

APPENDIX

Biographical Notes on Authors

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Andrade, Edward Neville daCosta

*27 Dec. 1887

ed.: Univ. Coll. London 1905–10; Heidelberg 1910–11; Cambridge 1911–12;
Manchester 1913–14

B.Sc.; Ph.D. Heidelberg 1911: *Über Wesen und Geschwindigkeit metallischer Träger in Flammen* (Lenard); D.Sc.

Fellow U. Coll. London 1915; Prof. of Physics, Artillery Coll. Woolwich 1920–28; Quain Prof. of Physics London U. 1928–50; Dir. R. I. and Davy-Faraday Lab. 1950–52; emer. Prof., London U. 1950– .

Banerjee, Kedareswar

*17 Sept. 1900 in Sthal (Pabna), East Pakistan

ed.: Jubilee School, Dacca; Calcutta U.

B.Sc., M.Sc., D.Sc. Calcutta. Thesis: *Some Problems in Structures of Solids and Liquids* (C. V. Raman)

Reader in Physics, Dacca U. 1934–43; Prof. of Physics, Ind. Ass. Cult. Sci., Calcutta 1943–52; Prof. of Physics, Allahabad U. 1952–59; Dir. Ind. Ass. Cult. Sci., Calcutta 1959– .

Bastiansen, Otto C. A.

*5 Sept. 1918 in Balsfjord, Troms, Norway

ed.: U. of Oslo 1937–42

Cand. mag. 1940, cand. real 1942, dr. philos. 1949

Prof. of Theoretical Chemistry, U. of Oslo.

Bernal, John Desmond

*10 May 1901 in Nenagh (Eire)

ed.: Cambridge 1919–23; Nat. Sci. Tripos, M. A.

Research Asst., R. I. London 1923–27; Lecturer in struct. cryst., Cambridge; Asst. Dir. of Res. in struct. cryst., Cambridge 1936–38; Prof. of Physics, Birkbeck Coll. London 1938– .

Bijvoet, Johannes Martin

*23 Jan. 1892 in Amsterdam

ed.: Municipal U. of Amsterdam 1910–19 (1914–18 military service)

Ph.D. Amsterdam. Thesis: *X-ray investigation of the crystal structure of lithium and lithium hydrides* (A. Smits)

Asst. Gen. Chem., U. of Amsterdam 1922–28; also teacher of chem., Grammar School of Hilversum, 1923–28; Lecturer in cryst. and thermodyn., Municipal U. of Amsterdam; Prof. of Gen. and Inorg. Chem., State U. of Utrecht 1939–62; 1962 retired.

Bragg, Sir (William) Lawrence

*31 March 1890 in Adelaide, South Australia.
 ed.: St. Peter's College, Adelaide 1900–05; Adelaide U. 1905–08; Cambridge U. 1908–11.
 Lecturer in Physics, Trinity Coll. Cambridge, 1912; 1915 appointed Prof. of Physics,
 Manchester U.; 1915 Nobel Prize for Physics
 Prof. of Physics, Manchester U. 1919–37; Dir. National Physical Lab. 1937–38; Cavendish
 Prof. of Exp. Physics, Cambridge 1938–53; Director, The Royal Institution and
 Davy-Faraday Lab. 1954– .

Brentano, John Christian Michael

*27 June 1888 in Vienna
 ed.: Liceo Dante, Florence, and Engadina, Zuoz, 1904–07; Istituto di studi super.,
 Florence 1908; U. of Munich 1909–14
 Ph.D. Munich 1914. Thesis: *Über d. Einfluss allseitigen hydrost. Drucks auf d. elektr. Leit-
 fähigkeit von Wismuthdrähten ausserh. u. innerh. des transvers. Magnetfeldes für Gleichstrom u.
 Wechselstrom* (W. C. Röntgen). DSc. U. of Manchester 1935
 Asst. of M. v. Laue, Frankfurt/M 1915; Asst., Privatdoz. Eidgen. T. H. Zürich; Asst. and
 Senior Lecturer in Physics, U. of Manchester; Asst., Assoc., and full Prof. North-
 western U., Evanston, Ill.
 Retired 1961; living in Blonay, Ct. Vaud, Switzerland.

Buerger, Martin J.

*3 April 1903 in Detroit, Mich.
 ed.: High School Detroit 1916–20; Mass. Inst. of Technology 1920–22 and 1923–25;
 Graduate study at MIT (geolog.-mineral.) 1925–29
 Ph.D. MIT 1929. Thesis: *Translation gliding in crystals* (W. H. Newhouse)
 Asst. Geologist, US Geolog. Survey 1925; Assoc. Prof. 1929–37, Full Prof. of Mineral. and
 Crystallogr. at MIT 1937–44; Chairman of the Faculty 1944–56; Director, School of
 Advanced Studies MIT 1956– .

Bunn, Charles W.

*15 Jan. 1905 in London
 ed.: Wilson's Grammar School, Camberwell, London 1916–23; Oxford U. 1923–27
 B.A. 1926, B.Sc. 1927 in Oxford; D.Sc. 1955. Thesis: *The photochemical oxydation of alcohols
 by the dichromate ion* (E. J. Bowen)
 Took up crystallography in 1927. Since 1928 with ICI (Imper. Chem. Industries, Ltd),
 first at Alkali Division in Northwich, Cheshire, now at Plastics Div., Welwyn Garden
 City, Herts.

Darwin, Sir Charles (Galton)

*19 Dec. 1887 in Cambridge
 ed.: Marlboro' College 1901–06; Cambridge U. 1906–10
 Jun. Lecturer Math. Phys., U. of Manchester (Rutherford) 1910–14; Army service in
 France 1914–18; Lect. in Math., Christ's Coll., Cambridge 1919–22; Vis. Prof. at
 Cal. Tech. 1922–23; Tait Prof. of Natural Philosophy, Edinburgh U. 1923–37; Master
 of Christ's Coll., Cambridge 1937–39; Dir., National Physical Lab. 1939–49.

Donnay, José D. H.

*6 June 1902 in Grandville, Belgium

ed.: Athénée Royal de Tongres 1913–14; Athénée Royal de Liège (Latin-Science section) 1914–20; U. de Liège 1920–25 (1922 candidat ingénieur, 1925 ingénieur civil des mines); Stanford U. 1925–26 and 1928–29

Ph.D. (Geology). Thesis: *The genesis of the Engels copper deposit* (A. F. Rogers and G. F. Tolman Jr.)

Geologist in Rabat (Morocco) 1929–30; Research Asst. Stanford U. 1930–31; Johns Hopkins U. Baltimore 1931– ; since 1946 Prof. of Cryst. and Miner.; three interruptions: Laval U., Quebec 1939–44, U. de Liège 1946–47, U. de Paris, Sorbonne, as Fulbright Lecturer 1958–59.

Ewald, Paul P.

*23 Jan. 1888 in Berlin

ed.: Viktoria Gymnasium, Potsdam 1900–05; Cambridge U. 1905–06; Göttingen U. 1906–07; Munich U. 1907–12

Ph.D. Munich 1912. Thesis: *Dispersion und Doppelbrechung von Elektronengittern* (A. Sommerfeld)

Assistant to Hilbert in Göttingen 1912–13; Asst. to Sommerfeld in Munich 1914–21; Privatdozent Munich 1918–21; Assoc. (1921) and full (1922) Prof. of Theor. Physics, T. H. Stuttgart 1921–37; Research Fellow, Cambridge U. 1937–39; Lecturer, later Prof. of Mathem. Physics, The Queen's U. Belfast, N. I. 1939–49; Prof. and Head of Physics Dept., Polytechnic Institute of Brooklyn (N.Y.) 1949–57; Part-time Prof. at Polyt. Inst. 1957–59; 1959 retired.

Glocker, Richard

*21 Sept. 1890 in Calw (Württemberg)

ed.: Humanist. Gymnasium 1899–08; U. Berlin 1909–10; U. Munich 1910–13; T. H. Stuttgart 1914

Ph.D. Munich 1914. Thesis: *Interferenz der Röntgenstrahlen und Kristallstruktur* (W. C. Röntgen)

Dir. of newly established X-ray lab. at T. H. Stuttgart 1920; Assoc. Prof. 1923, full Prof. of X-ray Technique 1925; retired 1960.

Guinier, André Jean

*8 Jan. 1911 in Nancy

ed.: École Normale Supérieure, Paris 1930–34

Dr-ès-sciences physiques 1934. Thesis: *Diffusion des rayons X aux très petits angles par les particules submicroscopiques* (Ch. Mauguin)

Chef de Service au Lab. d'Essais du Conservatoire des Arts et Métiers (Paris); Prof. au Conserv. d. A. & M.; Prof. à la Faculté des Sciences, U. of Paris.

Hägg, Gunnar

*14 Dec. 1903 in Stockholm

ed.: Nya Elementarskolan, Stockholm 1919–22; U. of Stockholm 1922–29; University Coll., London 1926 (work on surface chemistry with F. G. Donnan)

Ph.D. Stockholm 1929. Thesis: *X-ray studies on the binary systems of iron with nitrogen, phosphorus, arsenic, antimony and bismuth* (Arne Westgren)

Lecturer of Gen. and Inorg. Chem., U of Stockholm 1929–36; Prof. of Gen. and Inorg. Chem., U of Uppsala 1936– .

Hull, Albert W.

*19 April 1880 in Southington, Conn.

ed.: High School Torrington, Conn.; Yale U. (A.B. 1905)

Ph.D. 1909. Thesis: *Initial velocities of electrons produced by ultraviolet light* (H. A. Bumstead)

Instructor 1909–11, Asst. Prof. in Physics, Worcester Polyt. Inst. 1911–13; Research Physicist, Gen. Electric Co., Schenectady, N.Y. 1914– ; Asst. Dir. Res. Lab. 1928–50.

James, Reginald William

*9 Jan. 1891 in London

ed.: Polytechnic, Regent Street, London 1903–07; City of London School 1907–09; Cambridge U. 1909–14

Physicist to Sir Ernest Shackleton's expedition to the Weddel Sea in the Antarctic 1914–16; with Royal Engineers in France 1916–19; Lecturer (1919), Senior Lect. (1921), Reader (1934) in Physics Dept., U. Manchester; Prof. of Physics, U. of Cape Town 1937–56; 1953 and 1956 Acting Principal, U. of Cape Town; 1957 retired.

Lipson, Henry

*11 March 1910 in Liverpool

ed.: Hawarden County School 1921–27; U. of Liverpool 1927–36

B.Sc. 1930, M.Sc. 1931 Liverpool

Jun. Sci. Off., National Phys. Lab. 1937; Asst. in Cryst., Cambridge 1938; Head of Dept., later Prof. of Physics, Manchester Coll. Sci. and Tech.

Lonsdale, Dame Kathleen (née Yardley)

*28 Jan. 1903 in Newbridge, Eire

ed.: Ilford County High School for Girls 1914–19; Bedford Coll. for Women (London U.) 1919–22; University Coll., London 1922–23

B.Sc. 1922 (Physics, Bedford Coll.); M. Sc. Physics (Univ. Coll.) 1924. Thesis: *Structure of succinic acid* (Sir William Bragg); D.Sc. (Physics) 1929. Thesis: *Structure of Ethane derivatives* (Sir William Bragg)

D.S.I.R. Res. Asst. to Sir W. Bragg 1923–27; Amy Lady Tate Scholar, Leeds U. 1927–29; Res. Asst. to Sir W. Bragg at R.I. 1932–34; Leverholme Fellow 1935; Dewar Fellow 1945; Reader in Cryst., Univ. Coll. 1946–49; Prof. of Chem., U. Coll. London 1949– . 1945 elected F.R.S.; 1947 Special res. fellow, USA Federal Health Service.

Mark, Herman Francis

*3 May 1895 in Vienna

ed.: Vienna Volksschule and Gymnasium 1901–13; Service in the army 1914–17; U. of Vienna (Chemistry) 1917–21

Ph.D. Vienna 1921. Thesis: *Free Radicals in Organic Chemistry* (W. Schlenk)

Res. Assoc., K.W.I. f. Faserstoffchemie (R. O. Herzog) in Dahlem 1922–26; Res. Physicist, later Dir. of Res., I. G. Farben Labs., Ludwigshafen 1927–32; Prof. of Chem., U. Vienna 1932–38; Res. Mgr., Canadian Int'l Paper Co., Hawkesberry, Canada 1938–40; Prof. Org. Chem., Polyt. Inst. of Brooklyn 1940– ; Dir. Polymer Res. 1944–; Dean of the Faculty 1962– .

Nitta, Isamu

*19 Oct. 1899 in Tokyo
 ed.: Daiichi Koto Gakko (First Prelim. School to U.) 1917-20; U. of Tokyo 1920-23
 B. or M. Sci (Rigakushi) 1923; Dr. Sci. (Rigaku-hakushi) 1930. Thesis-advisers Shoji Nishikawa and Masao Katayama
 Jun. Res. Fellow at Inst. of Phys. and Chem. Research, Tokyo 1923
 Prof. of Chem., Osaka U. 1933-60; Prof. of Chem. and Dean of Fac. of Sci., Kwansei Gakuin U., Nishinomiya 1960- .

Patterson, A. Lindo

*23 July 1902 in Nelson, New Zealand
 ed.: High School, Montreal, Canada 1908-16; Tonbridge School, Tonbridge, Kent, Engl. 1916-20; McGill U. 1920-24; Postgraduate study at R.I. London 1924-26; at K.W.I. f. Faserstoffchemie in Dahlem 1926-27; McGill U. 1927-28
 B.Sc. 1923, M.Sc. Phys. & Math. 1924; Ph.D. McGill U. 1928. Thesis: *The Application of X-rays to the Study of Organic Substances* (A. S. Eve)
 Demonst. in Phys., McGill U. 1928-29; Res. Fellow, Rockefeller Inst. f. Med. Res., N.Y. 1929-31; Asst. Prof., U. of Penna., Philadelphia 1931-33; Assoc. Prof., MIT 1933-36; Prof. of Phys., Bryn Mawr Coll. 1936-49; Dir. of Res., Inst. f. Cancer Res. in Philadelphia 1949- .

Pauling, Linus Jr.

*28 Feb. 1901 in Portland, Oregon
 ed.: Washington High School, Portland 1914-17; Oregon State Agric. Coll. 1917-19, 1920-22; Teach. Fellow Cal. Inst. Tech. 1922-25
 B.Sc. in Chem. Eng.; Ph.D. Cal. Tech. 1925. Thesis: *The Determination with X-rays of the Structures of Crystals* (Roscoe G. Dickinson)
 Postgraduate work at U. of Munich (Sommerfeld), U. of Copenhagen (Bohr) and Zürich, 1926-27; Res. Fellow, Cal. Inst. Tech. 1925-27; Asst. Prof. 1927-29, Assoc. Prof. 1929-31, full Prof. of Chemistry 1931- at Cal. Inst. Tech.
 George Eastman Prof. in Oxford 1948; Nobel Prize in Chem. 1954.

Polanyi, Michael

*1891 in Hungary
 Member K.W.I. f. Physikal. und Elektrochem., Dahlem 1922-33; Prof. of Phys. Chem., U. of Manchester 1933-48; Prof. of Social Studies, U. of Manchester 1938-58; 1958 retired, living in Oxford.

Robertson, John Monteath

*24 July 1900 in Perthshire, Scotland
 ed.: Perth Academy 1914-17; U. of Glasgow (Chem., Geol., Math.) 1920-26
 Ph.D. Glasgow 1926. Thesis: *Structural Relationships in the Sesquiterpene Series* (G. G. Henderson)
 Commonwealth Fellow in Ann Arbor, Mich. 1928-30; Member of Staff of R.I. 1930-39; Senior Lect. Phys. Chem., Sheffield U. 1939-42; Gardiner Prof. of Chem., Glasgow U. 1942- .
 George Fisher Baker Lect., Cornell U. 1951; Vis. Prof., Calif. U. 1958.

Shubnikov, Alexei Vasilevich

*29 March 1887 in Moscow

ed.: Moscow Commercial School 1898–1906; Moscow U. 1907–12; 1st. Grade Diploma 1913. Thesis: *Über die Symmetrie der Kristalle von Kaliumdichromat* (G. V. Wulf)

Asst. for Cryst. at the People's U. Moscow 1913; Prof. of Cryst. at Gornov Inst. (Ural); Sen. Res. worker, Miner. Museum of the Acad. of Sci. USSR, Leningrad; Head of the Inst. of Cryst. of the Acad. of Sci. USSR in Moscow.

Siegbahn, Karl Manne Georg

*1886

ed.: Lund U.

Prof. of Physics, Lund U. 1914–23; same Uppsala U. 1924–37; Dir. of Nobel Inst. f. Physics of the Royal Academy of Sci., Stockholm 1937–
Nobel Prize for Physics 1925.

Straumanis, Martin Edward

*23 Nov. 1898 in Krettingen, Lithuania

ed.: Gymnasium in Jelgava, Latvia; U. of Latvia in Riga 1920–25 (Chem. Eng.)

Ph.D. (Chemistry) Riga 1927. Thesis: *The dissolution of Zn, Cd, and Fe in acids, discussed from the point of view of local currents* (M. Centnerszwer)

Rockefeller Foundation Fellow in Göttingen 1927–28; Asst., Asst. Prof., Assoc. Prof. at U. of Riga; Full Prof. Chem., U. Riga 1942; Dir. Analyt. and X-ray lab. 1934–44; Res. Prof. of Metallurgy, School of Mines and Metallurgy, U. of Missouri, Rolla, Missouri 1947–.

Trillat, Jean Jacques

*8 July 1899 in Paris

ed.: Lycée Janson de Sailly in Paris, 1908–17; Sorbonne 1921–25; École supérieure de physique et chimie, Paris, 1921–23

Ph.D. Paris 1926. Thesis: *Rayons X et composés organiques à longue chaîne; recherches sur leurs structures et leurs orientations* (Jean Perrin)

Dir. Lab. de Rayons X du Centre National de la Recherche Scientifique, Bellevue, S. & O.

Warren, Bertram E.

*28 June 1902 in Waltham, Mass.

ed.: Waltham High School 1915–19; Mass. Inst. Techn. (Physics & Math.) 1919–25 and 1927–29; T. H. Stuttgart 1926; Manchester U. 1929

Sc.D. MIT 1928. Thesis: *X-ray Determination of the Structure of Metasilicates* (Sir Lawrence Bragg)

Asst., Assoc., full Prof. of Physics, MIT 1930–.

Westgren, Arne Fredrik

*11 July 1889 in Årjäng (Sweden)

ed.: High Schools in Stockholm and Uppsala 1900–07; U. of Uppsala 1907–15; U. of Göttingen 1915–16

Fil. Dr. Uppsala 1915. Thesis: *Untersuchungen über die Brownsche Bewegung, besonders als Mittel zur Bestimmung der Avogadroschen Konstanten* (The Svedberg)

Metallographer, SKF Ball Bearing Co, Gothenburg 1918–19; Metallographer, Metallographic Inst. Stockholm U. 1920–27; Prof. Gen. and Inorg. Chem., Stockholm U. 1927–43; Permanent Secretary, Royal Swed. Acad. Sci., Stockholm 1943–59; 1959 retired, doing X-ray cryst. res.

Wilson, Arthur James Cochran

*28 Nov. 1914 in Springhill, Nova Scotia, Canada
 ed.: King's Collegiate School, Windsor, N.S. 1922-30; Dalhousie U. Halifax, Canada 1930-36, M.Sc. 1936; MIT 1936-38; Cambridge U. 1938-42
 Ph.D. MIT 1938, Cambridge 1942. Thesis: *Heat Capacity of Ag, Ni, Zn, Cd, Pb; Heat Capacity of Rochelle salt; Thermal Expansion of Al and Pb* (Advisers H. L. Bronson, H. Mueller, B. E. Warren, W. L. Bragg)
 Lecturer 1945, Sen. Lect. 1946, Prof. of Phys. and Dir. of the Viriamu Jones Lab. 1954, Univ. Coll. Cardiff, Wales.

Wood, Elizabeth Armstrong

*19 Oct. 1912 in New York, N.Y.
 ed.: Horace Mann School, N.Y. 1918-30; Barnard Coll. 1930-33, B.A. 1933; Bryn Mawr 1933-39, M.A. 1934
 Ph.D. (Geology, Chemistry) Bryn Mawr 1939. Thesis: *Mylonization of Hybrid Rocks near Philadelphia, Pa.* (E. H. Watson)
 Teaching Geol. and Miner. at Bryn Mawr and Barnard 1934-43; Res. Member, Bell Telephone Labs, Murray Hill, N.J. 1944- .

Wooster, William Alfred (Peter)

*18 Aug. 1903 in London
 ed.: Deacon's School, Peterborough 1912-21; Cambridge U. 1921-27
 Ph.D. Cambridge 1928. Thesis: *Beta and gamma rays of Radium B, C and E* (C. D. Ellis and Sir E. Rutherford); Sc.D. Cambridge 1950
 Demonstrator 1928-35; Lecturer in Dept. of Miner., U. of Cambridge 1935-60
 Retired to own Lab. and firm, Crystal Structures Ltd., Bottisham, Cambridge, England, in 1960

Wyart, Jean

*16 Oct. 1902 in Avion, France
 ed.: Collège d'Abbeville 1916-23; and Lycée Saint Louis; École Normale Sup. Paris 1923-27
Aggrégation des sciences physiques; Maître de conférences (Sorbonne) 1933. Thesis: Recherches sur les Zéolithes (Fr. Wallerant, Ch. Mauguin)
 Asst. at the Sorbonne 1928; Prof. of Miner. and Cryst. at the Sorbonne 1948- .

Wyckoff, Ralph Walter Graystone

*9 Aug. 1897 in Geneva, N.Y.
 B.S. Hobart Coll., Geneva N.Y. 1916; Ph.D. Cornell U. 1919
 Instr. analyt. chem., Cornell U. 1917-19; Physical chemist, Geophys. Lab., Carnegie Inst. Washington 1919-27; Res. Assoc., Cal. Inst. Tech. 1921-22; Assoc. member, Rockefeller Inst. Med. Res. N.Y. 1927-37; Scientist at Lederle Lab. Inc. 1937-42, Assoc. Dir. of Virus Res. 1940-42; Techn. Dir., Reichel Labs. Inc. 1942-43; Lect. in Epidemiology, U. of Michigan 1943-45; Scientist Dir., US Publ. Health Serv., Bethesda, Md. 1946-52; Science Attaché, USA Embassy London 1952-54; Bio-physicist, Publ. Health Serv. 1954-60; Prof. of Physics, U. of Arizona, Tucson, Ariz. 1960- .

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