Annual Book Issue

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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

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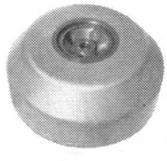

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S-57

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Press, New York, rev. ed., 1959. 115 pp. $5.25.

Lubrication Science and Technology. vol. 1, No. 2. John Boyd, Ed. Pergamon Press, New York and London, 1958. 120 pp. $10. This is a publication of the American Society of Lubrication Engineers. There are 16 papers by various authors.

The Marriage Bed. An analyst's casebook. Harry F. Tashman. University Publishers, New York, 1959. 303 pp. $4.95.

Mitogenesis. Howard S. Ducoff and Charles F. Ehret. Univ. of Chicago Press, Chicago, Ill., 1959. 127 pp. $3.25.

De Motu Locali Animalium. William Harvey. Edited, translated and introduced by Gweneth Whitteridge. Cambridge Univ. Press, New York, 1959. 175 pp. $10.50.

The New Science. Three complete works: "The universe in the light of modern physics," "The philosophy of physics," "Where is science going?" Max Planck. Meridian Books, New York, 1959. 352 pp. $5.

Noise in Electron Devices. Louis D. Smullin and Hermann A. Hauss. Technology Press, Massachusetts Inst. of Technology and Wiley, New York; Chapman & Hall, London, 1959. 429 pp. $12.

Nuclear Explosions and Their Effects. Publ. Div. Ministry of Information and Broadcasting, Government of India, Delhi, 1958. 340 pp.

Nuclear Spectroscopy Tables. A. H. Wapstra, G. J. Nijgh, R. Van Lieshout. North-Holland, Amsterdam; Interscience, New York, 1959. 142 pp. $8.90.

Organic Chemistry. A short text. George K. Estok. Saunders, Philadelphia, 1959. 284 pp.

The Pharmacology of Plant Phenolics. Proceedings of a symposium held at Oxford, April 1958. J. W. Fairbairn, Ed. Academic Press, New York, 1959. 159 pp. $6.

The Physical Metallurgy of Magnesium and Its Alloys. G. V. Raynor, Pergamon Press, New York and London, 1959. 540 pp. $12.50.

Physical Science. A basic course. John C. Hogg, Judson B. Cross, Kenneth E. Vordenberg. Van Nostrand, Princeton, N.J., 1959. 615 pp. $4.96.

The Pirotechnia of Vannoccio Biringuccio. A volume in the *Collector's Series in Science.* Derek J. Price, Ed. Basic Books, New York, 1959. 504 pp.

Planet Earth. Karl Stumpff. Translated by Philip Wayne. Univ. of Michigan Press, Ann Arbor, 1959. 191 pp. $5.

Plastic Analysis of Structures. Philip G. Hodge, Jr. McGraw-Hill, New York, 1959. 378 pp. $10.50.

Practical Biology for Advanced Level Medical and Intermediate Students. vol. I, *Practical Zoology,* 327 pp., $5.75. vol. II, *Practical Botany,* 183 pp., $4. C. J. Wallis. Thomas, Springfield, Ill., ed. 4, 1959.

Precipitation from Homogeneous Solution. Louis Gordon, Murrell L. Salutsky, Hobart H. Willard. Wiley, New York; Chapman & Hall, London, 1959. 195 pp. $7.50.

Proceedings of the Second World Congress on Fertility and Sterility. vols. 1 and 2. G. Tesauro, Ed. International Fertility

Association and Institute of Clinical Obstetrics of Gynecology, Univ. of Naples, Naples, Italy. 2948 pp. This congress was held 18–26 May 1956, and was attended by 1200 scholars from 65 nations. The papers presented are divided into 15 sections and are published in the author's own language, with summaries in the official languages of the conference–English, French, German, Italian, and Spanish.

Radiographic Atlas of Skeletal Development of the Hand and Wrist. William Walter Greulich and S. Idell Pyle. Stanford Univ. Press, Stanford, Calif.; Oxford Univ. Press, London, 1959. 272 pp. $15.

Regeneration in Vertebrates. Charles S. Thornton. Univ. of Chicago Press, Chicago, Ill., 1959. 119 pp. $3.25.

Research in Psychotherapy. Proceedings of a conference, Washington, D.C., 9–12 April 1958. Eli A. Rubinstein and Morris B. Parloff, Eds. American Psychological Assoc., Washington, D.C., 1959. 301 pp.

Russian-English Glossary of Optics and Spectroscopy. Interlanguage Dictionaries Publishing Corp., 227 W. 17 St., New York 11, 1959. 78 pp. $10.

The Sheep Book. John McKinney Wiley, New York; Chapman & Hall, London, 1959. 301 pp. $4.96.

Staphylococcus pyogenes *and Its Relation to Disease.* Stephen D. Elek. Livingston, Edinburgh, 1959 (order from Williams & Wilkins, Baltimore, Md.). 774 pp. $15.

Symposia on Child and Juvenile Delinquency. Presented at the American Orthopsychiatric Association. Benjamin Karpman, Ed. Psychodynamics Monograph Series, Station L, Washington, D.C., 1959. 394 pp. $10.

Symposium on Genetic Approaches to Somatic Cell Variation. Given at Research Conference for Biology and Medicine of the Atomic Energy Commission. Oak Ridge Natl. Lab., Oak Ridge, Tenn., 1959. 420 pp.

The Technical Writer. An aid to the presentation and production of technical literature. J. W. Godfrey and G. Parr. Wiley, New York, 1959. 340 pp. $8.50.

Textbook of Microbiology. William Burrows. Saunders, Philadelphia, ed. 17, 1959. 977 pp. $14.

Theory of Relativity. W. Pauli. Translated from the German by G. Field, with supplementary notes by the author. Pergamon, New York and London, 1958. 255 pp. $6.

To Be a Politician. Stimson Bullitt. Introduction by David Riesman. Doubleday, New York, 1959. 190 pp. $3.50.

Trend and Tradition in the Prehistory of the Eastern United States. Scientific Papers, vol. x, American Anthropological Assoc. Memoir 88. Joseph R. Caldwell. Illinois State Museum, Springfield, 1958. 102 pp.

Visual Problems of Color. A symposium held at the National Physical Laboratory on 23–25 September 1957. vols. 1 and 2. Her Majesty's Stationery Office, London, 1958. 757 pp.

The Way Things Are. P. W. Bridgman. Harvard Univ. Press, Cambridge, Mass., 1959. 343 pp. $5.75.

Young Children in Hospitals. James Robertson. Basic Books, New York, 1959. 147 pp. $3.

Index of Books Reviewed in *Science*

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Astronomy

Atlas of the Sky, V. de Callataÿ (St. Martin's Press; Macmillan), 10 Oct. 1958, 834

Comparison of the Large-Scale Structures of the Galactic System with That of Other Stellar Systems, N. G. Roman, Ed. (Cambridge Univ. Press), 12 Dec. 1958, 1500

Exploring the Distant Stars, C. B. Clason (Putnam), 7 Nov. 1958, 1133

Introduction to the Mechanics of Stellar Systems, R. Kurth (Pergamon), 9 May 1958, 1111

The Planet Jupiter, B. M. Peck (Macmillan), 22 Aug. 1958, 410

The Planet Venus, P. Moore (Macmillan), 15 Aug. 1958, 354

Of Stars and Men, H. Shapley (Beacon Press), 8 Aug. 1958, 295

White Dwarfs, E. Schatzman (North-Holland; Interscience), 22 Aug. 1958, 409

Biochemistry and Microbiology

Advances in Enzymology, vol. 19, F. F. Nord, Ed. (Interscience), 14 Nov. 1958, 1202

Bacteriological Code, International Code of Nomenclature of Bacteria and Viruses, International Committee on Bacteriological Nomenclature, Ed. (Iowa State College Press), 13 Feb. 1959, 382

Bergey's Manual of Determinative Bacteriology, R. S. Breed, E. G. D. Murray, N. S. Smith (Williams and Wilkins), 2 May 1958, 1043

Biochemical Cytology, J. Brachet (Academic Press), 23 May 1958, 1236

Biochemical Preparations, vol. 5, D. Shemin, Ed. (Wiley; Chapman and Hall), 13 June 1958, 1385

Biochemie der Ernährung, K. Lang (Steinkopff), 25 Apr. 1958, 972

Die Bluteiweisskoerper des Menschen, F. Wuhrmann and C. Wunderly (Schwabe), 30 May 1958, 1285

Food Microbiology, W. C. Frazier (McGraw-Hill), 13 Mar. 1959, 715

Infrared Absorption Spectra of Steroids, vol. 2, G. Roberts, B. S. Gallagher, R. N. Jones (Interscience), 27 June 1958, 1496

The Lipids, vol. 3, H. J. Deuel, Jr. (Interscience), 21 Nov. 1958, 1273

Metabolic Aspects of Transport across Cell Membranes, Q. R. Murphy, Ed. (Univ. of Wisconsin Press), 25 Apr. 1958, 971

Methods of Biochemical Analysis, vols. 5 and 6, D. Glick, Ed. (Interscience), 26 Dec. 1958, 1621

Methods in Enzymology, vol. 4, S. P. Colowick and N. O. Kaplan, Eds. (Academic Press), 23 May 1958, 1235

Mitotic Poisons and the Cancer Problem, J. J. Biesele (Elsevier), 18 July 1958, 135

Principles of Research in Biology and Medicine, D. J. Ingle (Lippincott), 27 Feb. 1959, 561

Progress in the Chemistry of Organic Natural Products, vol. 14, L. Zechmeister, Ed. (Springer), 3 Oct. 1958, 770

Progress in Psittacosis Research and Control, F. R. Beaudette, Ed. (Rutgers Univ. Press), 13 Feb. 1959, 385

Radioaktive Isotope in der Biochemie, E. Broda (Deuticke, Vienna), 20 Feb. 1959, 460

Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, vol. 28, D. J. Bauer, Ed. (Pergamon), 10 Oct. 1958, 832

Zinsser Bacteriology, D. T. Smith and N. F. Conant, Eds. (Appleton-Century-Crofts), 2 May 1958, 1044

Biological Sciences

Actions chimiques et biologiques des radiations, R. Latarjet (Masson), 10 Oct. 1958, 835

Antiseptics, Disinfectants, Fungicides, and Chemical and Physical Sterilization, G. F. Reddish, Ed. (Lea and Febiger), 9 May 1958, 1110

The Bacteriology of Tuberculosis, E. Darzins (Univ. of Minnesota Press), 18 July 1958, 137

The Biological Action of Growth Substances, H. K. Porter, Ed. (Academic Press; Cambridge Univ. Press), 6 June 1958, 1334

Biological Aspects of Cancer, J. Huxley (Harcourt, Brace), 20 June 1958, 1440

Biological Ultrastructure, A. Engström and J. B. Finean (Academic Press), 28 Nov. 1958, 1335

The Chemistry and Biology of Yeasts, A. H. Cook, Ed. (Academic Press), 26 Sept. 1958, 708

Effect of Radiation on Human Heredity (World Health Organization), 24 Oct. 1958, 999

Embryos and Ancestors, G. de Beer (Clarendon Press), 2 Jan. 1959, 35

Farbenbestimmung in der Biologie, pts. 1–8, J. Paclt (Fischer), 12 Dec. 1958, 1502

The Friendly Fungi, C. L. Duddington (Faber and Faber), 25 Apr. 1958, 969

Frontiers in Cytology, S. L. Palay, Ed. (Yale Univ. Press), 16 Jan. 1959, 145

General Cytochemical Methods, vol. 1, J. F. Danielli, Ed. (Academic Press), 30 Jan. 1959, 266

Genetics, A. M. Winchester (Houghton Mifflin), 9 Jan. 1959, 91

Histology, A. W. Ham (Lippincott), 2 May 1958, 1042

Host-Parasite Relationships in Living Cells, H. M. Felton, Ed. (Thomas), 18 July 1958, 136

Introduction to Biostatistics, H. Bancroft (Hoeber-Harper), 10 Oct. 1958, 835

Livestock Improvement in Relation to Heredity and Environment, J. E. Nichols (Oliver and Boyd), 20 June 1958, 1439

The Mango, S. R. Gangolly, R. Singh, S. L. Katyal, D. Singh (Indian Council of Agricultural Research), 16 May 1958, 1169

Microbial Ecology, Society for General Microbiology, Royal Institution (Cambridge Univ. Press), 4 July 1958, 23

Morphological Integration, E. C. Olson and R. L. Miller (Univ. of Chicago Press), 18 July 1958, 138

The Physical Foundation of Biology, W. M. Elsasser (Pergamon), 13 Feb. 1959, 384

The Principles of Biological Control, H. L. Sweetman (Brown), 16 Jan. 1959, 144

Principles of Field Biology and Ecology, A. H. Benton and W. E. Werner, Jr. (McGraw-Hill), 31 Oct. 1958, 1079

Principles of Physical Chemistry, W. S. Brey, Jr. (Appleton-Century-Crofts), 8 Aug. 1958, 298

Radioactive Isotopes in Clinical Practice, E. H. Quimby, S. Feitelbert, S. Silver (Lea and Febiger), 6 Mar. 1959, 635

The World of the Electron Microscope, R. W. G. Wyckoff (Yale Univ. Press), 22 Aug. 1958, 411

Botanical Sciences

Advances in Agronomy, vol. 9, A. G. Norman, Ed. (Academic Press), 30 May 1958, 1284

Agricultural Botany, N. T. Gill and K. C. Vear (Duckworth), 13 Mar. 1959, 714

Control of the Plant Environment, J. P. Hudson, Ed. (Academic Press; Butterworths), 15 Aug. 1958, 354

Exotica, A. B. Graf (Roehrs Co.), 8 Aug. 1958, 296

Flora of the British Isles: Illustrations, A. R. Clapham, T. G. Tutin, E. F. Warburg; drawings by S. J. Roles (Cambridge Univ. Press), 18 July 1958, 135

Flora Hawaiiensis, book 5, O. Degener (The author), 6 June 1958, 1335

The Grafter's Handbook, R. J. Garner (Faber and Faber), 13 Feb. 1959, 384

Morphology of Plants, H. C. Bold (Harper), 31 Oct. 1958, 1079

The Mushroom Hunter's Field Guide, A. H. Smith (Univ. of Michigan Press), 19 Sept. 1958, 650

Pollen and Spore Morphology/Plant Taxonomy, G. Erdtman, Ed. (Almquist and Wiksell; Ronald Press), 2 Jan. 1959, 35

Quantitative Plant Ecology, P. Grieg-Smith (Academic Press; Butterworths), 26 Dec. 1958, 1620

The Sloane Herbarium, J. E. Dandy, Ed. (British Museum of Natural History), 19 Dec. 1958, 1567

Chemistry

Advances in Catalysis and Related Subjects, vol. 9, A. Farkas, Ed. (Academic Press), 30 May 1958, 1285

Advances in Chemical Physics, I. Prigogine, Ed. (Interscience), 27 Mar. 1959, 833

The Chemical Analysis of Food and Food Products, M. B. Jacobs (Van Nostrand), 20 Mar. 1959, 774

The Chemical Behavior of Zirconium, W. B. Blumenthal (Van Nostrand), 6 Mar. 1959, 635

Chemical Publications, Their Nature and Use, M. G. Mellon (McGraw-Hill), 21 Nov. 1958, 1271

Chemistry of Carbon Compounds, vol. 4, E. H. Rodd, Ed. (Elsevier), 25 July 1958, 194

The Chemistry of the Steroids, W. Klyne (Methuen; Wiley), 7 Nov. 1958, 1131

Chemistry of the Steroids, C. W. Shoppee (Academic Press; Butterworths), 7 Nov. 1958, 1131

Colorimetric Determination of Nonmetals, D. F. Boltz, Ed. (Interscience), 26 Sept. 1958, 709

The Development of Titrimetric Analysis Till 1806, E. R. Madsen (Gads), 23 May 1958, 1235

Gmelins Handbuch der Anorganischen Chemie, System No. 28, *Calcium,* pt. B., sec. 2; System No. 60, *Kupfer,* pt. B, sec. 1; 4 July 1958, 25. System No. 3, *Oxygen,* sec. 3; System No. 42, *Ziroconium*; System No. 43, *Hafnium*; System No. 45, *Germanium*; (Verlag Chemie), 28 Nov. 1958, 1337

Handbook of Chemical Data, F. W. Atack, Ed. (Reinhold), 9 May 1958, 1111

Handbook of Magnesium-Organic Compounds, vols. 1–3, S. T. Yoffe and A. N. Nesmeyanov (Pergamon), 25 Apr. 1958, 975

Inorganic Syntheses, vol. 5, T. Moeller, Ed. (McGraw-Hill), 17 Oct. 1958, 895

Ion-Exchange Resins, J. A. Kitchener (Methuen; Wiley), 13 June 1958, 1386

Nouveau traité de chimie minérale, vol. 3, 18 July 1958, 138; vol. 4, 6 Mar. 1959, 636; P. Pascal, Ed. (Masson).

Organic Colloids, B. Jirgensons (Elsevier), 17 Oct. 1958, 894

Physical Metallurgy of Uranium, A. N. Holden (Addison-Wesley), 27 Feb. 1959, 558

Proceedings of the Second International Congress of Surface Activity, vols. 1–4, J. H. Schulman, Ed. (Academic Press; Butterworths), 12 Sept. 1958, 588

Progress in Organic Chemistry, vol. 4, J. W. Cook, Ed. (Academic Press; Butterworths), 19 Dec. 1958, 1568

Purity Control by Thermal Analysis, M. W. Smit, Ed. (Elsevier), 6 June 1958, 1335

Quantitative Inorganic Analysis, G. Charlot and D. Bézier (Methuen; Wiley), 2 Jan. 1959, 36

Research in Photosynthesis, H. Graffron, C. S. French, R. Livingston, E. I. Rabinowitch, B. L. Strehler, N. E. Tolbert, Eds. (Interscience), 2 May 1958, 1041

Soviet Research in Catalysis, Chemistry collection No. 3 (Consultants Bureau), 30 Jan. 1959, 263

Soviet Research in Crystallography, Chemistry collection No. 5, vols. 1 and 2 (Consultants Bureau), 6 Feb. 1959, 324

Spot Tests in Inorganic Analysis, F. Feigl (Elsevier), 12 Dec. 1958, 1501

Structure Reports, 1951, A. J. Wilson, Ed. (Oosthock's), 25 July 1958, 196

The Terpenes, vol. 5, J. Simonsen and W. C. J. Ross (Cambridge Univ. Press), 1 Aug. 1958, 246

The Transuranium Elements, G. T. Seaborg (Addison-Wesley), 27 Feb. 1959, 558

Volumetric Analysis, vol. 3, I. M. Kolthoff, R. Belcher, V. A. Stenger, G. Matsuyama (Interscience), 3 Oct. 1958, 766

Earth Sciences

American Agriculture: Geography, Resources, and Conservation, E. Higbee (Wiley: Chapman and Hall), 19 Sept. 1958, 651

Artificial Stimulation of Rain, H. Weickmann and W. Smith, Eds. (Pergamon), 2 May 1958, 1044

Atmospheric Explorations, H. G. Houghton, Ed. (Technology Press of MIT; Wiley; Chapman and Hall), 26 Sept. 1958, 711

The Black Fens, A. K. Astbury (Golden Head Press), 6 Feb. 1959, 323

Conservation, D. C. Coyle (Rutgers Univ. Press), 25 Apr. 1958, 967

Descriptive Meteorology, H. C. Willett and F. Sanders (Academic Press), 27 Mar. 1959, 833

Directory of Geological Material in North America, J. V. Howell and A. I. Levorsen (American Geological Inst.), 30 May 1958, 1286

The Earth and Its Gravity Field, W. A. Heiskanen and F. A. V. Meinesz (McGraw-Hill), 20 Feb. 1959, 460

The Effects of Atomic Radiation on Oceanography and Fisheries, (Natl. Acad. of Sciences–Natl. Research Council), 26 Sept. 1958, 709

Elementary Seismology, C. F. Richter (Freeman), 20 Feb. 1959, 459

Exploring the Atmosphere's First Mile, vols. 1 and 2, H. H. Lettau and B. Davidson, Eds. (Pergamon), 4 July 1958, 24

Geography in the Twentieth Century, G. Taylor, Ed. (Philosophical Library; Methuen), 2 May 1958, 1041

The Geology of South Australia, M. F. Glaessner and L. W. Parkin, Eds. (Melbourne Univ. Press), 27 Mar. 1959, 832

The Geology of Uranium (Consultants Bureau), 13 Mar. 1959, 713

Graphic Methods in Structural Geology, W. L. Donn and J. A. Shimer (Appleton-Century-Crofts), 13 June 1958, 1385

Introduction to Historical Geology, R. C. Moore (McGraw-Hill), 27 Feb. 1959, 561

Introduction to Meteorology, S. Pettersen (McGraw-Hill), 12 Dec. 1958, 1502

Matter, Earth, and Sky, G. Gamow (Prentice-Hall), 12 Sept. 1958, 587

National Advisory Committee on Research in the Geological Sciences, Canada, Eighth Annual Report, 1957–58 (Geological Survey of Canada), 17 Apr. 1959, 1021

Nature is Your Guide, H. Gatty (Dutton), 29 Aug. 1958, 469

The Pattern of Asia, J. E. Brush, S. McCune, A. K. Philbrick, J. R. Randall, H. L. Wiens; N. Ginsburg, Ed. (Prentice-Hall), 22 Aug. 1958, 411

The Planet Earth, D. R. Bates, Ed. (Basic Books), 23 May 1958, 1234

Physical Geology, L. D. Leet and S. Judson (Prentice-Hall), 12 Dec. 1958, 1500

Soil-Plant Relationships, C. A. Black (Wiley; Chapman and Hall), 18 July 1958, 138

Treatise on Marine Ecology and Paleoecology, vol. 1, J. Hedgpeth, Ed.; vol. 2, H. S. Ladd, Ed. (Geological Soc. of America), 11 July 1958, 82

The World Beneath the Waves, G. Doukan (De Graff), 25 Apr. 1958, 965

History and Philosophy of Science

The Admirable Discourses of Bernard Palissy (Univ. of Illinois Press), 20 June 1958, 1439

Adventures in Medical Education, G. C. Robinson (Harvard Univ. Press), 29 Aug. 1958, 469

Agricola on Metals, B. Dibner (Burndy Library), 8 Aug. 1958, 297

Amid Masters of Twentieth Century Medicine, L. G. Rowntree (Thomas), 13 Feb. 1959, 384

Anatomist at Large, G. W. Corner (Basic Books), 26 Sept. 1958, 710

Robert Boyle and Seventeenth-Century Chemistry, M. Boas (Cambridge Univ. Press), 13 Mar. 1959, 714

Brighter than a Thousand Suns, R. Jungk (Harcourt, Brace), 26 Dec. 1958, 1619

The Chemical Industry during the Nineteenth Century, L. F. Haber (Clarendon Press), 19 Sept. 1958, 651

Copernicus, A. Armitage (Yoseloff), 25 Apr. 1958, 972

Darwin's Century, L. Eiseley (Doubleday), 27 June 1958, 1493

Histoire générale des sciences, vol. 1, R. Taton, Ed. (Presses Universitaire de France), 25 Apr. 1958, 973

A History of Magic and Experimental Science, vols. 7 and 8, L. Thorndike (Columbia Univ. Press), 9 Jan. 1959, 90

A History of Mathematics, J. F. Scott (Taylor & Francis), 29 Aug. 1958, 469

A History of Nutrition, E. V. McCollum (Houghton Mifflin), 25 Apr. 1958, 968

History and Philosophy of Science, L. W. H. Hull (Longmans, Green), 17 Apr. 1959, 1019

A History of Public Health, G. Rosen (M.D. Publications), 31 Oct. 1958, 1080

A History of Technology, vol. 3, C. Singer, E. J. Holmyard, A. R. Hall, T. I. Williams, Eds. (Clarendon Press), 24 Oct. 1958, 997

Human Dissection, A. M. Lassek (Thomas), 23 Jan. 1959, 204

The Immense Journey, L. Eiseley (Random House), 25 Apr. 1958, 966

The Inner Metagalaxy, H. Shapley (Oxford Univ. Press; Yale Univ. Press), 25 Apr. 1958, 976

Clarence King, T. Wilkins (Macmillan), 21 Nov. 1958, 1271

The Life, Work and Times of Charles Turner Thackrah, Surgeon and Apothecary of Leeds (1795–1833), A. Meiklejohn (Livingstone), 16 May 1958, 1169

On the Magnet, W. Gilbert (Basic Books), 20 Mar. 1959, 773

Man the Maker, R. J. Forbes (Abelard-Schuman), 6 Mar. 1959, 636

The Medical World of the Eighteenth Century, L. S. King (Univ. of Chicago Press), 9 Jan. 1959, 92

Moments of Discovery, vols. 1 and 2, G. Schwartz and P. W. Bishop, Eds. (Basic Books), 20 Feb. 1959, 460

New Bottles for New Wine, J. Huxley (Harper), 8 Aug. 1958, 295

New Knowledge in Human Values, A. H. Maslow, Ed. (Harper), 10 Apr. 1959, 955

Isaac Newton's Papers and Letters on Natural Philosophy and Related Documents, I. B. Cohen, Ed. (Harvard Univ. Press), 19 Dec. 1958, 1566

The Origins of the English Library. R. Irwin (Allen and Unwin), 14 Nov. 1958, 1203

The Origins of Modern Science, 1300–1800, H. Butterfield (Macmillan), 12 Sept. 1958, 589

Personal Knowledge, M. Polanyi (Univ. of Chicago Press), 27 Mar. 1959, 831

Physics and Philosophy, W. Heisenberg; R. N. Anshen, Ed. (Harper), 19 Sept. 1958, 649

A Pictorial History of Science and Engineering, Editors of *Year* (*Year*), 16 May 1958, 1170

The Reach of Science, H. Mehlberg (Univ. of Toronto Press), 31 Oct. 1958, 1078

Relativity for the Layman, J. A. Coleman (New American Library), 16 Jan. 1959, 144

Roots of Scientific Thought, P. P. Wiener and A. Noland, Eds. (Basic Books), 25 Apr. 1958, 973

Science and the Creative Spirit, K. V. Keutsch, F. E. L. Priestley, H. Brown, D. Hawkins; H. Brown, Ed. (Univ. of Toronto Press), 30 May 1958, 1285

Science and Human Life, J. A. V. Butler (Basic Books), 25 Apr. 1958, 972

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The Shakespearean Ciphers Examined, W. F. Friedman and E. S. Friedman (Cambridge Univ. Press), 25 Apr. 1958, 965

Sherrington, Lord Cohen of Birkenhead (Thomas), 28 Nov. 1958, 1337

A Source Book in Greek Science, M. R. Cohen and I. E. Drabkin (Harvard Univ. Press), 6 Mar. 1959, 635

Space, Time, and Creation, M. K. Munitz (Free Press; Falcon's Wing Press), 5 Sept. 1958, 526

Doctor Squibb, L. G. Blochman (Simon and Schuster), 12 Dec. 1958, 1502

Nicolaus Steno and His Indice, G. Scherz, Ed. (Munksgaard), 7 Nov. 1958, 1132

The Story of Albert Einstein, M. B. Freeman (Random House), 20 June 1958, 1440

The Tao of Science, R. G. H. Siu (Technology Press of MIT; Wiley; Chapman and Hall), 20 June 1958, 1438

D'Arcy Wentworth Thompson, R. D. Thompson (Oxford Univ. Press), 28 Nov. 1958, 1335

Thudichum, Chemist of the Brain, D. L. Drabkin (Univ. of Pennsylvania Press), 14 Nov. 1958, 1202

The Travels of William Bertram, F. Harper (Yale Univ. Press), 18 July 1958, 135

On the Utility of Medical History, I. Galdston, Ed. (International Universities Press), 25 Apr. 1958, 971

Mathematics

Applied Differential Equations, M. R. Spiegel (Prentice-Hall), 8 Aug. 1958, 297

Dynamic Programming, R. Bellman (Princeton Univ. Press), 25 Apr. 1958, 976

Einführung in Theorie und Anwendung der Laplace-Transformation, G. Doetsch (Birkhäuser), 16 Jan. 1959, 145

Figurets, J. A. H. Hunter (Oxford Univ. Press), 11 July 1958, 82

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Letters

Keynes' Model

The article by David McCord Wright, "Mr. Keynes and the 'Day of Judgment'" [*Science* **128**, 1258 (1958)], seemed to me to distort in several important respects Keynes' model of the operation of the economy and its impact on economic theorizing and policy making in the past 25 years.

Wright criticizes Keynes for assuming in his model that resources, population, tastes, and technology are constant. He interprets this to mean that Keynes was ignoring all the dynamic forces which are usually considered vital to a free enterprise system. But Keynes began by specifically disavowing two other static assumptions which classical theory, from Adam Smith on, had always included. This body of theory, which was the theoretical genesis of *laissez faire* capitalism, assumed Say's law of markets, which prevented a condition of general overproduction, and full employment, which would always prevail provided that wages were suitably adjusted. Both these suppositions were clearly untenable in the environment of the 1930's, and Keynes' theory, far from including more static forces, included fewer. In economic theory, dynamics means simply that variables can be dated and their equilibrium path traced. It was the impact of the Keynesian model on economics which made the development of economic dynamics possible, as epitomized in the work of J. R. Hicks, Samuelson, Lawrence Klein, Roy Harrod, and others. Harrod's "Relation," mentioned critically by Wright, is in fact a major tool of dynamic economics. It is scarcely fair to criticize Keynes for being static when all economics had been static until his time and when his theory, though at best a comparative static model, paved the way for contemporary economic dynamics.

It is in his discussion of investment, however, that it seems to me Wright most seriously distorts Keynes. It is permissible to "scrape all the verbiage off Keynes' model" provided one doesn't scrape off crucial elements of the theory. Wright insists that Keynes made investment depend exclusively on consumption, and he notes that inasmuch as Keynes postulated that consumption would not increase as fast as income, a "day of judgment," involving an overproduction crisis, was inevitable. It is true that Keynes postulated this relationship of consumption to income within his static equilibrium model, but income is determined by investment quite as much as by consumption (indeed, in the Keynesian system, cycles are generated by fluctuations in invest-

ment far more than by fluctuations in consumption, which Keynes felt was quite stable). Only in the sense that all economic activity is ultimately directed at satisfying consumer wants is it correct to state that investment depends on consumption. In his system, Keynes made investment a function of the interest rate and of the marginal efficiency of capital (his term for the rate of profit which the business community expected on the next contemplated unit of investment). So long as the businessmen expect the economy to grow (thus reflecting their estimation of the "dynamic social forces" that Wright insists are ignored by Keynes), there is no reason why they should not continue to expand investment. And so long as the economy is growing, there is no reason why the monetary authorities should raise interest rates (to prevent inflation). On the other hand, there is no reason why, if the business community does have reasonably high profit expectations, the interest rate should fall so low that no one is willing to lend.

Thus, Keynes' model is not itself gloomy at all. Keynes' immediate purpose was to explain the gloomy state of affairs he saw around him in England and the United States. But within the framework of his model, one can analyze with equal cogency "underemployment equilibrium" and "overemployment equilibrium." The inflationary gap can be explained as well as the deflationary gap.

Keynes, in short, did not concentrate on consumption to the exclusion of investment—quite the reverse. His theory has led to greater progress in "dynamizing" economic theory than was ever made before. His theory was profoundly procapitalist and antisocialist in the sense that he was pointing the way to the development of public policy which might vitiate the "internal contradictions of capitalism" constantly emphasized by the Marxists.

PHILIP A. KLEIN
Department of Economics,
Pennsylvania State University

Most of Klein's criticisms would, I believe, be cleared up by a careful rereading of my article. Let me, however, be more specific.

Klein is apparently unwilling to follow me in clearly distinguishing between Keynes' model and the extent to which Keynes was willing to apply it. The model, I submit, is just as rigid and as gloomy as I stated. Anyone who doubts this can read chapter 24 of the *General Theory,* to which Klein, for some reason, does not refer.

I tried hard in my article to show that Keynes did not always apply his model literally, and that therefore his thought

was often more dynamic than is usually supposed. This is particularly evident from Keynes' approval of my "Future of Keynesian economics" article [*Am. Econ. Rev.* (June 1945)], which Klein does not seem to have read. I feel sure that were Keynes alive today he would be the first to repudiate much of what is now written in his name. On the other hand, Keynes undoubtedly did write, also, a great deal of nonsense. But to be scientists we have to distinguish between the model and the man.

The rest of Klein's letter contains an extraordinary collection of errors concerning the history of economic thought. Adam Smith had a rudimentary business-cycle theory. It is almost unbelievable to me that anyone could say that "all economics had been static" before Keynes' time. What about Sir Dennis Robertson, whom Keynes called his "father," or Irving Fisher, or Aftalion, or Wicksell?

Nearly every modern authority now admits that a sufficient wage cut would give full employmen . Keynes, indeed, with typical inconsistency, said so himself.

DAVID MCCORD WRIGHT
Department of Economics and Political Science, McGill University

Who Should Teach English?

With most of the suggestions of T. R. Henn ["Literature in a technological age," *Science* **128**, 1325 (1958)] I am in hearty agreement. But when Henn writes that "the teaching of English . . . should be done wherever possible by the science teachers themselves," I begin to disagree, unless he is willing to place special emphasis upon the qualification "wherever possible." How many and where are the science teachers in colleges and universities who can either meet or teach the writing standards Henn sets up for scientists?

Persons untrained in the teaching of English, rhetoric, or writing (call it what you will) are apt to insist upon their personal, and sometimes silly, preferences. Often these preferences are based upon imperfect understanding of such writing fundamentals as they picked up, somewhat against their will, as they dashed or slumbered through English classes. Only a few days ago I heard of a university teacher of entomology who was insisting to his graduate students that they should not use nouns as adjectives. I don't know what the gentleman says when he wants to discuss house flies or horse flies.

JAMES S. AYARS
State Natural History Survey, Urbana, Illinois

Meetings

Quantitative Biology

The 24th Cold Spring Harbor Symposium on Quantitative Biology will be held 3–10 June. The topic of the meetings will be "Genetics and 20th Century Mendelism," and geneticists, anthropologists, and paleontologists will participate in the program. Individual sessions will deal with the theory of the gene and raw materials of evolution, natural selection and race formation, ecological systems and social organization, isolating mechanisms and speciation, the fossil record and rates of evolution, and trends of evolution.

The symposium is open to all who are interested, but because of space limitations it is important to make advance reservations. For program and information address the Biological Laboratory, Cold Spring Harbor, N.Y.

Information Processing

The First International Conference on Information Processing is to be held in Paris, 13–22 June. The conference is being organized by the United Nations Educational, Scientific and Cultural Organization with the help of a number of consultants representing the United States, France, Sweden, Italy, Belgium, Russia, West Germany, the Netherlands, the United Kingdom, and Japan. The United States Committee for the International Conference on Information Processing—representing the Institute of Radio Engineers, the Association for Computing Machinery, and the American Institute of Electrical Engineers—will coordinate American participation in the meeting.

The formal program of the conference will include some 60 technical papers in six major areas: methods of digital computing; logical design of digital computers; common symbolic language for digital computers; automatic translation of languages; collection, storage, and retrieval of information; and pattern recognition and machine learning.

These topics will be covered in 11 3-hour plenary sessions in the new UNESCO Palace from 15 June through 20 June. A general rapporteur will present an introductory discussion on each of the six main subjects. There will be simultaneous oral translation of the technical papers into English, French, Russian, Spanish, and German. Comments from the floor will be invited, and the published conference proceedings will contain the entire text of the papers and the discussion from the floor, provided the latter is also submitted in writing. All abstracts and preprints will be mailed to officially registered conference participants.

Conference events will also include symposia, oral surveys on the status of information processing in each country, and an international exhibition of data processing equipment. Technical descriptions of such equipment will be scheduled in conjunction with the exhibits.

Some 1500 specialists will attend the conference, which is expected to lead to creation of an international organization to plan future conferences and to aid in international exchange of information in the field. For conference details, write to: United States Committee for the International Conference on Information Processing, Box 4999, Washington 8, D.C.

Quantum Electronics

An International Conference on Quantum Electronics—Resonance Phenomena will be held at the Shawanga Lodge, Bloomingburg, N.Y., 14–16 September. The conference will consider basic problems in physics and electronics that are important to the increasing use of molecular and atomic resonances in masers, atomic clocks, and related devices, as well as the application of quantum electronics to scientific problems.

It is intended that this will be a working conference rather than a tutorial meeting. Consequently, attendance is being limited to those who are active in appropriate fields of research. For information, write to I. Rowe, Scientific Department, Office of Naval Research, 346 Broadway, New York 13, N.Y.

Education of the Scientist

A conference on The Education of the Scientist in a Free Society will be held at Marquette University, 20–22 May, as part of the 50th anniversary celebration of Marquette's College of Engineering. The speakers will include: Edward Teller, University of California, "What is Scientific Education?—The Problem Today"; Senator Paul Douglas, Illinois, "What Does Free Society Demand of the Scientifically Educated?", and Frederic Lindvall, California Institute of Technology, "On the Nature of an Engineer."

Arid Lands Research

The Spanish Government will be host to UNESCO's Symposium on the Water Relations of Plants in Arid and Semi-Arid Zones, which will take place in Madrid, 24–30 September. As part of UNESCO's arid-lands program, symposia bearing on subjects directly related to the fields of arid-zone research are or-

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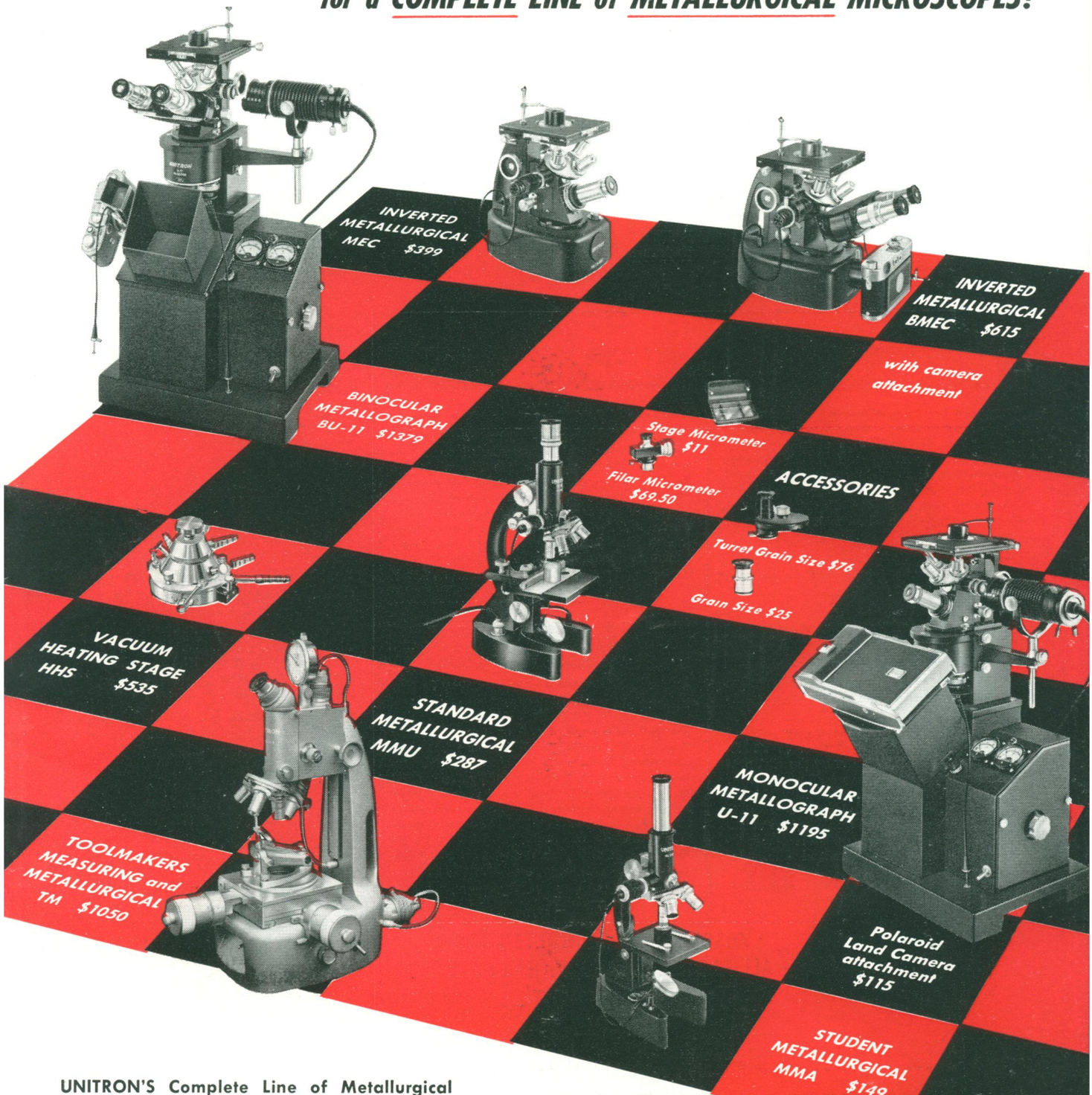

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ganized each year with the assistance of different member states.

In addiiton to its own specialists, the Spanish Government proposes to invite various foreign scientists to attend, while UNESCO will arrange for the participation of a number of experts, particularly from North Africa, the Middle East, and South Asia. It is hoped that certain specialists will also be able to attend at their own expense or at the expense of the institutions for which they work. The total number of participants will not exceed 60.

The UNESCO Department of Natural Sciences, Place Fontenoy, Paris 7e, will arrange for the coordination of scientific papers so that the various sections of the program will be properly balanced. Certain specialists have been invited by UNESCO to submit reviews of research on the main subjects of the symposium. These reviews will be circulated beforehand and will serve as an introduction to the work of the various sections.

Members of the symposium wishing to present scientific papers are requested to send the title, together with a summary of not more than 250 words, to UNESCO's Department of Natural Sciences *not later than 1 June 1959*. Only original scientific papers bearing on the program of the various sections will be accepted. The full texts of all scientific papers to be presented orally during the symposium must reach UNESCO *not later than 1 August 1959*, in order to leave sufficient time for reproduction and circulation before the opening of the symposium.

All papers and summaries must be prepared either in English or in French; they will be reproduced only in the original language. Participants who wish to prepare their papers in Spanish are requested to supply an English or French translation.

The Spanish Government has set up an organizing committee responsible, in particular, for making all local arrangements for the reception and accommodation of members of the symposium. The secretary of this committee is Mr. Eladio Asensio, Instituto Nacional de Investigaciones Agronomicas, Avenida de Puerta de Hierro, Madrid.

The symposium will be followed by a study tour in southeastern Spain, organized by the Spanish Department of Agriculture. The organizing committee will in due course supply all particulars regarding this tour.

Forthcoming Events

May

24–27. Chemical Inst. of Canada, 42nd annual conf., Halifax, Nova Scotia. (Chemical Inst. of Canada, 18 Rideau St., Ottawa 2, Ontario.)

24–29. American Tuberculosis Assoc., Chicago, Ill. (Mrs. W. B. White, 1790 Broadway, New York 19.)

24–29. Social Welfare, natl. conf. and annual forum, San Francisco, Calif. (National Conference on Social Welfare, 22 W. Gay St., Columbus 15, Ohio.)

25–27. American Gynecological Soc., Hot Springs, Va. (A. A. Marchetti, 3800 Reservoir Rd., NW, Washington 7.)

25–27. American Soc. for Quality Control, Cleveland, Ohio. (L. S. Eichelberger, A. O. Smith Corp., Milwaukee, Wis.)

25–27. Chemical Inst. of Canada, 42nd annual conf., Halifax, Nova Scotia. (Chemical Inst. of Canada, 18 Rideau St., Ottawa, Ontario, Canada.)

25–27. Telemetering, natl. conf., Denver, Colo. (R. Schmidt, AVCO Mfg. Co., 201 Lowell St., Wilmington, Mass.)

25–28. Smoking and Lung Cancer, and Pulmonary Emphysema, symps., American Trudeau Soc., Chicago, Ill. (H. W. Harris, Medical Sessions Committee, ATS, 1790 Broadway, New York 19.)

25–29. Transistors and Associated Semi-Conductor Devices, intern. conv., London, England. (Institution of Electrical Engineers, Savoy Pl., London, W.C.2.)

25–31. Electroheat, 4th intern. cong., Stresa, Italy. (International Union for Electroheat, 14, rue de Stäel, Paris 15e, France.)

26–29. American College of Cardiology, Philadelphia, Pa. (P. Reichert, 480 Park Ave., New York 22.)

27–28. Legal Environment of Medical Science, 1st natl. conf. (Natl. Soc. for Medical Research and Univ. of Chicago), Chicago, Ill. (Natl. Soc. for Medical Re-

search, 920 S. Michigan Ave., Chicago 5.)

28–30. American Ophthalmological Soc., Hot Springs, Va. (M. C. Wheeler, 30 W. 59 St., New York 19.)

29–30. International Assoc. for Bronchology, 9th cong., Madrid, Spain. (J. Abello, IAB, Lagascar 13, Spain.)

29–2. Giornate Avicole Varesine (intern. symp.), Varese, Italy. (T. Bonadonna, Univ. of Milan, Milan, Italy.)

30–5. Applications of Atomic Energy to the Petroleum Industry, symp., 5th World Petroleum Congress, New York, N.Y. (C. E. Davis, General Secretary, 5th World Petroleum Congress, 527 Madison Ave., New York 22.)

31–3. Special Libraries Assoc., 50th annual conv., Atlantic City, N.J. (Miss M. E. Lucius, 31 E. 10 St., New York 3.)

31–5. Industrial Research Conf., 10th annual, New York, N.Y. (R. T. Livingston, Director, IRC, 409 Engineering, Columbia Univ., New York 27.)

June

1–3. Evolution, symp., annual, Saskatoon, Saskatchewan, Canada. (Mrs. L. C. Metivier, Royal Soc. of Canada, Natl. Research Bldg., 100 Sussex Drive, Ottawa, Ontario.)

1–4. American Dermatological Assoc., Atlantic City, N.J. (W. M. Sams, 25 Southeast Second Ave., Miami, Fla.)

1–4. Spectroscopy, 10th annual symp., Chicago, Ill. (G. W. Bailey, Borg-Warner Research Center, Des Plaines, Ill.)

1–5. International Silk Assoc., cong., Munich, Germany. (H. Bonvallet, 25, Place Tolozan, Lyon 1, France.)

1–6. International Commission for Northwest Atlantic Fisheries, 9th annual (by invitation), Montreal, Canada. (ICNAF, Forest Bldg., Carlelon St., Halifax, Nova Scotia.)

2–6. American Rheumatism Assoc., Washington, D.C. (E. F. Hartung, 580 Park Ave., New York 21.)

2–6. Rheumatic Diseases, 2nd Pan American cong., Washington, D.C. (R. T. Smith, West Point, Pa.)

3–5. Cellular Aspects of Immunity, symp. (by invitation), Royaumont (near Paris), France. (G. E. W. Wolstenholme, Ciba Foundation, 41 Portland Pl., London, W.1, England.)

3–7. American Assoc. of Bioanalysis, Cincinnati, Ohio. (L. D. Hertert, 490 Post St., Room 1049, San Francisco, 2, Calif.)

3–7. American College of Chest Physicians, Atlantic City, N.J. (M. Kornfeld, 112 E. Chestnut St., Chicago, Ill.)

3–10. Quantitative Biology, symp., 24th, Cold Spring Harbor, N.Y. (M. Demerec, Director, Biological Lab., Cold Spring Harbor, N.Y.)

4. Fine Structure as Related to Absorption, Synthesis and Transport in the Gastrointestinal Tract, symp., Atlantic City, N.J. (E. C. Texter, Gastroenterology Research Group, Medical School, 303 E. Chicago Ave., Northwestern Univ., Chicago 11, Ill.)

4. Petroleum Geochemistry, symp., New York, N.Y. (E. G. Baker, Esso Research and Engineering Co., P.O. Box 51, Linden, N.J.)

4–5. American Geriatrics Soc., Atlantic City, N.J. (R. J. Kraemer, 2907 Post Rd., Warwick, R.I.)

4–6. Endocrine Soc., 41st annual, Atlantic City, N.J. (H. H. Turner, 1200 N. Walker, Oklahoma City, Okla.)

4–7. American Medical Womens Assoc., Atlantic City, N.J. (Miss L. T. Majally, 1790 Broadway, New York 19.)

4–7. American Therapeutic Soc., Atlantic City, N.J. (O. B. Hunter, Jr., 915 19 St., NW, Washington 6.)

4–8. Electrolytes, intern. symp., Trieste, Italy. (Societa Italiana per il Progresso delle Scienze 7, Rome, Italy.)

5–7. American College of Angiology, 5th annual, Atlantic City, N.J. (A. Halpern, 11 Hampton Court, Great Neck, N.Y.)

5–7. American Gastroenterological Assoc., and American Gastroscopic Soc., annual, Atlantic City, N.J. (H. M. Pollard, University Hospital, Ann Arbor, Mich.)

6. American Acad. of Tuberculosis Physicians, Atlantic City, N.J. (O. S. Levin, P.O. Box 7011, Denver 6, Colo.)

6. International Cardiovascular Soc. (North American Chapter), Atlantic City, N.J. (P. T. DeCamp, 3503 Prytania St., New Orleans, La.)

6–7. American Diabetes Assoc., Atlantic City, N.J. (E. Paul Sheridan, 1 E. 45 St., New York 17.)

6–7. Society of Investigative Dermatology, Inc., 20th annual, Atlantic City, N.J. (H. Beerman, 255 S. 17, Philadelphia 3, Pa.)

6, 20, and *27.* Recent Advances in Medical Technology, symp., Staten Island, N.Y. (N. Colosi, Wagner College, Staten Island, N.Y.)

7–11. American Soc. of Heating and Air Conditioning Engineers, semi-annual, Vancouver, B.C., Canada. (A. V. Hutchinson, ASHAE, 62 Worth St., New York 13.)

7–13. Fertility and Sterility, 3rd world cong., Amsterdam, Holland. (W. W. Williams, 20 Magnolia Terrace, Springfield, Mass.)

8–12. American Medical Assoc., Atlantic City, N.J. (F. J. L. Blasingame, 535 N. Dearborn St., Chicago 10, Ill.)

8–12. Association for Research in Ophthalmology, Inc., Atlantic City, N.J. (L. V. Johnson, 10515 Carnegie Ave., Cleveland 6, Ohio.)

9–11. Canadian Federation of Biological Societies (Canadian Physiological Soc., Pharmacological Soc. of Canada, Canadian Assoc. of Anatomists, Canadian Biochemical Soc.), Toronto, Ontario, Canada. (E. H. Bensley, CFBS, Montreal General Hospital, 1650 Cedar Ave., Montreal 25, P.Q.)

9–11. Interferometry, intern. symp., Teddington, England. (Intern. Symp. on Interferometry, Natl. Physical Laboratory, Teddington.)

9–12. Health Technicians, 6th intern. cong., Paris, France. (Secrétariat Général du V^{e} Congrès-Exposition International des Techniciens de la Santé, 37, rue Montholon, Paris 9^{e}.)

10–12. Gas Chromatography, 2nd intern. symp., East Lansing, Mich. (H. S. Kindler, Technical and Educational Services, ISA, 313 Sixth Ave., Pittsburgh 22, Pa.)

(*See issue of 17 April for comprehensive list*)