



ALEXANDER SILVERMAN

Reprinted from *The Bulletin of The American Ceramic Society*,
Vol. 20, No. 12, pp. 454-457 (1941).

On March 20, 1941, the Pittsburgh Section of the American Chemical Society presented to him the Pittsburgh Award for distinguished achievements.

Publications

- "Carbon Dioxide in Air of Allegheny Schools," *Proc. Engrs. Soc. West Penn.*, **19**, 772 (1903).
- "The Chemist and the Glass Manufacturer," *Trans. Amer. Ceram. Soc.*, **12**, 186-95 (1910); also in *Chem. Engr.* (1911).
- "Depression of Freezing Point by Vinegars as Check on Their Chemical Composition," *Jour. Ind. Eng. Chem.*, **3**, 173 (1911); translated and reprinted in *Chem.-Ztg.*, **35** (Jan. 12, 1911).
- "Glass Formulas, a Criticism," *Jour. Ind. Eng. Chem.*, **4**, 818 (1912); abstracted in reports of Eighth International Congress of Applied Chemistry; translated and reprinted in *Chem.-Ztg.*, **36** (Sept. 19, 1912) and *Sprechsaal*, **45** (Nov. 7, 1912).
- "Glass Miscellanies: Notes," *Trans. Amer. Ceram. Soc.*, **16**, 547-50 (1914).
- "Protein Charts," *Jour. Ind. Eng. Chem.*, **7**, 533 (1915).
- "Use of Barium Compounds in Glass," *Jour. Soc. Chem. Ind.*, **34**, 399 (1915).
- (With P. D. Neckerman), "Silvering of Glass," *Trans. Amer. Ceram. Soc.*, **17**, 505-19 (1915).
- "Stones in Glass: Another Possible Cause," *ibid.*, **18**, 544 (1916).
- "Similarity between Aqueous and Vitreous Solutions," *Jour. Ind. Eng. Chem.*, **9**, 33 (1917).
- "New Illuminator for Microscopes" (first paper), *ibid.*, p. 971.
- (With R. M. Howe), "Deposition of Silver Films on Glass," *ibid.*, p. 1032.
- "Alabaster Glass, History and Composition," *Jour. Amer. Ceram. Soc.*, **1** [4] 247-61 (1918).
- "A Survey of High-School Chemistry in Pa.," *Science*, **48**, 179 (1918).
- "New Method of Microscope Illumination" (second paper), *Chem. & Met. Eng.*, **19**, 508 (1918).
- "New Illuminator for Microscopes" (second paper), *Jour. Ind. Eng. Chem.*, **10**, 1013 (1918).
- "Francis C. Phillips," *Science*, **41**, 455 (1920); also in *Jour. Ind. Eng. Chem.*, **12**, 399 (1920).
- "Importance of Analysis in Purchasing Raw Materials for Glass Industry," *Jour. Amer. Ceram. Soc.*, **3** [1] 26-34 (1920).
- "New Microscope Illuminator," *Trans. Faraday Soc.*, **16** [Part I] 98 (1920); reprinted in *Jour. Roy. Microscop. Soc.*, [Part IV] 98 (1920).
- "A Twelve-Months College Year," *School and Society*, **12**, 80 (1920).
- "Importance of Technical Control in Glass Industry," *Glass Ind.*, **1**, 1 (1920).
- "New Illuminator for Microscopes" (third paper), *Jour. Ind. Eng. Chem.*, **12**, 1200 (1920).
- "Training of the Glass Works Chemist," *Chem. & Met. Eng.*, **25**, 332 (1921).
- "Microscope Illumination with Reference to Brownian Movement and Combination Lighting," *Trans. Amer. Microscop. Soc.*, **40**, 158 (1921).
- "Summer Meeting: The Canadian Tour. An Account (1941)

of the Summer Excursion Meeting, August 13-20, 1922," *Bull. Amer. Ceram. Soc.*, **1** [5] 211-14 (1922).

Mendeleeff's Periodic Table and Moseley's Atomic Numbers (wall chart). D. Van Nostrand Co., Nov., 1922.

Study Questions and Problems in Inorganic Chemistry. D. Van Nostrand Co., July, 1922 (3d ed., revised, June, 1928).

Laboratory Directions in Inorganic Chemistry. D. Van Nostrand Co., June, 1923 (4th ed., revised, August, 1927).

"Importance of Pure Research on Glass in American Universities," *Bull. Amer. Ceram. Soc.*, **2** [7] 206-210 (1923).

"Education in Pure Science a Benefit to American Industry," *Ind. Eng. Chem., News Ed.*, **1**, No. 19, 2 (1923).

"Selective Instruction," *Jour. Ind. Eng. Chem.*, **16**, 860 (1924).

"Misbranding of Raw Materials and Ceramic Chemicals for Glass Manufacture," *Bull. Amer. Ceram. Soc.*, **3** [10] 388-90 (1924).

Chapter on "Glass" in Chemistry in Industry, Vol. I. American Chemical Society, October, 1924 (H. E. Howe, ed.).

"Colloids in Glass," *Jour. Amer. Ceram. Soc.*, **7** [11] 795-802 (1924); also as special chapter in Colloid Chemistry, Vol. III, 1931 (Jerome Alexander, ed.).

(With W. J. Sutton), "Electrical Conductivity of Sodium Chloride in Molten Glass," *Jour. Amer. Ceram. Soc.*, **7** [2] 86-104 (1924); discussion, *Bull. Amer. Ceram. Soc.*, **3** [10] 390-92 (1924).

"Über die Wichtigkeit Wissenschaftlicher Glassuntersuchung auf den Amerikanischen Universitäten," *Glastech. Ber.*, **3** [Part 4] (1925).

"Symposium: What Are Our Objectives in Teaching Chemistry?" *Jour. Chem. Education*, **11**, 984 (1925).

"Indirect Illumination for the Microscope," *Ind. Eng. Chem.*, **17**, 43 (1925).

"Cold Light for the Microscope," *ibid.*, p. 573.

"Glass Technology in Univ. of Pittsburgh," *Bull. Amer. Ceram. Soc.*, **4** [8] 405-406 (1925).

"Legislation to Conserve Fuel and Protect Health," *Ind. Eng. Chem., News Ed.*, **3**, No. 18, 2 (1925).

(With G. D. Kammer), "Ionium: I, Recovery from Carnotite; II, Adsorption of Ionium and Thorium by Barium Sulfate; III, Ionium-Thorium Ratio in Carnotite," *Jour. Amer. Ceram. Soc.*, **47**, 2514 (1925).

"Glass: A Factor in Civilization," *Bull. Amer. Ceram. Soc.*, **5** [7] 311-16 (1926); reprinted in *Amer. Glass Rev.* and *Nat. Glass Budget*.

"Fifty Years of Glass Making," *Ind. Eng. Chem.*, **18**, 896 (1926); reprinted in *Amer. Glass Rev.*, *Nat. Glass Budget*, and *Glass Ind.*

Chapter on "Research" in Discussion by Leading Authorities. Congress of American Industry, Philadelphia, Pa., 1926.

"Chemistry Profession, Preparation, Opportunities," *Jour. Chem. Education*, **4**, 479 (1927).

"Future in Chemical Education." Theta Chi Delta Lecture, Wittenberg College, October 21, 1927.

"Glenn Donald Kammer" (obituary), *Ind. Eng. Chem. News Ed.*, **5**, No. 23, 9 (1927).

"James McIntyre Camp" (obituary), *ibid.*

(With P. C. Saunders), "Composition of Ozone and the Time-Energy Factor in Ozone Formation," *Ind. Eng. Chem.*, **19**, 1316 (1927).

"Influence of Oxidizing and Reducing Agents on Selenium Glass Colors," *Jour. Amer. Ceram. Soc.*, **11** [2] 81 (1928).

"Intensive Training in Chemistry," *Jour. Chem. Education*, **5**, 317 (1928).

(With H. K. Mitra), "Prevention of Disintegration of Blast-Furnace Linings," *Jour. Amer. Ceram. Soc.*, **11** [5] 278-91 (1928).

(With C. F. Lai), "Beryllium Glass," *ibid.* [7] 535-41.

"Glass Tour, 1928," *Bull. Amer. Ceram. Soc.*, **8** [10] 303-312 (1929).

"Old Trails and New," *Univ. of Pittsburgh Record* (June, 1930).

(With C. F. Lai), "Beryllium Glass: II, Potassium-Beryllium Series," *Jour. Amer. Ceram. Soc.*, **13** [6] 393-98 (1930).

"Report of Papers and Proceedings of Glass Division, American Ceramic Society, Toronto, Canada, Feb. 16-21, 1930," *Glastech. Ber.*, **8**, 62 (1930).

"Recent Developments in American Glass Manufacture," *Chimie et industrie*, **25**, 567 (1931); translated and printed in full in *Glass Ind.*, **12**, 235 (1931).

"Electrochemistry Applied to Glass," *Trans. Amer. Electrochem. Soc.*, **19**, 71 (1931).

"Desirable Tariff Revision Concerning Original Works of Art in Glass," *Bull. Amer. Ceram. Soc.*, **10** [6] 173-76 (1931).

"Glass Collecting as a Hobby," *Jour. Chem. Education*, **8**, 2368 (1931).

"Use of Electrochemical By-Products in Glassmaking: I, Arsenic, Selenium, Tellurium," *Trans. Electrochem. Soc.*, **61**, 101 (1932); *Glass Ind.*, **13**, 129 (1932).

(With C. J. Engelder and Manuel Blumer), "Capacity of Drying Agents for Gas Masks," *Ind. Eng. Chem., Anal. Ed.*, **4**, 339 (1932).

(With M. H. Bigelow), "Selenium Ruby Glass: Preparation and X-Ray Study," *Jour. Amer. Ceram. Soc.*, **16** [5] 214-19 (1933).

"Henry Titus Koenig, 1891-1934" (obituary), *Science*, **80**, 8 (1934).

(With H. H. Blau), "Liberation of Fluorine in Fluoride Glass Manufacture," *Jour. Ind. Eng. Chem.*, **26**, 1060 (1934).

"Glass Progress Dependent on Chemists," *Ind. Eng. Chem., News Ed.*, **12**, 313 (1934).

"International Chemistry Meetings at Madrid," *Sci. Monthly*, **39**, 184 (1934).

(With H. H. Blau), "Opal Glass: I, Silicon, Calcium, Sodium, Oxygen, Fluorine Series," *Trans. Internat. Congr. Pure and Applied Chem.*, 9th Congr., **3**, 507 (1934).

"Prerequisite and Collateral Value of Chemistry," *Jour. Chem. Education*, **12**, 422 (1935).

"Contribution of the Chemist to the Glass Industry for the Advancement of Modern Civilization," *Chemist*, **12**, 173 (1935).

"Jeptha Lee Holton: Pioneer Glass Scientist," *Bull. Amer. Ceram. Soc.*, **14** [8] 278 (1935).

"Glass Enemy No. 1," *Glass Ind.*, **16**, 305 (1935).

"Glass, an Indispensable Factor in Modern Civilization," *Jour. Franklin Inst.*, **220**, 539 (1935).

(With H. H. Blau and Victor Hicks), "Opal Glass: II, Silicon, Calcium, Sodium, Aluminum, Oxygen, and Fluorine Series," *Jour. Amer. Ceram. Soc.*, **19** [3] 63-66 (1936).

"Sandwich Glass: I, Introduction: Crystal Batches," *Glass Ind.*, **17**, 50 (1936); "II, Opal and Alabaster Batches," *ibid.*, p. 93; "III, Red and Pink Glasses," *ibid.*, p. 127; "IV, Ambers, Yellows, and Greens," *ibid.*, p. 167; "V, Blue, Lavender, and Black Glasses," *ibid.*, p. 205.

"Otto Schott, a Tribute," *Bull. Amer. Ceram. Soc.*, **15** [5] 169-75 (1936).

"Joseph Locke, Artist," *Glass Ind.*, **17**, 272 (1936).

"International Union of Chemistry," *Bull. Amer. Ceram. Soc.*, **15** [10] 367-68 (1936).

"What Price Chemical Training?" *Crucible*, **21**, 128 (1937).

"A Better World Through Science," *Jour. Chem. Education*, **14**, 189 (1937).

"Henry LeChatelier: I, His Life and Work," *Bull. Amer. Ceram. Soc.*, **16** [4] 155-63 (1937); "II, His Publications," *Ceram. Abs.*, **16** [10] 316-22 (1937); "1850-1936," *Jour. Chem. Education*, **14**, 555 (1937).

"Glass and Civilization," *Nat. Glass Budget* (Oct. 2, 1937).

"Alumina-Silica Relationship in Glass," *Bull. Amer. Ceram. Soc.*, **17** [5] 226-27 (1938).

"Annual Report on Glass," *ibid.*, p. 226.

"Lucien Delloye, Honorary Member," *ibid.*, pp. 228-29.

"Recent Developments in American Glass Manufacture: II, 1931-1938," *ibid.* [8] 335-38 (1938); *Trans. Internat. Congr. Chem.*, 10th Congr., Rome, Italy, p. 814 (1939).

"International Chemistry Meetings," *Bull. Amer. Ceram. Soc.*, **17** [8] 348-49 (1938).

"Batch Materials, Old and New," *Amer. Glass Rev.*, **58**, 39 (1939).

"Frederick Carder, Artist and Glass Technologist," *Bull. Amer. Ceram. Soc.*, **18** [9] 343-49 (1939).

(With A. L. Robinson), "Selective Experiments in General Chemistry." D. Van Nostrand Co., Sept., 1939.

(With K.-H. Sun and J. E. Frazier), "New Windows for China," *Glass Ind.*, **20**, 453 (1939).

"Grecian Glass: A Modernized Antique," *ibid.*, **21**, 22 (1940).

"Glass: Artist, Designer, Artisan," *ibid.*, p. 316.

"Glass: What Is Old? What Is New?" (Introduction to Symposium), *Ind. Eng. Chem.*, **32**, 1415 (1940).

"David Asch Dies in Poland," *Bull. Amer. Ceram. Soc.*, **19** [10] 413-14 (1940).

(With K.-H. Sun and H. W. Safford), "Review of Relation of Density and Refractive Index to Composition of Glass, I-II," *Jour. Amer. Ceram. Soc.*, **23** [11] 315-16 and [12] 343-54 (1940).

(With K.-H. Sun), "Tantalum Glass: $K_2O-Ta_2O_5-SiO_2$ Series," *ibid.*, **24** [5] 160-67 (1941).

"Effect of Isomorphous Substances on Glass," *ibid.* [7] 243.

(With Frank Day, Jr.), "Preliminary Note on Chemical Mechanism of Decolorizing with Selenium," *ibid.* [9] 297.