin Coatings on Steel. By Dr. S. G. Clarke. Pp. 6. (London: International Tin Research and Development Council.)

The Kent Incorporated Society for Promoting Experiments in Horticulture. Annual Report (Twenty-first Year), 1933. Pp. 268+14 plates. (East Malling: East Malling Research Station.) Free to Associate Members; to non-Members, 4s.

Proceedings of the Linnean Society of London, Session 1933-34. Part 3, including Presidential Address by Prof. F. E. Weiss: On the Northward Extension of the Mediterranean Flora. Pp. 89-140. (London: Linnean Society.) 1s. 6d.

Report of Delegates of the United Kingdom of the 27th Meeting of the International Council for the Exploration of the Sea, held in Copenhagen from June 4th-11th, 1934. Pp. 3. (London: Ministry of Agriculture and Fisheries.)

Norman Lockyer Observatory. Director's Annual Report, April 1, 1933-March 31, 1934. Pp. 7. (Sidmouth.)

Mines Department. Thirteenth Annual Report of the Secretary for Mines for the Year ended 31st December 1933, and the Twenty-sixth Annual Report of H.M. Chief Inspector of Mines for the same Period, with a Statistical Appendix to both Reports. Pp. xxiv+236. (London: H.M. Stationery Office.) 3s. 6d. net.

OTHER COUNTRIES

The Institute for Science of Labour, Kurasaki, Japan. Report No. 24: Reports of the Research Station for Agricultural Labour of the Institute for Science of Labour, Kurasaki, No. 1: Organization and Function of the Research Station for Agricultural Labour. By Gitō Teruoka. Pp. ii+22. 50 sen. Annual Report of the Director of the Institute for Science of Labour for 1933. Pp. ii+29. 60 sen. (Kurasaki.)

A Survey of the Air Pollution Problem of the City of Scranton and Lackawanna County. Conducted by H. B. Meller and Logan B. Sisson. Pp. 43+3 plates. (Pittsburgh: Mellon Institute of Industrial Research.)

Sveriges Geologiska Undersökning. Årsberättelse för år 1933. Pp. 9. 0.50 kr. Ser. C, No. 380: Agrogeologiska undersökningar vid Svalöv. Av Gunnar Ekström. Pp. 115+4 plates. 5.00 kr. Ser. C, No. 381: En kvartär Stromatolitikalksten från Bohuslän. Av A. H. Westergård. Pp. 48+13 plates. 2.00 kr. (Stockholm.)

Annual Report for the Year 1933 of the South African Institute for Medical Research, Johannesburg. Pp. 91+2 plates. (Johannesburg.)

Division of Fish and Game of California: Bureau of Commercial Fisheries. Fish Bulletin No. 41: Early Life History of the California Sardine (*Sardina caerulea*), with Special Reference to Distribution of Eggs and Larvæ. By Eugene C. Scofield. Pp. 48. Fish Bulletin No. 42: Maturity of the California Sardine (*Sardina caerulea*) determined by Ova Diameter Measurements. By Frances N. Clark. (Contribution No. 119 from the California State Fisheries Laboratory.) Pp. 49. (Terminal Island, Calif.: California State Fisheries Laboratory.)

U.S. Department of Agriculture. Miscellaneous Publication No. 188: Macrolepidoptera and their Parasites reared from Field Collections in the Northeastern Part of the United States. By J. V. Schaffner, Jr., and C. L. Griswold. Pp. 160. (Washington, D.C.: Government Printing Office.) 15 cents.

New Zealand: State Forest Service. Annual Report of the Director of Forestry for the Year ended 31st March 1934. Pp. 17. (Wellington, N.Z.: Government Printer.) 9d.

India: Meteorological Department: Scientific Notes. Vol. 5, No. 56: A Preliminary Study of a Tornado at Peshawar. By Flt.-Lieut. R. G. Vervard. Pp. 109-116+14 plates. * 2 rupees; 3s. 6d. Vol. 5, No. 57: Humidity Records obtained at Agra with Hair Elements and with Wet and Dry Elements in a Dines' Meteorograph. By S. P. Venkiteswaran. Pp. 117-123+1 plate. 7 annas; 9d. Vol. 5, No. 59: A Statistical Study of the Maximum Temperatures at Poona. By Dr. R. J. Kalamkar. Pp. 133-139+2 plates. 6 annas; 8d. (Delhi: Manager of Publications.)

Annalen v.d. Bosscha-Sterrenwacht, Lembang (Java). Vol. 4, Miscellaneous Papers, No. 7: A Study of the Systems of Satellites from the Standpoint of the Disc-Theory of the Origin of the Planetary System. By H. P. Berlage, Jr. Pp. 70-94. (Lembang.)

Koninklijk Nederlandsch Meteorologisch Instituut, No. 102. Mededeelingen en Verhandelingen. 34b: Het klimaat van Nederland. Door Dr. C. Braak. A (vervolg): Neerslag. Gedeelte 2: Nieuwe bewerking der tabellen van No. 15. (The Climate of the Netherlands. A (continued): Precipitation. Part 2: Revision of the Tables of No. 15.) Pp. 53. ('s Gravenhage: Rijksuitgeverij.) 0.60 fl.

Bulletin of the American Museum of Natural History. Vol. 67, Article 7: Contributions to the Geology of Northern Mongolia. Abstracted from the original Russian and annotated by Radcliffe H. Bickwith. Pp. 311-352. (New York City.)

The Imperial Council of Agricultural Research. Miscellaneous Bulletin No. 2: List of Publications on Indian Entomology, 1931. (Compiled by the Imperial Entomologist, Pusa.) Pp. ii+27. 8 annas; 10d. Miscellaneous Bulletin No. 3: List of Publications on Indian Entomology, 1932. (Compiled by the Imperial Entomologist and the Off. Imperial Entomologist, Pusa.) Pp. ii+36. 12 annas; 1s. 3d. (Delhi: Manager of Publications.)

The Indian Forest Records. Vol. 20, Part 10: Sur quelques Longicornes des Indes (Cerambycidae, Col.). Par N. N. Pavilstshikov. Pp. ii+6. (Delhi: Manager of Publications.) 3 annas; 4d.

Ministère de l'Agriculture. Direction des Eaux et du Génie rural. Études glaciologiques, 1920-1930. Par P. Mougín. Tome 7. Pp. vii+306+76 plates. (Paris: Imprimerie Nationale.)

Cornell University Agricultural Experiment Station. Bulletin 596: Interrelationships of Daily Prices and Supply in the New York Egg Market. By Karl Vogt. Pp. 50. Bulletin 602: Studies on Cold Storage of Vegetables. By H. Platenius, F. S. Jamison and H. C. Thompson. Pp. 24. Bulletin 605: An Economic Study of Grape Farms in Eastern United States. Part 1: Production. By G. P. Scoville. Pp. 50. Bulletin 607: Mobility of Rural Families. 1: Changes in Residence and in Occupation of Rural Husbands and Wives in Genesee County, New York. By W. A. Anderson. Pp. 32. Bulletin 608: A Study of Rural Community Development in Waterville, New York. By W. G. Mather, Jr., T. H. Townsend and Dwight Sanderson. Pp. 39. Bulletin 609: Soils in relation to Fruit Growing in New York. Part 5: The Vineyard Soils of the Westfield Area, Chautauqua County. By Joseph Oskamp. Pp. 18. Memoir 157: Studies on Powdery Mildew of Cereals. By Alberto Graf-Marín. Pp. 48. Memoir 158: Bottom Rot of Lettuce. By G. R. Townsend. Pp. 46. Memoir 159: A Comparative Study of the Green-Fluorescent Bacterial Plant Pathogens. By Feliciano M. Clara. Pp. 36. Memoir 160: Methods used in an Economic Study of Land Utilization in Tompkins County, New York, and in other Similar Studies in New York. By A. B. Lewis. Pp. 57. Memoir 161: Physiological and Chemical Changes in Carrots during Growth and Storage. By Hans Platenius. Pp. 18. Memoir 163: Vegetative and Reproductive Responses associated with Fruit Development in the Cucumber. By John P. McCollum. Pp. 27. (Ithaca, N.Y.)

CATALOGUES

A General Catalogue of Literature and Books on Miscellaneous Subjects, together with a Selection from the Library of the late Walter Leaf. (Catalogue No. 576.) Pp. 80. (London: Francis and Taylor, Ltd.)

Accessories for Radiology. (Publication No. H/34.) Pp. 40. (London: Newton and Wright, Ltd.)