

a temporary reduction of labor costs and for the time being afford a certain advantage to such industries as are in a position to manufacture and export their products.

The fact that, generally speaking, Germany is not benefited by the present exchange situation is clearly indicated by the very continuance of this situation—paradoxical as this may seem. If Germany had a real competitive advantage as a result of her fallen exchange, she would have exported an enormous amount of merchandise, thereby creating a large demand for mark exchange and raising the rate on the mark in order to largely wipe out the previously existing advantage. Water tends to find its own level. But Germany was not able to export on a large scale, owing to lack of materials, lack of capital, and lack of confidence in domestic conditions; owing also to the efforts of many Germans to remove their liquid capital from the home country, to the prohibition of nationally unprofitable exports, to export taxes, to foreign embargoes, and to other factors all of which prevented the currency and price levels in Germany and abroad to become adjusted and equalized. It is true, therefore, that the continuance of Germany's *apparent* advantage in international trade is evidence that she has no *real* advantage.

Nevertheless, this does not mean that persons engaged in

any industry that competes with Germany should be lulled into indifference and carelessness by the knowledge of Germany's predicament. Just as some Germans have made huge fortunes out of Germany's collapse, some German exporters may flourish on the ruins of Germany's economic structure. When in a railroad accident the number of casualties is small, this affords but little consolation to those who are crippled by the accident, or to the families of those who have lost their lives. Similarly, in the case of the catastrophe that befell Germany. The fact that relatively few foreign industries will be in danger from the crash should not prevent each person engaged in international trade from carefully scanning all the facts affecting his particular industry with a view to determining whether the combination of circumstances is not such as to endanger his markets, at least temporarily. In the long run there is no danger, but few businesses can be conducted with a view to the long run since business casualties are generally the result of short-run developments. An American exporter, after losing his all as the result of a temporary condition, while he had his eyes glued to long range possibilities, will find little comfort in the ultimate triumph of his American competitors who had watched to-day, to-morrow, and next week, as well as next month, next quarter, and next year.

Manuscript Bibliographies in Chemistry and Chemical Technology

Compiled by Clarence J. West and Callie Hull

RESEARCH INFORMATION SERVICE, NATIONAL RESEARCH COUNCIL, WASHINGTON, D. C.

There exist many unpublished, or manuscript, bibliographies for scientific subjects which, if known and made available to investigators, would be effectively utilized. In view of this fact the Research Information Service, in cooperation with the Divisions of Science and Technology of the National Research Council, has undertaken to compile lists of manuscript bibliographies in the mathematical, physical, and biological sciences. A list for geology and geography has already been published as No. 27 in the Council's Reprint and Circular Series.¹

The list presented for chemistry and chemical technology, although incomplete, should prove useful. It is hoped that it may also encourage those who possess unpublished bibliographies, as well as those who are in need of bibliographic lists, to cooperate with the Research Information Service by reporting their bibliographies and by inquiring as to the existence and availability of lists before undertaking independent compilation.

The fact that the information concerning each bibliography included in this list—period covered, method of entry and approximate completeness—is taken directly from the reports supplied to the Research Information Service, accounts for the incompleteness of the data in certain cases and for the evaluation of materials.

The Research Information Service is prepared to serve as a clearing house in connection with scientific and technological bibliographies. Those who prefer, however, may correspond directly with the compiler of any given bibliography and, unless otherwise indicated, may assume that the compilers listed have indicated willingness to have their material consulted or duplicated. Ordinarily a copy of any bibliography may be obtained for the actual cost of duplication.

¹ Dr. H. P. Little has kindly consented to the incorporation into the present list of material of chemical value contained in his list.

The Research Information Service will welcome corrections or additions to this list and suggestions concerning the further development of a bibliographic exchange.

Acenaphthene:

The Barrett Co., 40 Rector St., New York, N. Y. 174 entries, by author and subject. 1864–date. Abstracts included.

Acrolein:

Preparation and properties. L. H. Flett and J. L. Parsons, Rye, N. H. 100 entries. 1840–1917. French, German, and English literature thoroughly covered.

Adsorption:

Variation of adsorption from solutions with hydrogen-ion concentration. Neal E. Gordon, University of Maryland, College Park, Md. Entries by author, title, and subject. 1909–1921. Abstracts included in some cases. One-half complete.

See also Gas (Baker).

Agricultural Chemistry:

Homer J. Wheeler, 111 Grant Ave., Newton Centre, Mass. 1892–date. Abstracts included.

Air Pollution:

Charles Baskerville. Incomplete.² For consultation, write Library, College of the City of New York, New York, N. Y.

Alcohol:

C. C. Stewart, Hanover, N. H. 400 or 500 entries, by author and title. Fairly complete up to 1897. Abstracts included in some cases.

Alcohol, particularly its manufacture and utilization as a motor fuel. E. H. Leslie, University of Michigan, Ann Arbor, Mich. Fairly complete.

Alloys:

Alloy steels and ferro-alloys. Clarence Estes. 4567 entries, classified by elements. For consultation, write Dr. F. B. Dains, University of Kansas, Lawrence, Kan.

Aluminium:

Aluminium and aluminium alloys. Robert J. Anderson, Bureau of Mines, Pittsburgh, Pa. 1000 entries, by author, title, and subject. 1800–1922. 95 per cent complete. In press as a Bureau of Mines publication.

² Biographies by Dr. Baskerville are incomplete owing to his recent death.

Amalgams:

M. G. Mellon, Department of Chemistry, Purdue University, Lafayette, Ind. 400 entries, by author. 1750-1920.

Amino-o-phthalic Acid:

See Phthalic Acid (Bogert).

Ammonium Nitrate:

Physical and chemical properties. H. W. Baker, Telling-Belle Vernon Co., Research Laboratory, Cleveland, Ohio. 75 entries, classified according to properties. 1837-1918. Abstracts included with tables. Complete survey of English and German abstract journals, with original articles consulted as far as possible. Mimeograph copies obtainable from Dr. C. E. Munroe, National Research Council, Washington, D. C.

Ammonium Sulfate:

Ammonium sulfate as a fertilizer, and its effectiveness in comparison with other nitrogenous fertilizers. M. I. Wolkoff, Agricultural Experiment Station, Urbana, Ill. Fairly complete up to 1919.

Anesthetics:

Anesthetics, ether, chloroform, etc., including all known substances used for anesthesia. Charles Baskerville. To be published in new edition of "Anesthesia" by Baskerville and Gwathmey. For consultation, write to Dr. James T. Gwathmey, 40 East 41st St., New York, N. Y.

Anthocyan:

Andrew Neff, 5520 Blackstone Ave., Chicago, Ill. 120 entries, by author. 1850-1920. Fair from chemical point of view. Copy in University of Chicago Library.

Anthraquinone:

See Drugs (Guntton and Okey).

Antimony:

Chemistry, analysis, etc., of antimony. Elton R. Darling, James Millikin University, Decatur, Ill. 2500 to 3000 entries, by author, title, and subject. Nearly complete up to date. Abstracts included in part.

Arsphenamine:

Fulton B. Flick, Iowa State College, Ames, Iowa. 350 entries. Up to March 1921. Very few abstracts included. Quite complete as regards chemistry of the drug, and covers much of application and action.

Asphaltic Cements:

Oxidation of asphaltic cements. H. P. Newton, Georgetown, Ky. Up to 1920.

Autolysis:

Bacterial autolysis. William Shelton Sturges, Cudahy Packing Co., Omaha, Neb. 80 entries by author and title. 1890-1918. Abstracts included. 85 per cent complete. Copy in Yale University Library.

Bagasse:

Use for fuel and paper. Arthur D. Little, Inc., Cambridge, Mass. 32 entries, by author.

Baking Chemistry:

See Wheat Milling (Bailey).

Barium Sulfide:

Barium sulfide manufacture and reduction of barium sulfate. Engineering Societies Libraries, New York, N. Y. 34 entries. 1898-1918. Abstracts included.

Beet Products:

See Coloring Matters (Zerhaw).

Blood:

Analysis of blood. H. A. Mattill, University of Rochester, Rochester, N. Y. 400 entries, by subject. 1917-date. Abstracts included in perhaps half the entries. 75 per cent complete.

Methods for analysis of blood. N. W. Rakestraw, Stanford University, Calif. 400 entries, by author and subject. Up-to-date. Abstracts included in most cases, and will be in all cases when completed. Will be as complete as possible, covering both domestic and foreign literature available. Unavailable at present.

Botany:

See Pharmaceutical Chemistry (Army).

Butyric Acid:

Analysis of butyric acid. Grasselli Chemical Co., Cleveland, Ohio. 24 entries. Abstracts included.

Calorimetry:

See Metabolism (Armsby).

Candelilla Wax:

Arthur D. Little, Inc., Cambridge, Mass. 18 entries, by author.

Cane Products:

See Coloring Matters (Zerhaw); Bagasse (Little).

Carbon:

Carbon electrodes. See Pitch Coke (The Barrett Company); Electrochemistry (Union Carbide & Carbon Research Laboratories).

Manufacture of carbon black. H. J. Masson, New York University, New York, N. Y. 200 entries, by author. Up-to-date. Complete as possible.

Carbon Monoxide:

Formation of carbon monoxide by burning gas flames. P. A. McCarty. 90 entries. 1870-1917. For consultation, write Department of Chemistry, Ohio State University, Columbus, Ohio.

Casein:

H. Stirling Snell, Grand Haven, Mich. 300 entries, by title. 1869-date. Abstracts included in some cases. Fairly complete, with patent references, 1918-date.

Castor Oil:

Physical and chemical characteristics of castor oil. F. W. Willard, 410 West School Lane, Germantown, Philadelphia, Pa. Entries by author and subject. 1825-1910. Abstracts included in part. 80 per cent complete.

Cement:

Cements involving the sorrel reaction. H. G. Schurecht, Bureau of Mines, Ceramic Experiment Station, Columbus, Ohio. 75 per cent complete.

See also Asphaltic Cements (Newton); Potash (Western Precipitation Company).

Chemical Education:

Charles Baskerville. Incomplete.² For consultation, write Library, College of the City of New York, New York, N. Y.

Chemical Literature:

Card index to chemical literature. Patent Office, Washington, D. C. Contains nearly a million cards and covers the entire field of chemical literature. See House Document No. 1110, 62nd Congress, 3rd Session, Appendix K, pp. 599-618, for description.

Chemical Warfare:

Clarence J. West, National Research Council, Washington, D. C. 1500 entries, by author. Two-thirds complete.

Chemistry:

Charles E. Mullin, care of E. and L. Co., 3rd and Jackson Sts., Camden, N. J. 30,000 entries. 1907-date. Especially strong on textile chemistry and dyeing.

Chemistry and civilization. Charles Baskerville. Incomplete.² For consultation, write Library, College of the City of New York, New York, N. Y.

Chemistry and life. Charles Baskerville. Incomplete.² For consultation, write Library, College of the City of New York, New York, N. Y.

Chemistry and municipalities. Charles Baskerville. Incomplete.² For consultation, write Library, College of the City of New York, New York, N. Y.

See also Volumetric Chemical Analysis (Andrews).

Chemists:

Portraits of chemists. F. B. Dains and Clarence J. West. 400 entries, by subject. For consultation, write C. J. West, National Research Council, Washington, D. C.

Chloropicrin:

See Insecticides and Fungicides.

Cholesterol:

Cholesterol and fats in their relation to it. Lloyd Arnold, Loyola Medical School, 706 S. Lincoln St., Chicago, Ill. 1500 entries. 1850-1914. Abstracts included. Complete for period covered.

Citric Acid:

Use of citric acid; its salts and esters. The Barrett Co., 40 Rector St., New York, N. Y. 114 entries, by author.

Citrus Fruits:

Citrus fruits and their products. C. P. Wilson, Box 518, Corona, Calif. 250 entries, mostly by subject. 1910-date. Abstracts included. 50 per cent complete.

Clay:

Chemical and physical properties, testing, etc., of clay. Clarence J. West, National Research Council, Washington, D. C. 600 entries, by author. One-half complete.

Clays and ceramic arts. J. C. Branner. Additions to "Bibliography of Clays and the Ceramic Arts" published in 1906. Entries by author. For consultation write Division of Geology and Geography, National Research Council, Washington, D. C.

See also Refractories (Schurecht).

Coal:

Library of Congress, Washington, D. C. 105 entries, by author. Up to 1920.

Storage of coal. Library of Congress, Washington, D. C. 138 entries, by author. Up to 1920.

See also Low Temperature Carbonization (The Barrett Company).

Coal Tar:

Physical constants of coal-tar derivatives. The Barrett Co., 40 Rector St., New York, N. Y. Entries by subject. Figures copied from original source.

Special coal-tar constituents. The Barrett Co., 40 Rector St., New York, N. Y. 80 entries. 1870-date. Abstracts included.

Colloid Chemistry:

Harry N. Holmes, Oberlin College, Oberlin, Ohio. 1500 and more entries. 1870-date. Brief abstracts often included.

Colloids in geology and mining. Thorndike Saville. 89 entries. Very complete to 1917. For consultation, write R. W. Sayles, Harvard University, Cambridge, Mass.

Coloring Matters:

Coloring matters in beet and cane products. F. W. Zerhaw, Marrero, La. 105 entries, by author. 1890-date. Considered fairly complete.

Combustion Chemistry:

See Industrial Chemistry (Strong).

Corrosion:

Corrosion and its prevention. Nathan Van Patten, Massachusetts Institute of Technology. 1300 entries, by author. Up to 1921. Two-thirds complete.

Corrosion of metals. Clarence J. West and Callie Hull. 2000 entries, by author and subject. Three-fourths complete. For consultation, write Division of Research Extension, National Research Council, Washington, D. C.

Corrosion of metals by water and foaming in steam boilers. Marion Hollingsworth. 500 entries. Up to 1915. For consultation write to Prof. C. W. Foulk, Chemistry Department, Ohio State University, Columbus, Ohio.

Cottonseed:

Physiological value and toxicity of cottonseed and some of its products. Icie Gertrude Macy. 150 entries, by author, title, and subject. Up to 1920. For consultation, write Library, Yale University, New Haven, Conn.

Coumarin:

The Barrett Co., 40 Rector St., New York, N. Y. 72 entries, by author and subject. 1884-date. Abstracts included.

Crystallography:

Growth of crystals under pressure. Stephen Taber, Columbia, S. C. 150 entries, by author and title. Incomplete.

Cyclobutane:

Cyclobutane derivatives. I. L. Steele, Bureau of Standards, Washington, D. C. 66 entries. Up to 1914. Abstracts of methods of preparation are included.

Dihydroxybutyric Acids:

J. W. E. Glattfeld, University of Chicago, Chicago, Ill. 26 entries. Up to 1915. Complete.

2,4-Dinitrobenzaldehyde:

Derivatives of 2,4-dinitrobenzaldehyde. Blaine B. Wescott, 1739 Lillac St., Pittsburgh, Pa. (Mt. Olive Station). Up to 1920. Very brief abstracts included. Complete.

Disinfectants:

See Insecticides and Fungicides; Poisons (Gray).

Distillation:

Distillation: machinery, process, theory. Edwin M. Baker, University of Michigan, Ann Arbor, Mich. Entries by author and subject. 1907-1919. Abstracts included for more important articles. Does not include patents; otherwise all articles listed in *Chemical Abstracts*.

Fractional distillation. E. H. Leslie, University of Michigan, Ann Arbor, Mich. Fairly complete.

Dolomite:

See Refractories (Schurecht).

Drugs:

Anthraquinone drugs, especially *Rhamnus frangula*. J. A. Gunton and Ruth Okey, Transylvania College, Lexington, Ky. 350 entries, by author, title, and date. 1828-1921. Abstracts included for *Rhamnus frangula*. Quite complete.

See also Arsphenamine (Flick); Epinephrine (Schultz).

Drying:

Drying: machinery, process, theory. Edwin M. Baker, University of Michigan, Ann Arbor, Mich. Entries, by author and subject. 1907-1919. Abstracts included for more important articles. Does not include patents; otherwise all articles listed in *Chemical Abstracts*.

Dyes:

American dye patents. Color Investigation Laboratory, Bureau of Chemistry, Washington, D. C. 3000 patents, cross indexed in seven ways, total cards about 35,000. Indexed under number, intermediates, chemical class, color, application to fiber, fiber on which used and owner. 1861-1921. Abstracts included. Complete to July 1921.

See also Chemistry (Mullin); Coloring Matters (Zerhaw).

Electric Welding:

James H. Gravell, 1126 S. 11th St., Philadelphia, Pa. 30,000 entries, by patent owner, number and subject. 1840-date. Abstracts included. Complete cross index of welding as disclosed in United States patents.

Electrochemistry:

The battery industry. Union Carbide & Carbon Research Laboratories, Inc., Long Island City, N. Y. 100 entries, by author.

The carbon industry. Union Carbide and Carbon Research Laboratories, Inc., Long Island City, N. Y. 185 entries, by author.

See also Industrial Chemistry (Strong); Pitch Coke (The Barrett Company).

Enamels:

Enamels, enameling, and enameling raw materials. A. D. Landrum, 720 Electric Bldg., Cleveland, Ohio. Entries by author and title, and cross indexed in some cases by subject. Complete to 1918.

Epinephrine:

Adrenalin and adrenalin-like bodies. W. H. Schultz, University of Maryland Medical School, Baltimore, Md. 1500 entries, by author. 1883-1909. Abstracts included in part.

Esters:

Alcoholysis of esters. Jesse E. Minor. For consultation write Dr. Roger F. Brunel, Bryn Mawr College, Bryn Mawr, Pa. Published in part.

Evaporating Apparatus:

See Heat Transmission (Badger).

Explosives:

Charles E. Munroe, National Research Council, Washington, D. C. 5000 entries, chronologically by author. 1665-1907. Abstracts included. One-tenth complete.

Extraction:

Extraction: machinery, process, theory. Edwin M. Baker, University of Michigan, Ann Arbor, Mich. Entries by author and subject. 1907-1919. Abstracts included for more important articles. Does not include patents; otherwise all articles listed in *Chemical Abstracts*.

Fats and Oils:

Bleaching of vegetable oils with various earths and blacks. B. H. Thurman, 297 Fourth Ave., New York, N. Y. 1911-1921. 85 per cent complete.

Edible oils and fats. Library of Congress, Washington, D. C. 308 entries, by author. Up to 1918.

Fats and oils. Herbert S. Bailey, Head Laboratory, Southern Cotton Oil Co., Savannah, Ga. 500 entries. 1890-1918. Abstracts included in many instances. Nearly complete.

Fats and oils. George S. Jamieson, Oil, Fat and Wax Laboratory, Bureau of Chemistry, Washington, D. C. 1915-date. Brief abstracts in a few cases. References mostly from *Chemical Abstracts*.

Refining vegetable oils. Charles Baskerville. Incomplete.* For consultation, write Library, College of the City of New York, New York, N. Y.

See also Castor Oil, etc.; Hydrogenation, Viscosity.

Feldspars:

Physical and chemical nature of the feldspars. Harold L. Alling, University of Rochester, Rochester, N. Y. 107 entries, by author and subject. 1300 chemical analyses.

Ferro-Alloys:

See Alloys (Estes).

Filters:

Filters and filtration. J. Edward Porter, Box 785, Syracuse, N. Y. 3000 entries, by author, title, and subject. 1900-1915. Includes patents.

Fireproofing:

See Waterproofing (Fenn).

Fish:

See Piscatorial Chemistry.

Flax:

Department of Technical Control, American Writing Paper Co., Holyoke, Mass. 163 entries. 1880-1920. Abstracts included. Everything available.

Flesh:

Amino acid distribution of flesh. E. G. Sieveking. 31 entries by author and title. 1899-1922. Abstracts included. Fairly complete. For consultation, write C. R. Moulton, 105 Schweitzer Hall, Columbia, Mo.

Nitrogen distribution in flesh (proteins). W. S. Ritchie. 12 entries by author and title. 1900-1922. Abstracts separate but available. Complete, especially with regard to edible flesh. For consultation, write C. R. Moulton, 105 Schweitzer Hall, Columbia, Mo.

See also Meat.

Fluorene:

The Barrett Co., 40 Rector St., New York, N. Y. 261 entries, by author and subject. 1867-date. Abstracts included.

Food:

Conservation, production, and economic use of foods. Library of Congress, Washington, D. C. 192 entries, by author. Up to 1917.

Food in relation to health, food rationing, dietetics, etc. Library of Congress, Washington, D. C. 143 entries, by author. Up to 1918.

Fungi:

Physiology of fungi (biochemical). C. U. Frey, 103 W. 183rd St., New York, N. Y. 150 entries, by author and subject. 1880-1916. Abstracts included in some cases.

Fungicides:

See Insecticides and Fungicides; Poisons (Gray).