

C Guthrie, Charles Claude, Sr. (1880-1963), Scientific Papers, 1898-1970
3108 23 linear feet, 87 volumes

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INTRODUCTION

Correspondence, research notes, manuscripts, family history, reprints, and microscope slides of a physician, professor of physiology, inventor, and pioneer researcher in the field of vascular surgery with Alexis Carrel.

DONOR INFORMATION

The papers were contracted to the State Historical Society of Missouri by Fannie V. Guthrie on 23 April 1970 (Accession No. 3847). Additions were made by Fannie V. Guthrie on 20 March 1973 (Accession No. 3847), 5 August 1976 (Accession No. 4007), 12 January 1978 (Accession No. 4131), and 23 May 1978 (Accession No. 4166). Additional material was donated on 8 December 1983 by Richard Emberson (Accession No. 4544).

BIOGRAPHICAL SKETCH

Charles Claude Guthrie was the fourth child and second son of Robert McCluer and Fannie Hall Guthrie. He was born May 13, 1880, near Wentzville, Missouri, and died in Columbia, Missouri, June 16, 1963. In 1904 he married Maude Glidden Walker and in 1907 their son, Charles Claude Guthrie, Jr., was born.

Guthrie received his B.S. degree from Woodlawn Institute in 1896. In 1902 he graduated from the University of Missouri School of Medicine. From 1902 until 1903 Guthrie worked as a demonstrator in physiology at Western Reserve University. In 1903, he accepted a position as instructor of physiology at the University of Chicago where he remained until 1906 and where he began his association with Alexis Carrel. From 1906 to 1909 Guthrie held the position of professor of physiology and pharmacology and chairman of the department. Guthrie remained at the University of Pittsburg until his retirement in 1950.

SCOPE AND CONTENT NOTE

The Guthrie Papers have been arranged into the following nine series: **Family History and Biography; Correspondence; Photographs and Newspaper Clippings; Reprints; Alexis Carrel; Research, Manuscripts, Etc.; Guthrie-Maury Family Papers; Volumes; and Glass Slides and Negatives.**

In general the papers retain the subject organization in which they were arranged by Fannie V. Guthrie. Within this subject organization the papers are arranged chronologically.

Additional material from this collection, consisting of charts and scientific apparatus, was given to Dr. Hugh Stephenson, University of Missouri Medical Center.

For more complete series descriptions, please see the folder list.

FOLDER LIST

Family History and Biography Series

- f. 1-16 1909-1970. History and genealogy of the Fontaine, Maruy, and Guthrie families in Europe and in the United States as compiled by Fannie V. Guthrie; vitae; lists of Guthrie's publications, awards and honors; correspondence with publishers of family genealogies and biographical encyclopedias. Correspondence of Fannie V. Guthrie with U.S. Army regarding C.C. Guthrie's military record.

Correspondence Series

- f. 17-22 Undated, 1899-1908. Miscellaneous undated personal correspondence; undated manuscript material including "Observations on Refractory Period in Heart," and "Survival of Engrafted Blood Vessels." Correspondence with Western Reserve University and Parke, Davis and Company concerning employment. Reprint requests and acknowledgements; memorial bulletin from Washington University for Robert Leudeking; correspondence with colleagues particularly J.W. Connaway, G.N. Stewart and Charles W. Greene discussing early experiments including Texas fever, transplantation of ovaries, blood vessels and dogs' heads; physiology and pharmacology budget appropriations by Washington University.
- f. 23-27 1909-1910. Reprint requests and acknowledgements from colleagues; resignation of Guthrie at Washington University and acceptance of physiology chair at University of Pittsburgh; correspondence concerning Guthrie's research on thyroid transplants, asphyxia and hydrogen insufflation and the publication of results with G.S. Stewart, T. Sollman, John J. Abel, F.H. Pike, and Hugh McGuigan.
- f. 28-37 1911-1915. Reprint requests to Guthrie and acknowledgements; correspondence with various doctors concerning the respiration valve set which Guthrie's lab developed for use when administering anesthesia; correspondence with G.S. Stewart, H.S. Williams of *Hearst Magazine*; Torald Sollmann; C.C. Dubois; University of Pittsburgh administrators and colleagues regarding courses and programs for the departments of physiology and pharmacology; with F.H. Pike regarding heart and blood vessel, and shock research; business papers arranging purchase of land from Schenley Farms Company of Pittsburgh.
- f. 38-53 1916-1918. Correspondence with Schenley Farms Company regarding land purchase by Guthrie; orders for instruments and apparatus developed in Guthrie's laboratory; reprint requests and acknowledgements; correspondence with O.J. Walker, Frank A. Evans, Carl J. Wiggers, F.H. Pike, H.O. Pollock, Theodore Kruse, Ogden M. Edwards, James D. Heard and others discussing research on shock, World War I research labs and field hospitals, and conditions at the

- University of Pittsburgh during World War I.
- f. 54-72 1919-1924. Correspondence with Alice Rohde, G.N. Stewart, F.H. Pike, Davenport Hooker, C.W. Greene, Theodore Kruse, and miscellaneous others regarding professional organizations and their conferences, positions open in various medical schools, Mellon Lectures at the University of Pittsburgh, physiology department budget, personnel, etc., heart research paper by Guthrie, land sale, and miscellaneous other matters.
- f. 73-85 1925-1932. Correspondence with staff members of the University of Pittsburgh Department of Physiology and Pharmacology concerning departmental business and news. Miscellaneous correspondence with Carl J. Wiggers, Walter B. Cannon, and Davenport Hooker; 1927 and 1930 directories of Pittsburgh chapter of University of Missouri Alumni Association.
- f. 86-92 1933-1936. Correspondence concerning lensless spectacles developed by Guthrie; University of Pittsburgh Physiology Department correspondence; arrangements for Mellon Lectures and correspondence with Richard K. Mellon; speeches, correspondence, and photographs pertaining to honorary D.Sc. degree received by Guthrie in 1935; with George C. Willson concerning successor for Walter Williams as president of the University of Missouri; paper entitled "Symposium on Eclampsia." Folder 90: Honorary degree of D.Sc. received by Guthrie from the University of Pittsburgh in 1935 (OVERSIZE).
- f. 93-100 1937-1941. Miscellaneous correspondence with Pittsburgh Physiology and Pharmacology Department personnel including Theodore Kruse, and Paul McLain; with R.R. Huggins, Dean of Pittsburgh Medical School; with Sidney Smith regarding arterial anastomosis; miscellaneous correspondence with Charles W. Greene, J.M. Rogoff, and others. *Little Journeys to the Homes of Great Physicians* and *Little Journey to the Home of Ephraim McDowell* by C.V. Mosby.
- f. 101-109 1942-1951. Folder 109 contains correspondence about the University of Pittsburgh medal for 41 years of teaching. The medal is on display in the memorial cabinet at the University of Missouri Medical Center.
- f. 110-118 1952-1960. Miscellaneous personal correspondence, Christmas cards from friends and family; list of teaching and research property of C.C. Guthrie stored at the University of Pittsburgh at his retirement; correspondence with J.M. Rogoff, T.H. Kruse, Paul L. McLain, and James D. Heard relating developments at the University of Pittsburgh Medical School; correspondence concerning second edition of *Blood Vessel Surgery*.
- f. 119-121 Plastic Surgeon's Award, 1959-1960. Speeches, articles, and correspondence relating to the Honorary Award Medal given to Guthrie by the American Association of Plastic Surgeons. Includes correspondence with Jerome Webster, Lyndon A. Peer, and Charles Claude Guthrie, Jr., who accepted the award for his father. Reprint of "Refrigerated Skin Grafts" by Jerome Webster. The medal is on

display in the memorial cabinet at the University of Missouri Medical Center.

- f. 122-133 Obituaries, and Sympathy Cards, 1961-1970. Miscellaneous correspondence with friends and colleagues including T. Kruse. Arrangements, speeches, and article concerning honorary Doctor of Science degree received by Guthrie from the University of Missouri, June 1962. Drafts of letters to Henry Swan, Wallace O. Fenn, and Peter Heinbecker describing some of Guthrie's early work, association with Alexis Carrel and early research facilities. Obituaries and sympathy cards to the family on the occasion of Guthrie's death, June 16, 1963. Folder 133 contains personal correspondence of Fannie V. Guthrie arranging disposition of C.C. Guthrie's scientific collection.
- f. 134-137 B. Rogers, D. Hooker, H. Kipp, 1953-1964
- f. 134 Correspondence with Blair O. Rogers, 1959-1961, regarding Guthrie's dog's head transplants. Rogers observed a dog's head transplant in the Soviet Union in 1959.
- f. 135-136 Correspondence with Davenport Hooker, 1954-1963, discussing experimental results, news of acquaintances, progress at University of Pittsburgh and Yale University Schools of Medicine.
- f. 137 Correspondence with Harold A. Kipp, 1956-1964, primarily concerning developments of University of Pittsburgh Medical School and disposition of Guthrie's reprint file.

Photographs and Newspaper Clippings Series

- f. 138-149 1902-1969. Photographs of Charles Claude Guthrie, 1902-1962; photographs of Charles Claude Guthrie, Jr., 1910 and 1932; photographs of classes and laboratory assistants, c. 1909; miscellaneous magazine articles and newspaper clippings; clippings and articles concerning Guthrie's two-headed dog experiments, heart surgery, Soviet transplantations and honorary degree received by Guthrie in 1962 from the University of Missouri; some correspondence concerning magazine articles.

Reprints Series

- f. 150-189 Charles Claude Guthrie Reprints, 1903-1948.
- f. 150-151 Collected reprints of articles published by Guthrie contained in two volumes. Individual copies of reprints are organized chronologically by publication date following volume II.
- f. 152 Laking of Dried Red Blood-Corpuscles," "Influence of Formaldehyde on the Action of Certain Laking Agents and Coagulation of Blood," 1903.
- f. 153 "An Improved Mercury Manometer," "A Serviceable Form of Capillary Electrometer," "The Effect of the Intravenous Injection

- of Formaldehyde and Calcium Chloride on the Haemolytic Power of Serum," 1904.
- f. 154 "Anastomosis and Transplantation of Blood Vessels," "Effects of Intravenous Injections of Bone Marrow Extracts upon Blood Pressure," "Functions of a Transplanted Kidney," "Extirpation and Replantation of the Thyroid Gland with Reversal of the Circulation," "The Transplantation of Organs," by A. Carrel, "The Transplantation of Veins and Organs," 1905.
- f. 155-156 "Complete Amputation of the Thigh, with Replantation, Uniterminal and Biterminal Venous Transplantations," "Results of a Replantation of the Thigh," "The Resuscitation of the Central Nervous System of Mammals," "A New Method for the Homoplastic Transplantation of the Ovary," "The Relation of Pressure in the Coronary Vessels to the Activity of the Isolated Heart, and Some Closely Related Problems," 1906.
- f. 157 "Heterotransplantations of Blood Vessels and Other Studies," "A Study of the Relative Efficiency of Various Solutions on the Activity of the Isolated Mammalian Heart," "Department of Physiology and Pharmacology," "Results of Heterotransplantations of Blood Vessels," 1907.
- f. 158 "The Relation of the Activity of the Excised Mamalian Heart to Pressure in the Coronary Vessels and to its Nutrition." "Respiration Valves," "Results of Removal and Transplantation of Ovaries in Chickens," "Heterotransplantations of Blood Vessels," 1907.
- f. 159 *Quarterly Bulletin*, Medical Department, Washington University, December 1907.
- f. 160-164 "Some Practical Aspects of the Physiology of the Circulation," "Further Observations on the Relation Between Blood Pressure and Respiratory Movements," "Transplantation of Formaldehyde-Fixed Blood Vessels," "Structural Changes and Survival of Cells in Transplanted Blood Vessels," "Further Results of Transplantation of Ovaries in Chickens," "Studies in Resuscitation: III," "Studies in Resuscitation: IV," "Control of Spasms by Asphyxiation," "Results of Ovarian Transplantation on Body Weight and Egg Weights in Fowls," *Quarterly Bulletin*, Medical Department of Washington University, December 1908.
- f. 165 "A Successful Ovarian Transplantation in the Guinea-Pig, and its Bearing on Problems of Genetics," "Guinea Pig Graft Hybrids," "The Action of Magnesium Salts: A. In Relation to Motor Nerve Impulses; B. In Relation to Sensory Stimulation," "The Survival and Growth of Subcutaneously Engrafted Ovarian and Testicular Tissue," "Effect of Anemia and of Double Hyperemia on Hyperplastic Goitre," 1909.
- f. 166 "Suture of Blood-Vessels with Human Hair," "The Effect on the Kidneys of Temporary Anemia, Alone and Accompanied by

- Perfusion," 1910.
- f. 167 "The Effect of Asphyxia on the Pupil," "Survival of Engrafted Tissues," "Further Observations on the Structure of Anastomosed Blood Vessels," "Modification of Tissue Oxidations in Vitro," 1910.
- f. 168 "On the Alleged Specific Anaesthetic Properties of Magnesium Salts," "On Insufflation of the Lungs with Hydrgen; With Carbon Dioxide: and With Air," "Survival of Engrafted Tissues: III. Blood-Vessels," 1910.
- f. 169 "Intravascular Foreign Bodies," "Alterations of the Circulation of the Goitre," "On Graft Hybrids," 1911
- f. 170 "Zeitschrift für biologische Technik und Methodik," "On Evidence of Soma Influence on Offspring From Engrafted Ovarian Tissue," "Respiration Valves," "Transplantation of Ovaries," 1911
- f. 171-174 "Vascular Suture and Some Considerations Regarding Its Successful Execution and Application," "Physiology of the Heart," 1912.
- f. 172 "What Mathematical Subjects Should Be Included in the Curriculum of the College?" 1913.
- f. 173 "The Sensory Effect of Local Application of Hypertonic Salt Solutions," "Laking of Blood by Hypertonic Solutions," 1914.
- f. 174 "Ovarian Transplantation," "Contributions to Practical Physiology and Pharmacology," 1915.
- f. 175 "Digitalis on Cardiac Irritability," "Experimental Shock," "Muscular Irritability," "The Stimulating Action of the Bromide-Ion on Smooth Muscle," "A Tentative Explanation of the Mechanism of Hemolysis Associated with Loss of Water, and the Bearing of the Phenomenon on Certain Biologic Problems," 1917.
- f. 176 "Observations in Shock," "The Blood in Shock," "The Interpretations of the Manifestations of Shock," 1918.
- f. 177 "End-Results of Arterial Restitution with Devitalized Tissue," "Studies on Epidemic Influenza," 1919.
- f. 178-180 "The Blood in Clinical Shock," "Physiological and Physiological Chemical Observations in Epidemic Influenza," "A Method for Determining the Rate of Oxygen Absorption by Blood," 1920.
- f. 179 "A Gas Receiver of Convenient and Practical Form for Sampling Expired Air for Analysis," "A Simplified Form of Apparatus for Air Analysis," "A Simple and Accurate Metabolism Spirometer," 1921.
- f. 180 "Results on an Enlarged Thyroid Gland Nine Years after Obstructing the Veins," "A Spirometer for Continuously and Automatically Measuring Expired Air and Sampling for Analysis," 1922.

- f. 181-186 "End Results of Arterial Transplants," 1923.
- f. 182 "Twenty Years' Progress in Physiology and Pharmacology," 1925.
- f. 183 "Blood Gas Analyzer," "Respiration in Fowls," "Refractory Period in Heart," "Studies on the Rate of Oxygen Absorption by Blood," 1926-1927.
- f. 184 "A Split Second Timer," "An Apparatus for Quickly Measuring the Specific Gravity of Body Fluids," 1932.
- f. 185 "Protective Amputation of Limbs by *Stagomantis Carolina*," and correspondence concerning this article, 1932-1933.
- f. 186 Correspondence and drafts of article "Swarming and Mating of Ants (*Formicidae*)," 1933.
- f. 187 "Functional Heart Mechanisms," 1933; "Sodium Tetrathionate and Methylene Blue in Cyanide and Carbon Monoxide Poisoning," 1933; "Physiologic Lensless Spectacles," 1934; "Cause and Prevention of a Type of Leg Deformity in Brooder Raised Chicks," 1946; "The Quantitative Effect of Hemorrhage on Plasma Proteins," 1948.
- f. 188-189 Museum Specimens, 1906-1922. Reprints pertaining to museum specimens of the department of physiology of the University of Pittsburgh. Compiled and calendered by Fannie V. Guthrie.
- f. 190 "Segregation of the Germ-Cells of the Teleost, *Lophius*," by Gideon S. Dodds, n.d.; "On the Preservation of Feces," by Paul E. Howe, t.A. Rutherford, and P.B. Hawk, n.d.
- f. 191 "The Kidney in Shock," by Max Miller, n.d.; "Outline of Experimental Physiology," by Charles W. Greene, n.d.
- f. 192 "Copper Sulfate Method for Measuring Specific Gravities of Whole Blood and Plasma," by Robert A. Phillips et al., n.d.
- f. 193 "Blackleg in the United States and the Distribution of Vaccine by the Bureau of Animal Industry," by Victor A. Norgaard, 1898.
- f. 194-196 "An Aid to the Acquirement of the German of the Classroom," Caroline T. Stewart, 1903.
- f. 195 "On Conduction and Contraction in Skeletal Muscle in Water Rigor," Clyde Brooks, 1906; "Note on the Composition of *Limulus* Blood Ash," Hugh McGuigan, 1907; "The Mechanism of Experimental Glycosuria," Hugh McGuigan and Clyde Brooks, 1907; "Experimental Glycosuria," Clyde Brooks, 1907.
- f. 196 "Carbohydrate Metabolism," Hugh McGuigan, 1908; "The Direct Utilization of the Common Sugars by the tissues," Hugh McGuigan, 1908; "On Glycolysis," Hugh McGuigan, 1908.
- f. 197 "Notes on Qualitative Chemistry," James A. Gibson, 1909; "The Relationship Between the Ionic Potentials of Salts and their Power of Inhibiting Lipolysis," R.H. Nicholl, 1909.
- f. 198 "The Structure of the Mammalian Oesophagus," Emil Goetsch, 1910; "Zur Theorie der Kaltvulkanisation des Kautschuks," Von F. Willy Hinrichsen and Erich Kindscher, 1910.

- f. 199 U.S. Department of Agriculture "Farmer's Bulletin 405," 1910; "A Study of Nylander's Reaction and Nylander's Reaction in the Presence of Mercury or Chloroform," M.E. Rehfuess and P.B. Hawk, 1910.
- f. 200 "Experiment Station Record," U.S. Department of Agriculture, April 1910.
- f. 201 "Weekly Bulletin" of the St. Louis Medical Society, June 16, 1910; "Methods for Securing Wholly Normal Manometric Blood-Pressure Tracings from the Quiescent Animal," Clyde Brooks, 1910; "The Action of Alcohol on the Normal Intact Unanesthetized Animal," Clyde Brooks, 1910; "On the Action of Magnesium Sulphate," Clyde Brooks and S.A. Matthews, October 1910.
- f. 202 "A Note on the Absence of Adrenalin in Malignant Renal Hypernephromas," Clyde Brooks, 1911; "The Site of Action of Strychnine in the Spinal Cord," A.H. Ryan and Hugh McGuigan, 1911.
- f. 203 Experiment Station Record, Vol. XXV, No. 5, U.S. Department of Agriculture, 1911.
- f. 204 Experiment Station Record, Vol. XXV, No. 6, U.S. Department of Agriculture, 1911.
- f. 205 "Persistent Patency of the Ductus Arteriosus Botalli in the Dog," Clyde Brooks, 1912; "A New Type of Fat Storing Muscle in the Salmon, *Oncorhynchus Tschawytscha*," Charles W. Greene, 1912; "On the Absorption of Fat by the Salmon Stomach," Charles W. Greene, 1912; "Anatomy and Histology of the Alimentary Tract of the King Salmon," Charles W. Greene, 1912.
- f. 206 "A Clinical and Experimental Investigation of the Therapeutic Value of Camphor," James D. Heard and Clyde Brooks, 1913; "An Undescribed Longitudinal Differentiation of the Great Lateral Muscle of the King Salmon," Charles W. Greene, 1913; "The Bromid Question Experimentally Considered," Charles W. Greene and Theophile K. Kruse, 1913; "Evidence of Fat Absorption by the Mucosa of the Mammalian Stomach," Charles W. Greene and William F. Skaer, 1913.
- f. 207 "A Simplification of the Determination of Total Nitrogen by Colorimetry," Addison Gulick, 1914.
- f. 208 *Collected Reprints from the H.K. Cushing Laboratory of Experimental Medicine*, Volume III, 1913-1914, G.N. Stewart, editor.
- f. 209 *Collected Papers from the H.K. Cushing Laboratory of Experimental Medicine*, Volume V, 1916-1917, G.N. Stewart, editor.
- f. 210 "The Yellow Color in Cream and Butter," L.S. Palmer, 1915; "Present Views in Respect to Modes and Periods of Infection in Tuberculosis," Mazyck P. Ravenel, 1916; "Acidosis in Shock," W.S. McEllroy, 1918; "A Simple All Glass Atomizer," H.S. Newcomer and W.S. McEllroy, 1919; "The Pharmacology of Acacia," by Theophile K. Kruse, 1919; "The Role of the Bromide Salts on Rhythmically Contracting Organs," Theophile Kruse, 1919; "Ralph Edward Sheldon, 1883-1918, In Memoriam," Robert Retzer, 1919; "Methemoglobinemia Due to Bromo-Seltzer Poisoning," W.S. McEllroy, 1919.

- f. 211 "A Method for the Determination of Methemoglobin and Hemoglobin in Blood," W.S. McEllroy, 1920; "The Rate of Methemoglobin Formation From Carboxyhemoglobin," Theophile K. Kruse, 1921; "Studies on the Responses of the Circulation to Low Oxygen Tension," Charles W. Greene and N.C. Gilbert, 1921; "On the Rate of Nitrogen Elimination," W.S. McEllroy and H.O. Pollock, 1921; "A Direct Method for Carbon Monoxide in Blood," Theo. K. Kruse, 1921.
- f. 212 "A Study of Blood Platelets," "The Oxygen Capacity of Bird's Blood," "The Influence of Veratrine and Epinephrine on Skeletal Muscle," Theophile K. Kruse, 1922; "Studies on the Responses of the Circulation to Low Oxygen Tension," Charles W. Greene and N.C. Gilbert, 1922; "A Micro-Method for the Determination of Sugar in Small Amounts of Blood," H.O. Pollock and W.S. McEllroy, 1922; "The Partial Pressure of Oxygen in the Blood During Progressively Induced Anoxemia," Charles W. Greene, 1922; "The Utilization of Oxygen in the Blood at Different Stages of Anoxemia," Carl H. Greene and Charles W. Greene, 1922.
- f. 213 "Human Inheritance," T.H. Morgan, 1924; "John T. Gulick, A Contributor to Evolutionary Thought," Addison Gulick, 1924; "Gases of the Swim Bladder of the California Phosphorescent Fish, *Porichthys Notatus*," Charles W. Greene, 1924.
- f. 214 "Analysis of the Gases of the Air-Bladder of the California Singing Fish, *Porichthys Notatus*," Charles W. Greene, 1924; "The Circulatory System of the Brine Shrimp," Charles W. Greene, 1924; "Physiological Reactions and Structure of the Vocal Apparatus of the California Singing Fish, *Porichthys Notatus*," Charles W. Greene, 1924; "Phosphorescence of *Porichthys Notatus*, the California Singing Fish," Charles W. Greene and Harold H. Greene, 1924.
- f. 215 "Notes on the Olfactory and Other Physiological Reactions of the California Hagfish," Charles W. Greene, 1925; "The Respiratory Gas Percentages During Nitrous Oxid Anesthesia in Dogs," Charles W. Greene and Hiram Currey, 1925.
- f. 216 "The Physiology of the Spawning Migration," Charles W. Greene, 1926.
- f. 217 *Alumni of the School of Medicine*, Charles W. Greene, 1928.
- f. 218 *The Phi Beta Kappa Key*, Volume VII, Number 5, October 1929.
- f. 219 "Relative Blood Volume Changes Following the Use of Intravenous Glucose Injections in Pneumonia," John H.L. Heintzelman, 1931; *The Bulletin of Basic Science Research*, Vol. 3, No. 3, August 1931.
- f. 220 *Proceedings of the Anatomical Institute of Kyoto Imperial University*, Series D, Lymphatology, 1937.
- f. 221 *Studies of the Institute Divi Thomae*, Vol. I, No. 1, June 1937; "A Simple Method For the Estimation of Total Protein Content of Plasma and Serum," Benjamin M. Kagen, 1938; "Observations on the Blood of Workmen Exposed to High Temperatures," Paul L. McLain and Edward S. Montgomery, 1938.

- f. 222 "A Soluble Rod as an Aid to Vascular Anastomosis," Sidney Smith, 1940; "A Method of Blood Volume Determination," L. Hahn and G. Hevesy, 1940; "Observations with a Photo-electric Hemoglobinometer," Paul L. McLain, George G. Pastorius, 1941; "Some Effects of Common Interruptions of Blood Flow in the Nasal Lining," P.F. Swindle, 1941; "Fowl Paralysis," W.J. Hall, 1942; "Effect of Anticoagulants on the Specific Gravity of Blood and Plasma," Paul L. McLain, George J. Pastorius, and C.H. Ruhe; "The Pathologic Physiology of Portal Cirrhosis," Campbell Moses, 1947; "Concurrent Estimates of Blood Volume in Animals by Bleeding and Dye Methods," Paul L. McLain, C.H. William Ruhe, and T.K. Kruse, 1951.
- f. 223 "The Treatment of Internal Carotid Artery Aneurysms by Proximal Arterial Ligation. a Follow Up Study," Samuel Black and William German, 1953; "Physics in Physiology," Paul L. McLain, 1953; "A Clinical and Experimental Determination of Pressure Within the Carotid Arteries," 1953, and "Experimental Production of Carotid Aneurysms," W. German and S. Black, 1954; "A Clamp for Temporarily Occluding Small Blood Vessels," S. Black and W. German, 1954; "To the Physiologically Inclined," Frank C. Mann, 1955; "Intra-Aneurysmal Hemodynamics--Get Action," W. German and S. Black, 1955.
- f. 224 "In Memoriam, Vilray Papin Blair, 1871-1955," Jerome P. Webster, 1956; "Skin and Cartilage Homografts: New Trends in Research and Clinical Use," Lyndon A. Peer, I.S. Walia, and Ruth J. Pullen, 1959; "Progress in Otolaryngology," Lyndon A. Peer, John C. Walker, 1960.
- f. 225 *The G.N. Stewart Memorial Fund* published by the Rogoff Foundation, J.M. Rogoff, Director, 1960.

Alexis Carrel Series

- f. 226-232 Alexis Carrel Correspondence. Correspondence to Guthrie from Alexis Carrel, 1904-1909, discussing their joint experiments and publications, and the work of other researchers. Also correspondence of Guthrie to Carrel, 1907-1908. Correspondence on the work of Guthrie and Carrel includes anastomosis of blood vessels, transplantations of veins, kidneys, ovaries, and other organs.
- f. 233-239 Carrel-Guthrie Manuscripts and Notes, 1905-1906. Miscellaneous experimental notes; manuscripts being prepared for publication: "A New Method for the Homoplastic Transplantation of the Ovary," "Successful Transplantation of Both Kidneys from a Dog into a Bitch with Removal of Both Normal Kidneys from the Latter," "Uniterminal and Biterminal Venous Transplantations and Their Surgical Applications," "Transplantation of Blood Vessels and Organs," "The Relation of Pressure in the Coronary Vessels to the Activity of the Isolated Heart," "Nutrition of the Excised Mammalian Heart,"

- “Anastomosis of Blood Vessels by a Patching Method.” For tracings of heart transplant experiment performed by Guthrie and Carrel in 1904 or 1905 see Vol. I.
- f. 240-242 Anne-Marie Jungmann Correspondence. Correspondence of Guthrie and Anne-Marie Jungmann and material with which Guthrie supplied her for an article to be written on Alexis Carrel. Folder 240 contains “Code of Statutes of the Nobel Foundation” and invitation to Guthrie to nominate a candidate for the Nobel Prize for Physiology and Medicine in 1935.
- f. 243-250 “Origins of Vascular Surgery: The Carrel-Guthrie Letters.” Correspondence with Bernard Fisher and Samuel P. Harbison recounting association with Alexis Carrel; handwritten and typewritten copies of Carrel-Guthrie letters; manuscript and reprint copy of “Origins of Vascular Surgery: The Carrel-Gurthrie Letters” by Samuel P. Harbison, 1962.

Research, Manuscripts, Etc. Series

- f. 251-269 Notes, Drawings, Manuscripts, University of Missouri, 1899-1902. Notes, anatomy and physiology drawings, examinations and manuscripts of C.C. Guthrie as a medical student and research fellow at the University of Missouri. University of Missouri Bulletins, 1899-1900 and 1900-1901; Department of Medicine Announcements, 1899-1900; “Some Observations on the Study of Blood,” 1901-1902; Texas fever notes; apple twig analysis; bacteriology lecture notes; pear blight notes, 1901-1902; typhoid notes, 1902; miscellaneous undated manuscripts on insufflation of lungs with Hydrogen, effect of asphyxia on pupil, suturing blood vessels, engrafted ovaries, testicles, thyroid, and renal tissue.
- f. 270-287 Blood Studies, 1901-1904. Experimental data, notes, and manuscripts and drawings by Guthrie, 1901-1904, including “The Laking of Dried Red Blood Corpuscles”; hematocrit tests, 1901-1902; experiments on the blood of animals and humans at Western Reserve University, 1902-1903; “The Influence of Formaldehyde on the Action of Certain Laking Agents and on Coagulation of Blood”; experimental data, notes, etc. from studies at University of Chicago, 1903-1904; notes for student physiology laboratories, University of Chicago, 1904; “The Effect on the Haemolytic Power of Serum of Intravenous Injection of Formaldehyde and Calcium Chloride.”
- f. 288-315 Experimental Studies, 1905-1909. Notes, anatomical drawings, results, and manuscripts from Guthrie’s experimental studies on animals at the University of Chicago and Washington University covering blood vessel surgery, ovarian transplants, blood vessel transplants, effect of salt solutions on animal tissues, kidney transplants, blood circulation, effect of the asphyxia on the pupil, testicle transplants, “Physiological and Morphological Results of Transplanted Blood Vessels,”

- transplantations of dog's legs and heads; drawings of respiration valves.
- f. 316-342 Experimental Studies, 1909. Notes, experimental results, photographs, and manuscripts from Guthrie's experimental studies on animals carried out at the University of Pittsburgh and covering urine analysis, kidney perfusion, kidney, ovary and testicle transplants, asphyxia on the pupil, fetus transplant, telegony in pigs, grafting together of pigeons and frogs; notes on laking of blood, 1909-1915; physiology lecture material.
- f. 343-368 Experimental Studies, 1910-1911. Notes, experimental results, and manuscripts from Guthrie's experimental studies on animals carried out at the University of Pittsburgh and covering blood vessel anastomosis, survival of engrafted thyroids, kidneys, and blood vessels, asphyxia, ovarian transplants, reflexes of frogs, iso-pelvic girdle transplantation, intravascular foreign bodies, germinal transplantation and survival of engrafted ovaries and testicles. See also folders 939-956. Folder 351 contains frog tracings, May 1910 (OVERSIZE).
- f. 369-411 Experimental Studies, Salt Solutions, 1908-1911. Notes, graphs, drum tracings, and manuscripts from Guthrie's study of anaesthetic properties of Magnesium salts, action of magnesium salts in relation to motor nerve impulses, physiologocity of various solutions and effect on frog's muscles, asphyxia in frogs, and preservation of vitality of isolated frog's muscles.
- f. 412-508 *Blood Vessel Surgery and Its Applications*, 1910-1947. Correspondence, notes, references, drawings and photographs, manuscripts, and proof sheets for Guthrie's book, *Blood Vessel Surgery and Its Application*, published by Edward Arnold and Company, Publishers, London, 1912.
- f. 412-413 Correspondence, 1910-1947.
- f. 414-483 Notes, manuscripts, and figures, 1910-1911.
- f. 484-507 Proof sheets, 1911.
- f. 508 *Blood Vessel Surgery and Its Applications*.
- f. 509-526 *Blood Vessel Surgery* Reprint, 1958-1960. Correspondence of Guthrie with Samuel Harbison and Charles Claude Guthrie, Jr., regarding a reprint edition of *Blood Vessel Surgery and Its Applications*, and the preparation of biographical material, introduction and manuscript for publication. Correspondence with Samuel Black, a reviewer of the book. Folder 526 contains reprint edition of *Blood Vessel Surgery and Its Applications*, 1959.
- f. 527-540 Experimental Studies, Vascular Suture and Ovarian Transplants, 1909-1917. Photographs of experimental animals, organs, and tissues; drum tracings from experiments on frogs' hearts and their responses; manuscripts on vascular suture, 1912, and ovarian transplants, 1915; miscellaneous notes and data on kidney transplants, cerebral spinal fluid, asphyxia, and anesthesia, 1912-1913.
- f. 541-560 *Contributions to Practical Physiology and Pharmacology*, 1915.

- Notes, drawings, photographs, manuscript, and proof sheets of an article written by Guthrie to detail the medical instruments and apparatus developed by his department for student use in the physiology and pharmacology courses. Final printed manual entitled *Contributions to Practical Physiology and Pharmacology*.
- f. 561-610 Physiology, Correspondence and Manuscripts, 1910-1958.
- f. 561-570 Notes, manuscripts, speeches, 1910-1918, medical education goals, animal experimentation, heart physiology, history of physiology.
- f. 571-580 Association of Medical Colleges committee on medical education correspondence with U.S. teachers of physiology to prepare a report on the teaching of physiology, 1920.
- f. 581-601 Notes, laboratory lecture notes and outlines; Mellon Lecture, University of Pittsburgh, 1921; report on progress of teaching of physiology, 1925; correspondence and questionnaires of Association of Medical Colleges committee of physiology, 1925.
- f. 602-610 Physiology lecture notes and manuscripts; "Fundamental Physiology and Pharmacology"; *Laboratory Directions in Experimental Physiology*, 1941, a lab manual by C.C. Guthrie, re-issued in 1947 and 1958.
- f. 611-668 Shock Studies, 1912-1920. Experimental results, notes, tracings and manuscripts prepared by Guthrie from three series of experiments in shock. Manuscripts include "Blood Shock," "Shock," "Experimental Shock," "Interpretation of the Manifestations of Shock," "Observations in Shock," and "Blood in Clinical Shock." Also correspondence and reports of the National Research Council Subcommittee on Shock, which conducted joint research on surgical and traumatic shock during World War I. Committee members were C.C. Guthrie, W.B. Cannon, H.C. Jackson, Yandell Henderson, Joseph Erlanger, T. Sollmann, D.R. Joseph, F.H. Pike, C.J. Wiggers, D.R. Hookes. See Vol. 2-12 for additional shock tracings and experimental results.
- f. 669 Washington University, St. Louis, 1906-1908. Estimates of construction material for operating, sterilizing and preparation rooms and for a dog hospital, department of physiology, Washington University, St. Louis, Missouri. Plans for surgical rooms, 1907-1908.
- f. 670-689 University of Pittsburgh, Reports and Correspondence, 1909-1960. Photographs of physiology department staff and facilities; miscellaneous newspaper clippings; commencement programs 1912, 1914, 1922; inventories of chemicals and equipment, 1916; reports on conditions in the medical school, 1916; correspondence with W.S. McEllroy, 1916-1917, and Ogden M. Edwards, 1920-1938; minutes, correspondence and reports of University of Pittsburgh Society for Biological Research; drawings of building plans for Medical School; statistics and evaluations compiled by Medical School Admissions Committee. Folder 688 contains blueprints and drawings (OVERSIZE).

- f. 690-701 Animal Welfare, Correspondence and Reports, 1912-1969. Articles written by Guthrie on the role of animals in experimental research and their humane treatment; correspondence with W.S. McEllroy regarding inadequate animal quarters for experimental animals at University of Pittsburgh; miscellaneous drawings for animal quarters, brooders and feeders; correspondence with Christine Stevens of Animal Welfare Institute and Institute publications advocating legislation for humane treatment of animals.
- f. 702-806 Inventions and Patent Applications, Food Processing, 1929-1956. Correspondence with Green and McCallister, patent attorneys, and W.S. McEllroy; applications to U.S. Patent Office for patenting of various methods of meat processing, storing, and curing by pickling, dehydration, and other methods. Amendments to patent applications. Negotiations with Armour and Company and Ralston Purina Company to provide a process for rapid curing of meats, improved dog foods and chicken feed. Experimental data from research on chicken feed, meat pickling, etc. Printed literature on animal husbandry and food production.
- f. 807-877 Inventions and Patent Applications, 1922-1944. Correspondence, notes, manuscripts, applications for U.S. letters patent, and drawings of various items invented by Guthrie. Inventions included types of radiator anti-freeze; subpower ammunition adapters or converter cartridges for guns, patent granted February 1, 1938; cellophane, patent granted November 1, 1932; decelerators, patent granted November 24, 1936; engine designs; universal insulation; gas purification by centrifuge; physiologic lensless spectacles, patent granted May 22, 1934; sail powered motor; semi-circular pneumatic tire. Also correspondence by Guthrie with miscellaneous businesses to seek commercial application of patents.
- f. 878-905 Finance, Insurance, Civic Interests, 1908-1943. Results of Guthrie's private investigations of the life insurance business and recommendations for insurance reform, as well as banking reforms and numerous other reforms by the Federal government. Guthrie circulated these ideas in letter essays to national politicians, publishers and other prominent people. Acknowledgements and replies to these letters; miscellaneous newspaper clippings; drafts of speech at commencement luncheon, June, 1935, University of Pittsburgh.
- f. 906-918 Scientists' Pictures, Miscellaneous Pamphlets. Pictures collected by Guthrie of scientists from all fields and all periods of history. Pictures are arranged alphabetically by surname. Miscellaneous pamphlets including catalogues of medical books and medical supplies, 1954-1963. Miscellaneous newspaper clippings.
- f. 919-938 *Science and Religion*, 1930-1935. Drafts of an article by Guthrie entitled *Science and Religion*; copy of final printed edition; correspondence with friends and acquaintances concerning article; correspondence submitting article to various publishers for publication.

- Folder 919 contains two poems composed by Guthrie in 1931, "Life" and "Spring."
- f. 939-956 Experimental Studies, Thyroid and Goitre, 1905-1921. Notes, drawings and manuscripts from Guthrie's experimental studies of circulatory changes on goitre in animals; survival of engrafted thyroid and renal tissue; goitre vaccine; end results of arterial transplants; results of an enlarged thyroid gland nine years after obstructing veins; ovary and testicle transplants in mice.
- f. 957-1018 Medical Instruments and Apparatus, 1907-1944. Correspondence, photographs, data, and manuscripts pertaining to scientific apparatus developed by Guthrie for use in physiology classrooms and research laboratories. Correspondence with R.H. Tontrup and Eimer and Amend Company arranging production and sale of apparatus developed by Guthrie. Data on air analyzer, blueprint finisher, current controller, recording lever, hemogravimeter, pipette controller, myograph, and tracing varnisher. See also volumes 16 and 17 for apparatus tests.
- f. 1019-1093 Blood Studies, 1905-1920. Manuscripts of articles, notes, experimental data, drawings, and tracings of studies by Guthrie on circulation and respiration, blood gas, blocking action on nerves of various salts and other substances, anaesthetic properties of magnesium salts, weight changes in frogs, hydrogen insufflation of lungs, tests on Uskoff bulb or sphyrometer, laking of red blood corpuscles, tentative explanation of mechanism of hemolysis, transfusion and blood volume, and physiological chemistry of influenza. See also volumes 13-16.
- f. 1094-1152 Blood Studies, Blood Gas Analysis, 1917-1927. Experimental data, notes, and manuscripts of articles from research done by Guthrie on cerebral anaemia, acidosis, oxygen absorption by blood, blood gas analysis, anaphylaxis in rabbits, and split second timer. Notes also from research done in conjunction with University of Pittsburgh faculty members.
- f. 1153-1263 Blood Studies, Specific Gravity and Physical Analysis, 1918-1952. Correspondence with H.G. Barbour and W.F. Hamilton concerning blood specific gravity methods and claims of B.F. Kagan. Descriptions and tests of apparatus for determining specific gravity. Notes on tadpole studies and dried tadpole specimens. Results of extensive studies of methods of determining specific gravity by falling drop, blood volume, physical blood analysis, and composition of blood as determined from the weight of its dried solid constituents. Manuscripts of article on physical blood analysis. Study of relation of organ weight to body weight in various animals.
- f. 1264-1340 Muscle-Nerve Studies, 1903-1954. Experimental results, drawings, graphs, tracings, and manuscripts from Guthrie's study of muscle-nerve physiology including nerve end time, refractory and latent period, irritability, conductivity and excitability, interpolated stimuli, muscle-nerve augmentation by strong stimulation, effect of salt solutions on muscle, study of mechanism of stimulus action, humoral transmission

- of vagus effects in frog heart. See also volumes 18-33.
- f. 1341-1403 Heart Studies, 1908-1940. Experimental results, drawings, graphs, tracings, and manuscripts from Guthrie's physiological studies of the heart including study of the relative efficiency of various solutions on the activity of the isolated mammalian heart; tracings of frog and terrapin hearts; circulation in dog, 1910; observations on human heart by direct inspection; and effects of hemorrhage and transfusion on blood pressure and blood. Unpublished manuscript entitled "Some Fundamental Properties and Reactions of Heart Muscle," and drawings, graphs, and revisions of that manuscript. See also volumes 34-87.

Guthrie-Maury Family Papers Series

- f. 1404-1406 Papers and Documents of the Guthrie Family of St. Charles County, Missouri, 1815-1836. Personal correspondence of the Guthrie and Maury families, primarily letters from Robert and Mary Guthrie in Tennessee to Robert and Matilda Guthrie in Missouri. Letters discuss family affairs, including illnesses, visits, births, deaths, and geographic moves of family members. Folder 1405 contains papers pertaining to land grants and acquisition of land. Xerox copies of originals are in folder; photographs are in OVERSIZE. Folder 1406 contains family Bible, 1827, and miscellaneous clippings found in Bible.

Volumes Series

- v. 1-87 Tracings and notes from Guthrie's experimental studies, 1904-1939.
- v. 1 Transplanted heart tracings, August 28, 1904 or 1905; female dog tracings, 1910; resuscitation after asphyxia by cardiac massage.
- v. 2 Shock experiment tracings, experiments 1-17, March 1912-July 1914, April-May 1917
- v. 3 Shock experiment tracings, experiments 18-25, 1917; cerebral anemia, September 1917
- v. 4 Shock, cerebral anemia, experiments 26-31, 1917
- v. 5 Shock, primary acidosis, experiments 32-36, 1917-1918
- v. 6 Shock, rebreathing, CO², nitrogen, oxygen, experiment 37, 1918
- v. 7 Shock, hemorrhage, nerve stimulation, experiment 38, May 2, 1918
- v. 8 Shock, depletion, intravenous injection, experiment 39, May 4, 1918
- v. 9 Shock, acacia on blood volume, experiment 40, May 8, 1918
- v. 10 Shock, acacia, experiment 41, May 15, 1918
- v. 11 Shock, experiments 43-45, June 1919
- v. 12 Shock, reserve capacity, experiments 46-47, 1919-1920
- v. 13 Blood, hydrogen insufflation, 1909-1910
- v. 14 Blood, anesthesia, turtle, July 23, 1914

- v. 15 Blood, metabolism, 1924
- v. 16 Blood, coil tracings, October 24, 1913-Septmeger 29, 1914
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- v. 22 Muscle-nerve studies, Treppè, tetanus, 1916, 1919
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- v. 24 Muscle-nerve studies, augmentation by tetanus and strong stimulatïo, 1917
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- v. 26 Muscle-nerve studies, smooth muscle, frog's stomach, 1917
- v. 27 Muscle-nerve studies, mammalian in various solutions, 1919
- v. 28 Muscle-nerve studies, mammalian in various solutions, 1919
- v. 29 Muscle-nerve studies, Tiegel's phenomenon, in terrupter tests and drum speed tests, 1915, 1919
- v. 30 Muscle-nerve studies, quinidine sulphate on frog skeletal muscle, 1922
- v. 31 Muscle-nerve physiology in frog, 1926
- v. 32 Muscle-nerve studies, frog muscle chronaxie, 1930
- v. 33 Muscle-nerve studies, frog, 1931-1934
- v. 34 Heart studies, turtle heart, 1908
- v. 35 Heart studies, snake, 1908
- v. 36 Heart studies, frog's heart in situ, vagus stimulation, 1915
- v. 37 Heart studies, decapitated cat, automatic stimulation of spinal cord, 1912
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- v. 39 Heart studies, turtle heart in situ, 1914
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- v. 45 Heart studies, frog, isolated ventricle, action of digitalis, 1916
- v. 46 Heart studies, turtle heart, response to single induction shocks, 1916.
- v. 47 Heart studies, ventricle, 1916
- v. 48 Heart studies, turtle, effect of vagus stimulation, 1916
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- v. 72 Heart studies, turtle ventricle strip, turtle muscle, 1922-1930
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Glass Slides and Negatives Series

Boxes 48-51 Four boxes of microscopic glass slides and glass negatives are shelved at the end of the Guthrie volumes. Microscope slides are of tissues of muscles, organs, glands, etc. Slides are labeled. Glass negatives of goitre, eye charts, lensless spectacles, blood gas absorber, graphs, surgical dogs, cats, ducks, and chickens, and two-headed dog.

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