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Guide to the George Wilbur Moffitt Papers 1908-1965



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Table of Contents

Acknowledgments	3
Descriptive Summary	3
Information on Use	3
Access	3
Citation	3
Biographical Note	3
Scope Note	4
Related Resources	5
Subject Headings	5
INVENTORY	5
Series I: Personal Material	5
Series II: Notebooks	6
Series III: Yearbooks and Diaries	7
Series IV: Teaching Materials	9
Series V: Publications	10
Series VI: Yerkes Observatory	10
Series VII: Moffitt vs. Perkins-Elmer Corporation	11
Series VIII: Lantern Slides	12
Series IX: Consultation Files	13
Series X: Miscellaneous	20

Descriptive Summary

Identifier	ICU.SPCL.MOFFITT
Title	Moffitt, George Wilbur. Papers
Date	1908-1965
Size	10 linear feet (20 boxes)
Repository	Special Collections Research Center, University of Chicago Library 1100 East 57th Street Chicago, Illinois 60637 U.S.A.
Abstract	Physicist whose work centered on the design of lenses, lens systems, and optical instruments. The collection contains correspondence, student and professional notebooks, teaching materials, manuscripts and reprints of published articles, technical reports, diaries, drawings, and lantern slides. Also includes files Moffitt maintained as an independent consultant to camera manufacturers, optical companies, war contractors, and other businesses. Papers document Moffitt's work as a scientist and involvement with various organizations including Yerkes Observatory, McDonald Observatory, and Smith-Dietrich Corporation.

Acknowledgments

Information on Use

Access

No restrictions

Citation

When quoting material from this collection, the preferred citation is: Moffitt, George Wilbur. Papers, [Box #, Folder #], Special Collections Research Center, University of Chicago Library

Biographical Note

George Wilbur Moffitt was a physicist active in the first half of the twentieth century; his career was chiefly centered upon the design of lenses, lens systems, and optical instruments.

Moffitt was born to Joab and Stella Moffitt, a prosperous farm couple of Pleasantville, Iowa, in 1887. After attending rural schools, he enrolled in 1906 at the State University of Iowa, majoring in mathematics and minoring in physics. In 1910, he received a bachelor of arts degree and enrolled in the physics department of Stanford University, where he held a teaching assistantship, and from which institution he received a Ph.D. in physics in 1913. From 1913 to 1917 Moffitt taught undergraduates in the physics department at Washington University (St.

Louis), from which he was separated rather bitterly. For the next four years Moffitt served as a research physicist at the Kodak Lab in Rochester, working on photographic lenses, military work, and a home projection lens, as well as other work. From 1922 to 1926 Moffitt was civilian head of the optical laboratory of the Frankfort Arsenal in Philadelphia, where he concentrated upon design and criticism of optical instruments to control weapons fire.

In the latter year Moffitt was appointed to the rank of research associate (with precedence of assistant professors) at the Yerkes Observatory of the University of Chicago at Williams Bay, Wisconsin. There he had few teaching responsibilities, but a heavy program of observation in stellar parallax and other less significant projects. During this period he designed the chief auxiliary instruments of the McDonald Observatory of the University of Texas, including the spectrograph camera; and he also consulted with a number of other clients. In 1937 Moffitt's appointment was terminated, in part due to the fact that the Observatory's parallax program ended, and in part due to the fact that Moffitt was judged not to have published enough. (He had published 17 scholarly articles prior to his appointment at Yerkes, and ten more during his eleven years there, primarily in optics and astronomy; for a dated list, see APPENDIX).

Upon leaving Yerkes, Moffitt entered into an uneasy partnership with the proprietors of a New York optical firm, as Perkins, Elmer, and Moffitt. Perkins and Elmer controlled the capital of the partnership and directed the manufacturing aspect of the firm; Moffitt provided technical advice to the firm and design consultation to the clients of the firm, receiving a guaranteed drawing account in lieu of salary. During this period Moffitt designed a hunting scope, a spotting scope, and other instruments, in addition to work done for outside clients. In 1940, Perkins and Elmer dissolved the partnership and incorporated without Moffitt's consent or participation. This action precipitated a long and bitter suit by Moffitt for a share of the capital gains and goodwill of the partnership, which failed.

Thereafter, Moffitt established himself as an independent consultant, operating from his Ridgewood, New Jersey, home. During the next decade and a half he had a successful practice, providing advice and designs for camera manufacturers, optical companies, war contractors, and other firms. In the period from 1955 to 1956, Moffitt served as a vice-president of the Smith-Dietrich firm, for whom he helped design the lens system for their multi-image "Cin miracle" movie technique. In his later years, Moffitt gradually reduced his consulting, working on his clients' projects only a few hours a week, as his diaries testify. He died in 1965, survived by his wife of 23 years, Ada Rogers Moffitt.

Scope Note

The collection has been divided into ten series. Series I: Personal Material, Series II: Notebooks, Series III: Yearbooks and Diaries, Series IV: Teaching Materials, Series V: Publications, Series VI: Yerkes Observatory, Series VII: Moffitt v. Perkins-Elmer Corporation, Series VIII: Lantern Slides, Series IX: Consultation Files and Series X: Miscellaneous.

At various times in his life Moffitt was extremely careful to preserve his papers; from other periods little documentation is included in this collection. The collection includes copious personal and family correspondence for the period 1908 to 1931, but very little of it subsequent

to that date; notebooks from his student and professorial days, as well as from his observatory days; notes for teaching; manuscripts and reprints of his published articles, 1913-1947; technical reports; "yearbooks" (diaries), 1938-1965; lantern slides for testing instruments and illustration of talks; and other varied papers.

The bulk of the collection, however, 10 out of 20 boxes, is comprised of consultation files, dealing with over 50 institutions, dating from the 1920's to the late 1950's. These files exhibit a very considerable diversity in form. Some files are comprised of only a formal report of work undertaken, typed and bound; but most include rough sketches and drawings; detailed mathematical computations; technical correspondence with the client, and with the manufacturers and suppliers of elements of the system being designed; blueprints; invoices for consultation services; and the like. These files are complicated in structure, since Moffitt's projects usually required several months to bring to completion, and often several years - and Moffitt frequently had several projects in course for a single client at the same time, and yet the papers are not segregated by instrument, nor always could they be, since individual papers often deal with more than one instrument. The papers are not usually dated, and the dates of projects often must be inferred only by correspondence included with them. It is clear that the consultancy files preserved are only fragmentary. Among other things, the papers make it clear that telephone conversations constituted an important element in Moffitt's relations with his clients; and these conversations are rarely minuted in his files.

It is evident that Moffitt was inclined to preserve all his scientific and technical papers, including the most rough sketches and confused working papers. Only infrequently did he label and date these working papers and drafts, so that arrangement of them on a strictly chronological basis would be impossible, and assignment of papers to specific subjects is particularly risky. Moffitt's habit of indiscriminate preservation of notes and papers therefore gives rise to a certain number of miscellany files, which can only roughly be associated with various period, e.g., "Yerkes Miscellany," and "Smith-Dietrich Miscellany."

Related Resources

The following related resources are located in the Department of Special Collections:

<http://www.lib.uchicago.edu/e/spcl/select.html>

Subject Headings

- Moffitt, George Wilbur.
- McDonald Observatory.
- Yerkes Observatory.
- Lenses.
- Optical industry.
- Optical instruments.
- Optical instruments - Design and construction.

INVENTORY

Series I: Personal Material

Box 1

Folder 1

Biographical material

Box 1

Folder 2

General Correspondence, 1908-1916

Box 1

Folder 3

General Correspondence, 1917-1922

Box 1

Folder 4

Family correspondence, 1926-1927

Box 1

Folder 5

Family correspondence, 1928-1929

Box 1

Folder 6

Family correspondence, 1930-1931

Box 1

Folder 7

Professional correspondence, 1930-1931

Box 1

Folder 8

State University of Iowa Alumni Association correspondence, 1963-1964

Series II: Notebooks

Box 2

Folder 1

"Notes on Geology"

Box 2

Folder 2

"Vibratory Motion"

Box 2

Folder 3

"Method of least squares," 1908

Box 2

Folder 4

"Calculations in Calculus," 1908

Box 2

Folder 5

"Theory of Light," 1909

Box 2

Folder 6

"Chemistry laboratory notes," n.d.

Box 2

Folder 7

"Laboratory observations, 1910-1911

Box 2

Folder 8

"Physics, Advanced Electricity," 1911-1912

Box 2

Folder 9

"Observations I." 1911-1913

Box 2

Folder 10

"Lab observations," 1911

Box 2

Folder 11

"Research notes," 1911-1914

Box 2

Folder 12

"Preliminary observations," 1912-1913

Box 2

Folder 13

"Observations II," 1913-1914

Box 2

Folder 14

"General lectures - Stanford, v. III," 1913

Box 2

Folder 15

"Miscellaneous experiments at the 40" Telescope," 1927-1929

Box 2

Folder 16

"Parallax Time Record," 1928-1937

Series III: Yearbooks and Diaries

Box 3

Folder 1

Appointment Book, 1940

Box 3

Folder 2

Monthly Time Book, 1938-1942

Box 3

Folder 3

Appointment Book, 1941

Box 3

Folder 4

Yearbook (diary), 1942

Box 3

Folder 5

Yearbook, 1943

Box 3

Folder 6

Yearbook, 1944

Box 3

Folder 7

Daily Appointment Book, 1944

Box 3

Folder 8

Yearbook, 1945

Box 3

Folder 9

Yearbook, 1946

Box 3

Folder 10

Yearbook, 1947

Box 3

Folder 11

Yearbook, 1948

Box 3

Folder 12

Yearbook, 1949

Box 3

Folder 13

Yearbook, 1950

Box 3

Folder 14

Yearbook, 1951

Box 3

Folder 15

Yearbook, 1952

Box 4

Folder 1

Yearbook, 1953

Box 4

Folder 2

Yearbook, 1954

Box 4

Folder 3

Yearbook, 1955

Box 4

Folder 4

Yearbook, 1956

Box 4

Folder 5

Yearbook, 1957

Box 4

Folder 6

Yearbook, 1958

Box 4

Folder 7

Yearbook, 1959

Box 4

Folder 8

Yearbook, 1960

Box 4

Folder 9

Yearbook, 1961

Box 4

Folder 10

Yearbook, 1962

Box 4

Folder 11

Yearbook, 1963

Box 4

Folder 12

Yearbook, 1964

Box 4

Folder 13

Yearbook, 1965

Series IV: Teaching Materials

Box 5

Folder 1

Electrical Measurements; Geometrical and physical optics

Box 5

Folder 2

General Physics

Box 5

Folder 3

Elementary Optics

Box 5

Folder 4

Electricity and magnetism

Box 5

Folder 5

Geometrical and Physical Optics

Box 5

Folder 6

Examination questions

Box 5

Folder 7

Lecture notes for General Physics classes

Box 5

Folder 8

Electricity and magnetism

Box 5

Folder 9

Electricity and magnetism, Stanford syllabus

Box 5

Folder 10

Heat and electrical measurements

Series V: Publications

Box 6

Folder 1

Patent for refractometer

Box 6

Folder 2

Moffitt manuscripts and accompanying correspondence

Box 6

Folder 3

Offprints of his published articles

Box 6

Folder 4

Frankford Arsenal; Lab Reports, numbers 11-27

Box 6

Folder 5

Frankford Arsenal; Lab Reports, m numbers 28-33

Box 6

Folder 6

Frankford Arsenal; Lab Reports, correspondence

Box 6

Folder 7

Frankford Arsenal; Lab Reports, internal memoranda and project proposals

Series VI: Yerkes Observatory

Box 7

Folder 1

Yerkes Annual Reports, 1927-1928

Box 7

Folder 2

Design Files; Adapter Micrometer; Adapter A for Yerkes 40" telescope

Box 7

Folder 3

Design Files; Circuits

Box 7

Folder 4

Design Files; Hardinge lathe

Box 7

Folder 5

Design Files; Motor drive

Box 7

Folder 6

Design Files; Yerkes 40" telescope windscreen

Box 7

Folder 7

Reports on stellar parallaxes

Box 7

Folder 8

"Cassegrain Spectrograph for the 82" telescope of the McDonald Observatory," draft by GWM

Box 7

Folder 9

Miscellaneous reports and notes from Yerkes

Box 7

Folder 10

Notes and blueprints for parallax camera

Box 7

Folder 11

Photographic equipment file

Box 7

Folder 12

Job Search File

Series VII: Moffitt vs. Perkins-Elmer Corporation

Box 8

Folder 1

Correspondence and memoranda to Moffitt's lawyers

Box 8

Folder 2

Copies of legal papers served and filed

Box 8

Folder 3

Correspondence and cross-examination of Otto Struve

Box 8

Folder 4

Correspondence between Moffitt, Perkins, and Elmer

Box 8

Folder 5

Moffitt's research files on Elmer and Perkins

Box 8

Folder 6

Letters verifying the quality of Moffitt's work

Box 8

Folder 7

Patent for range-finder improvements

Box 8

Folder 8

Combined Optical Industries, Ltd. vs. Coe; Patent case notes

Series VIII: Lantern Slides

Glass lantern slides or transparencies. The slides include photographs of instruments; astronomical bodies, comets, etc.; lens systems diagrams; test patterns for testing instruments; miscellaneous slides to illustrate lectures, etc. About one third of the slides are unidentified.

Box 9

Achromatism; Chromatic diff. of SA; SA; Compound lens; Compound lens system

Box 9

Binocular tester, part 1

Box 9

Binocular tester, part 2

Box 9

Coma; Astigmatic refraction of spherical striae

Box 9

Compensation of flexure in range finder

Box 9

Kodak lens bench; Lens curves

Box 9

Lens bench images

Box 9

Lens curves, B & L T, Lens curves, CKA, Sector chart, single radiant, Mosaic sector chart, Quasrant, quadrant, and total field

Box 9

Lens curves, from von Rohr; Single achromat with front stop; Barrel distortion of window; Pin cushion distortion; R. R. lens; Freedom from distortion

Box 9

Lens testing bench; Lens testing bench, 2nd view; Lens on bench, not centered; Lens on bench, centered; Striae in lens; Lens curvature

Box 9

Paper no. 16

Box 9

Paper no. 17

Box 9

Prismatic refraction & dispersion; Spherical aberration - chromatic differences; Coma; Astigmatic refraction; Field and color curves of lenses; Chart of circles and radial lines

Box 9

Projector performance, 3 slides; Clock chart (faint); Field test chart

Box 9

Slabs of optical glass; Using Abbe refractometer; Moulded lens blanks; Setting disks in grinding shell; Rough grinding; Disks mounted for fin grinding

Box 9

Spectrography camera lens, 4 slides

Box 9

Transmission in instrument slides; Lens curves from von Rohr, 2 slides

Box 9

Types of photographic lenses; Simple lens; Compound lens; Nodal points; Spherical aberration; Chromatic aberration

Box 9

Unidentifies

Series IX: Consultation Files

Box 10

Folder 1

Agfa-Ansco, 1938

Box 10

Folder 2

Akeley-Leventhal, Inc., 1938

Box 10

Folder 3

American Geographical Society, 1938-1940

Box 10

Folder 4

Buhl Optical Company, 1942-1943

Box 10

Folder 5

Buhl Optical Company, 1943

Box 10

Folder 6

Buhl Optical Company, 1944

Box 10

Folder 7

Buhl Optical Company, 1944

Box 10

Folder 8

Buhl Optical Company, 1945-1947

Box 10

Folder 9

Buhl Optical Company, 1948-1949

Box 10

Folder 10

Buhl Optical Company, 1950-1952

Box 11

Folder 1

Cordoba Observatory, 1925

Box 11

Folder 2

Cosmocolor Corp., 1940

Box 11
Folder 3
Dioptric Instrument) (grp., 1943-1947
Box 11
Folder 4
Dioptric Instrument) (grp., 1950-1951
Box 11
Folder 5
Dominion Astrophysical Observatory, 1922-1923
Box 11
Folder 6
Fairchild Aerial Camera Corp., 1938-1940
Box 11
Folder 7
Farnsworth Television and Radio Corp., 1941
Box 11
Folder 8
Farrand Optical Co., 1940
Box 11
Folder 9
Frankford Arsenal, n.d.
Box 11
Folder 10
Jones and Lamson Machine Co., 1931
Box 12
Folder 1
Long Island Optical Co.
Box 12
Folder 2
Long Island Optical Co., Toolmakers' Microscope
Box 12
Folder 3
Lantern Slide Projector Lens Studies, n.d.
Box 12
Folder 4
Mecca Film Laboratories, Mirror Lens
Box 12
Folder 5
William Mogey and Sons, various projects, 1943-1945
Box 12
Folder 6
William Mogey and Sons, Hunting Scope
Box 12
Folder 7
William Mogey and Sons, Spotting Scope
Box 12

Folder 8

Mount Wilson Observatory

Box 12

Folder 9

Max Murray

Box 12

Folder 10

University of Michigan

Box 12

Folder 11

Nassau Photometer; Orthoscopic Eyepiece

Box 13

Folder 1

Natural Color, Inc., 1932

Box 13

Folder 2

Natural Color, 1933

Box 13

Folder 3

Natural Color, 1934-1936

Box 13

Folder 4

Overly Bio-chemical Research Foundation, 1942-1944

Box 13

Folder 5

Perkins Observatory

Box 13

Folder 6

Paul Planar

Box 13

Folder 7

Plasmat Set F/4.5

Box 13

Folder 8

Pioneer Instrument Co., Mark II Sextant Telescope

Box 13

Folder 9

Pioneer Instrument Co., Gun Control Telescope and Quartermaster's Spy-Glass

Box 13

Folder 10

Pioneer Instrument Co., Averaging Bubble Sextant Lens

Box 13

Folder 11

Pioneer Instrument Co., Universal Octant

Box 13

Folder 12

Pioneer Instrument Co., Galilean Telescope

Box 14

Folder 1

Pioneer Instrument Co., Type B-2 Drift Meter

Box 14

Folder 2

Pioneer Instrument Co., Type B-3 Drift Meter

Box 14

Folder 3

Pioneer Instrument Co., Memos and blueprints referring to B-2 and B-3 drift meters

Box 14

Folder 4

Pioneer Instrument Co., Mark VI Drift Meter

Box 14

Folder 5

Pioneer Instrument Co., Mark VI Octant

Box 14

Folder 6

Pioneer Instrument Co., Panoramic Sextant

Box 14

Folder 7

Pioneer Instrument Co., Bubble Viewing Lens

Box 14

Folder 8

Pioneer Instrument Co., Octant Objective

Box 14

Folder 9

Pioneer Instrument Co., Gyro Octant

Box 14

Folder 10

Periscopic Octant

Box 14

Folder 11

Stereoscopic Range Finder and Preliminary

Box 14

Folder 12

Stereoscopic Range Finder and Preliminary

Box 14

Folder 13

Stereoscopic Range Finder and Preliminary, Mark VII Drift Sight

Box 14

Folder 14

Stereoscopic Range Finder and Preliminary, Correspondence with Perkins and Elmer regarding Pioneer research

Box 14

Folder 15

Pioneer Instrument Co., Misc. notes and memos

Box 15

Folder 1

Projection Lenses

Box 15

Folder 2

Q-O-S Corporation, Cork-type camera lenses

Box 15

Folder 3

Q-O-S Corporation, F/4.5 Tessar Enlarging Lens

Box 15

Folder 4

Q-O-S Corporation, Small Distance Meters

Box 15

Folder 5

Q-O-S Corporation, Kino-plasmat

Box 15

Folder 6

Q-O-S Corporation, Projects with Louis Muscat

Box 15

Folder 7

Rifle Scope

Box 15

Folder 8

Rockefeller Institute

Box 15

Folder 9

Ross lenses

Box 15

Folder 10

Spectrocolor Corp., 1933

Box 15

Folder 11

Spectrocolor Corp., 1934

Box 15

Folder 12

Spectrocolor Corp., 1935

Box 16

Folder 1

Spectrocolor Corp., 1936-1938

Box 16

Folder 2

Spotting Scope

Box 16

Folder 3

Stanford University, Schlieren Lenses, 1936-1940

Box 16

Folder 4

Symmetrical Triplets, 1926

Box 16

Folder 5

Smith-Dietrich Corp., Schmidt Television

Box 16

Folder 6

Smith-Dietrich Corp., Correspondence, 1940-1956

Box 16

Folder 7

Smith-Dietrich Corp., Technical Correspondence

Box 16

Folder 8

Smith-Dietrich Corp., Research memoranda, 1956

Box 16

Folder 9

Smith-Dietrich Corp., Camera Finder - Model I

Box 16

Folder 10

Smith-Dietrich Corp., Periscopic Camera Finder - notes and correspondence

Box 16

Folder 11

Smith-Dietrich Corp., 50 mm. Camera Lens - aberration report

Box 17

Folder 1

Smith-Dietrich Corp., Technical Report on camera improvement

Box 17

Folder 2

Smith-Dietrich Corp., Correspondence regarding resignation

Box 17

Folder 3

Smith-Dietrich Corp., Draft contract with Smith-Dietrich, written by Moffitt in 1955

Box 17

Folder 4

Smith-Dietrich Corp., Patent on mosaic motion picture photography, and patent correspondence, 1956

Box 17

Folder 5

Smith-Dietrich Corp., Patent proposal for motion picture camera system

Box 17

Folder 6

Smith-Dietrich Corp., Camera blueprints and designs

Box 17

Folder 7

Smith-Dietrich Corp.

Box 17

Folder 8

Smith-Dietrich Corp., Notes, memoranda, and blueprints

Box 17

Folder 9

Smith-Dietrich Corp., notes and calculations

Box 17

Folder 10

Smith-Dietrich Corp.

Box 17

Folder 11

Smith-Dietrich Corp.

Box 17

Folder 12

Smith-Dietrich Corp.

Box 18

Folder 1

Smith-Dietrich Corp., Miscellaneous notes and calculations

Box 18

Folder 2

Smith-Dietrich Corp.

Box 18

Folder 3

Smith-Dietrich Corp.

Box 18

Folder 4

Smith-Dietrich Corp.

Box 18

Folder 5

Smith-Dietrich Corp.

Box 18

Folder 6

University of Texas, McDonald Observatory, memoranda, notes and calculations

Box 18

Folder 7

University of Texas, correspondence

Box 18

Folder 8

University of Texas, Schmidt Camera

Box 18

Folder 9

University of Texas, Spectrograph camera - notes and diagrams

Box 18

Folder 10

University of Texas, Blueprint of Scheme "C"

Box 18

Folder 11

McDonald Observatory, Spectrograph camera, Cassegrain Arc Lamp

Box 18

Folder 12

McDonald Observatory, Calculations, memoranda, and photographs

Box 19

Folder 1

Two-piece Cemented Achromat

Box 19

Folder 2

Universal Camera Corp.

Box 19

Folder 3

White and Co.

Box 19

Folder 4

Wide-aperture projection lenses

Box 19

Folder 5

Wide-aperture spectrographic lenses

Box 19

Folder 6

Carl Zeiss and Co.

Series X: Miscellaneous

Box 19

Folder 7

Patents and patent correspondence

Box 19

Folder 8

Early Home Movie Projector notes

Box 19

Folder 9

Spherical Aberration notes

Box 19

Folder 10

Micrometer and Adapter Parts; Notes and diagrams

Box 19

Folder 11

Frequency Control for Astronomical Telescopes; notes and correspondence

Box 19

Folder 12

Notes on Lens design and lens geometry

Box 19

Folder 13

Notes on lens grinding machines with accompanying photographs

Box 20

Folder 1

Air-space telescope

Box 20

Folder 2

Meter-erector ochomat

Box 20

Folder 3

Fish-eye lens and spectroheliographic lens

Box 20

Folder 4

Mitchell Camera finder; notes

Box 20

Folder 5

Miscellaneous notes and calculations

Box 20

Folder 6

Miscellaneous drafts and typescripts