
Guide to the Charles Donald and Mary Lea Shane papers MS.270

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Language of Material: English

Contributing Institution: University of California, Santa Cruz

Title: Charles Donald and Mary Lea Shane papers

creator: Shane, Charles Donald

creator: Shane, Mary Lea

Identifier/Call Number: MS.270

Physical Description: 11.2 Linear Feet 17 boxes, 5 oversize boxes

Date (inclusive): 1895-1983

Access

Collection is open for research.

Arrangement

This collection is organized into eight series, with the first seven series containing C. Donald Shane's papers:

1. Alphabetical files
2. Personal and biographical
3. Foreign trips
4. Research
5. Speeches
6. Photographs and illustrations
7. Diplomas, certificates, and regalia
8. Mary Lea Shane papers

Materials within each series are arranged in their original order.

Biographical / Historical

Charles Donald Shane and Mary Lea Heger Shane were key figures at the Lick Observatory during the 20th century. Both were trained in astronomy and were married in 1920, and lived on Mount Hamilton for several years. Donald served as the director of the Lick Observatory from 1945 to 1958, and was integral in the planning and development of the 120-inch reflector telescope, which was named after him in 1978. He is also known in the field of astronomy for his work supporting the existence of aggregated clusters of galaxies, now known as superclusters. Donald married Mary Lea Heger in 1920, who had been working at Lick Observatory since 1919 and went on to earn her Ph.D. in astronomy in 1924. Mary did not pursue a career as an astronomer, but was very involved in the Mount Hamilton community and welcomed visitors from all over the world to the Lick Observatory. She later initiated the preservation and organization of the archives of the Lick Observatory.

Charles Donald Shane was born on September 6, 1895 in Auburn, California. He began his career in astronomy by attending the University of California, Berkeley, and graduating in 1915 with a bachelor's degree. He subsequently accepted a teaching position in mathematics and began his graduate work in astronomy, mathematics, and physics. In 1916, he began a two-year residential fellowship at the Lick Observatory on Mount Hamilton, taught in Oregon and Washington during World War I, then returned for another Lick Observatory Fellowship from 1919-1920. In 1920, Shane earned his Ph.D. degree in astronomy and married Mary Lea Heger, and was also appointed as a professor of mathematics at the University of California, Berkeley. Later he moved to teaching astronomy, and by 1941 he was the chair of the astronomy department at Berkeley. From 1942 to 1945, Shane worked on the Manhattan Project as assistant director for scientific personnel of the Radiation Laboratory in Berkeley and in Los Alamos, New Mexico. After World War II, in 1945, Shane became the director of the Lick Observatory and served for 13 years until 1958. In the 1950s, Shane worked with his assistant Carl Wirtanen to photograph approximately 70% of the night sky with the Lick Observatory's 20-inch Carnegie astrograph. Shane and Wirtanen counted galaxies on each of the 1,246 photographic plates, and showed the existence of aggregates of galaxy clusters. Shane referred to these aggregated clusters as "clouds", and they are now known as superclusters. After he resigned as director, Shane stayed at Lick as an astronomer until his retirement in 1963. On March 19, 1983, Shane passed away at the age of 87.

Mary Lea Heger was born on July 13, 1897 in Wilmington, Delaware. She earned her bachelor's degree from the University of California, Berkeley in 1919, then moved to Mount Hamilton to perform her thesis research at the Lick Observatory. During her time there, she made a discovery of the presence of sodium atoms in interstellar space. She married C. Donald Shane in 1920, and earned her Ph.D. degree at Berkeley in 1924. On Mount Hamilton, Mary enjoyed hosting visitors to the Lick Observatory as the director's wife, and she spent much of her time doing research on the history of the Lick Observatory and its key historical figures. Later she began collecting and preserving materials related to the Lick

Observatory, and in 1966 these documents were moved to the UC Santa Cruz Library as a research collection. In 1982, a ceremony was held at the library to name this collection the Mary Lea Shane Archives of the Lick Observatory (now available as the Lick Observatory Records, collection UA.036). Mary passed away in 1983 at the age of 86.

Preferred Citation

Charles Donald and Mary Lea Shane Papers. MS 270. Special Collections and Archives, University Library, University of California, Santa Cruz.

Related Materials

Related materials can be found in the following series of Lick Observatory records:

[UA.036 Series 3: Directors' files](#)

[UA.036 Series 8: Lick History](#)

To access the full-text PDFs of the oral histories of Charles Donald and Mary Lea Shane on eScholarship, click the links below:

[Shane, Charles Donald \(1895-1983\)](#)

[Mary Lea Heger Shane \(1887-1983\)](#)

Scope and Contents

This collection contains the papers of Charles Donald Shane, director of the Lick Observatory from 1945-1958, and his wife, Mary Lea Shane. Most of the materials are from Charles Donald Shane's professional work at the Lick Observatory and with the University of California, and include professional and personal correspondence, subject and research files, his autobiography, biographical materials on other astronomers, speeches and essays, site reports from Chile and other foreign trips, photographs of family members and travels, and some of his original research materials. The series of Mary Lea Shane papers contain her research on the Lick Observatory, and correspondence related to her work as the curator of the Lick Observatory Archives throughout the last half of the 20th century.

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Subjects and Indexing Terms

Astronomy
Shane, Charles Donald
Shane, Charles Donald
Lick Observatory
Shane, Mary Lea
Shane, Mary Lea

Alphabetical files 1901-1983

Scope and Contents

This series contains Charles Donald Shane's personal and professional correspondence, subject files, reports, and notes. Materials were arranged alphabetically by last name or topic by Charles Donald Shane. Descriptions have been derived from notes on original folders.

box 1

A 1962-1975

box 1

Project Able 1966-1967

Scope and Contents

Contains correspondence related to Project Able, "a proposal for a large sunlight reflecting surface in span to illuminate at night a portion of the earth. Would be harmful to Astronomy. MacVittie Secretary of the AAS and Charles Donald Shane, Chem USA Nat Committee for Astronomy worked to prevent it. The project was abandoned."

box 1	Abrams, John 1945
box 1	Abt, Helmut 1971-1973
box 1	Aitken biography 1951-1976
box 1	American Institute of Physics (AIP) 1971-1982
	Scope and Contents
	Contains mostly material on committees on History of Physics, and Shane's review of Man Discovers the Universe by Berendzen et al.
box 1	Allee 1969-1976
box 1	American Philosophical Society (APS) 1959-1982
	Scope and Contents
	Contains proposals of Whitford and Mayall for membership, proposals of Noack for paper on Hunza, Nicholson papers, correspondence on microfilm of Fraser diary, proposal of membership for Babcock, material on Condon-Birge dispute, matter of the Battlefield of Hastings, and proposed bicentennial program.
box 1	Astronomical Society of the Pacific (ASP) 1970-1975
box 1	Association of Universities for Research in Astronomy (AURA) 1958-1963
	Physical Description: 3 folders
	Scope and Contents
	Includes Articles of Incorporation, by-laws, contract, Shane's meeting notes; and lists of officers, directors, and committees.
box 1	Australia Site Survey 1961-1962
box 1	B 1962-1982
box 2	Baum 1954-1955
box 2	Bidwell 1975-1982
box 2	Blanco 1970-1980
	Scope and Contents
	Includes 1974 report on political conditions in Chile.
box 2	Bok 1967-1974
box 2	C 1964-1980
box 2	CAMP 1965-1968
box 2	CARSO 1963-1964
box 2	Cerro Tololo 1963-1976
box 2	Chile - Copiapo 1961
	Scope and Contents
	Includes photos by Carlos Torres of first trip to top of Chico de Plata.
box 2	Chit Chat Club 1943-1978
box 2	Cloudcroft 1962
box 2	Compendium chapter 1964-1978
box 2	Condon 1948-1969
box 3	Cooperative Program on Galaxies (Shane, Mayall, Kron) undated
box 3	Curtis, H.D. 1968-1971
box 3	D 1962-1980
box 3	Dennes, W.R. 1958-1981
box 3	de Vaucouleurs 1959-1976
box 3	E 1962-1980
box 3	European Southern Observatory (ESO) 1959-1963
box 3	Edmondson 1969-1980
box 3	Edmondson - Chile 1961-1980

box 3	<p>Ehrmann, Charlie 1976 Scope and Contents Correspondence with Mary Lea Shane.</p>
box 3	Einarsson 1974-1979
box 3	F 1962-1980
box 3	G 1968-1979
box 3	H 1963-1980
box 3	Hale Symposium 1969-1982
box 3	Handwriting specimens 1901-1974
box 3	Haro, G. 1960-1963
box 3	Hedy 1969-1979
box 4	History of Astronomy 1964-1967
box 4	Hoag 1969
box 4	Hussey 1969-1971
box 4	International Astronomical Union (IAU) 1964
box 4	Iceland 1966-1978
box 4	Inter-American Astronomy Committee 1959-1974
box 4	Irwin, John 1975-1979
box 4	J 1965-1977
box 4	Jeffers 1973-1979
box 4	K 1961-1982
box 4-5	<p>Kitt Peak National Observatory (KPNO) 1960-1980 Physical Description: 5 folders Scope and Contents Includes material on reorganizations, Carlos Torres reports and correspondence from Chile, Harrell & Harrell committee, dedication ceremony, brochures, information on New Technology Telescope, photographs, maps, and Stock's technical reports from Chile.</p>
box 5	Kron, G.E. 1968-1969
box 5	Kron, Richard 1974-1981
box 5	L 1950-1976
box 5	Lee, Gil 1973-1977
box 5	Leuschner 1972-1974
box 5	Lick, Charles 1966-1974
box 5	Lick Observatory 1959-1982
box 5	Lick Observatory - 75th Anniversary 1963
box 17	Lick Observatory - Budget suggestions 1947
box 5	Lick Observatory - Focus newsletter 1975-1978
box 5	Lick Observatory - Reorganization and southern telescope 1962-1965
box 6	M 1962-1983
box 6	Machris 1967-1968
box 6	Maxwell, Allen 1968
box 6	Mayall 1940-1982 Physical Description: 6 folders
box 7	<p>Mayall/Stock 1963-1965 Scope and Contents Includes correspondence on construction of road to Cerro Tololo.</p>
box 7	Menzel, D. 1963-1977
box 7	Monterey Institute for Research in Astronomy (MIRA) 1977-1982
box 7	Miscellaneous 1961-1982
box 7	Moore, J.H. 1973-1974
box 7	N 1974-1979

box 7	<p>National Academy of Sciences (NAS) 1976-1982</p> <p>Scope and Contents</p> <p>Includes Shane's biographical and bibliographical information and information on a statue of Albert Einstein.</p>
box 7	<p>National Science Foundation (NSF) - Committee proposals for support circa 1948</p>
box 7	<p>New Zealand correspondence 1964-1972</p> <p>Physical Description: 2 folders</p>
box 7, box 17	<p>New Zealand site survey 1961-1964</p>
box 7	Neyman and Scott 1955-1981
box 7	Noack 1967-1980
box 7	O 1958-1964
box 8	Omer, Guy 1967
box 8	Oort, Jan 1960-1971
box 8	Oppenheimer, F 1969
box 8	Organization of Lick Observatory and relation to the University of California - Brode Report 1963
box 8	Orders - miscellaneous 1938-1947
box 8	Osterbrock 1972-1983
box 8	Other observatories 1960-1961
box 8	P 1955-1981
box 8	Peebles 1973-1977
	Physical Description: 2 folders
box 8	Peebles reprints 1973-1978
box 8	Publicity 1960
box 8	R 1967-1979
box 8	Radio Astronomy Laboratory committee 1959-1962
box 8	Radio frequencies 1959-1962
box 8	Rafanelli 1954
box 9	Rowan-Robinson 1972
box 9	Rubin, Vera 1973
box 9	Ryerson, Knowles 1967-1979
box 9	S 1961-1979
box 9	Sandage, Allan 1977
box 9	Santa Cruz campus 1964-1970
box 9	Scurfield 1973
box 9	Seattle 1975
box 9	Sheridan, Mary 1963
box 9	Slack, Lew 1967-1969
box 9	Smith, Robert W. 1977
box 9	Southern Atlas 1966-1970
box 9	Soviet interest 1962
box 9	Space Science Board - Committee on International Relations 1965-1968
box 9	Steinlin, Uli 1966
box 9	Stock 1971-1978
box 9	Struve estate 1963-1967
box 9	Svolopoulos 1963-1971
box 9	T 1965-1975
box 9	Tekapo 1966
box 9	Telescope, 150-inch 1961
box 9	Thimann 1973-1982
box 9	Thomsen, Ivan 1963
box 9	Torres 1979-1980
box 9	UFOs 1967-1975
box 10	University problems 1975-1980

box 10 **Unsold, Albrecht 1970**
box 10 **Vanderbilt 1963-1978**
box 10 **Vaughan 1972**
box 10 **Venezuela 1961-1976**

Scope and Contents

Includes material on instruments, reports and recommendations, Sky & Telescope 1978 magazine issue with report on progress, and Shane journal of 1961 and 1962 visits.

box 10 **Walker 1973**
box 10 **Wood, Harley 1967**
box 10 **Z 1956-1957**
box 10 **Zwicky 1963-1971**

Personal and biographical 1920-1983

Scope and Contents

This series contains Charles Donald Shane's biographical materials, including interviews, his autobiography, and bibliography. Also included are handwritten reports on his time with AURA and ESO, biographical information he wrote on other astronomers, planning materials from his 80th birthday, and some personal correspondence.

Autobiography 1979-1982

Scope and Contents

Contains handwritten drafts of "Chapters in the life of C.D. Shane" in their original order. Listed dates refer to the date of writing.

box 10 **Table of Contents 1980-1982**
box 10 **Childhood and Early Years 1982**
box 10 **Grammar and High School 1980**
box 10 **Student Years in Berkeley 1982**
box 10 **World War I 1982**
box 10 **Life on Mount Hamilton and Personalities 1980**
box 10 **The University Years 1980**
box 11 **Years of World War II 1980**
box 11 **After 1945 - Foreign Trips with Mary, Lick Observatory, Personalities 1981**
box 11 **Shane and Neubauer 1916 Sierra Trip 1979**
box 11 **Shane and Futhey Families 1979-1980**

Interviews of Charles Donald Shane 1967-1982

Scope and Contents

Contains transcripts of interviews of Charles Donald Shane. Folder titles are named for the interviewer, or the name of the project for which Shane was interviewed.

box 12 **Helen Wright Greuter; Elizabeth Calciano 1967-1968**
box 12 **AURA; Bert Shapiro; David DeVorkin 1977-1980**
box 12 **Conversations with Scientists (Carla Reiter) 1982**
box 12 **Robert Dale Hall 1981 September 11**

Scope and Contents

Topics include reception of relativity/quantum theories by astronomers and teaching of astrophysics at UC Berkeley.

box 11
Bibliography 1963, 1980

box 11

Personal correspondence 1920-1983

Scope and Contents

Labeled "of personal interest"

box 11

80th birthday 1975

box 11

European Southern Observatory (ESO) 1980

box 11

My Last Year with AURA 1979

box 11

Jurgen Stock; A.E. Whitford 1980

box 11

Miscellaneous comments 1966-1981

Foreign trips 1916-1980

Scope and Contents

This series contains handwritten and typed reports of Charles Donald Shane's foreign travels, which mostly centered around visiting observatories, planning and advising, and attending conferences. Included are site reports, correspondence, and notes from Shane's role as an advisor for the development of the Cerro Tololo Inter-American Observatory in Chile.

box 12

Trip reports (various) 1916-1962

Chile 1959-1980

box 12

Trip accounts 1960-1961

box 12

Kuiper Mathais - 1961 trip to Chile

box 12

Dr. J. Stock 1963

box 12

Conferences and meetings; Kuiper's general report no.1 1959-1961

box 12

Chile Observatory - History of beginning; Chile legislation correspondence 1961-1980

box 12

Venezuela 1962-1963

box 17

Venezuela - Meeting of Astronomers, Caracas 1961-1962

box 13

New Zealand 1966

box 13

Iceland; Prague 1967-1968

box 13

South America 1970

Research 1920-1946 and undated

box 13

Thesis tables 1920

box 13

Echelle spectrograph material 1946

box 13

Galaxy counts by C.D. Shane and C.A. Wirtanen circa 1954

Physical Description: 2 microfilm reels

box 13

Unidentified undated

Speeches 1950-1973 and undated

box 13

Nebulae, etc. circa 1950

box 13

Tom Fraser and the building of the Lick Observatory 1954

box 14

Lick Observatory 75th anniversary talk 1963

box 14	Chit Chat Club - Mars Experience 1973
box 14	Herschel undated
box 14	Interferometer Theory undated
box 14	Miscellaneous essays undated
	Photographs and illustrations 1901-1970
	Scope and Contents
	This series contains photograph albums, loose photographs, and some illustrations collected by the Shanes. Subjects include members of the Shane family, astronomers and their families at Lick Observatory, and travels to Chile and other parts of South America.
	Albums
box 16	Brazil undated
box 16	Unidentified album undated
box 18	Lick Observatory views and personnel, and other views (Jeffers) 1919-1920
box 19	Lick Observatory, Mount Hamilton 1919-1955
	Scope and Contents
	Includes early photographs of life on Mount Hamilton including Lick astronomers and families.
box 19	Lick Observatory Astronomers, etc. circa 1950
	Scope and Contents
	Includes photographs of astronomers visiting and working at Lick Observatory.
box 20	Chile, South America circa 1960
	Scope and Contents
	Includes photographs of Shane and others, landscapes, and observatory.
box 14	Chile circa 1960-1970
	Scope and Contents
	Includes photographs of La Peineta.
box 14, box 22	Family, travel, and unidentified 1901 and undated
	Scope and Contents
	Includes photographs of Dean Shane, early school photographs of C.D. Shane and Ethel Haskett Shane (first wife of C.D. Shane), group travel photographs in Europe and Canada, and some negatives.
box 14	Mount Stromlo Observatory undated
box 14	Illustrations undated
	Scope and Contents
	Includes 1951 Christmas card from F.G. Gustafsson with watercolor illustration of Lick Observatory and Mount Hamilton.
	Diplomas, certificates, and regalia 1895-1978
box 14, box 17	Diplomas and certificates 1895-1957
	Physical Description: 3 folders
	Scope and Contents
	Includes birth certificate, Oakland High School diploma, Naval Institute certificate, California Academy of Sciences Fellow certificate, and University of California Senior Alumnus certificate.

box 22

Oversized diplomas and certificates 1915-1978

Scope and Contents

Includes honorary degree of doctor of laws, Ph.D., and bachelor's diplomas from UC Berkeley, as well as certificates from the National Academy of Sciences, Royal Astronomical Society, and the American Philosophical Society. Also includes certificates commemorating the naming of the Shane Telescope at Lick Observatory in 1977.

box 21

Regalia undated

Scope and Contents

Commencement regalia includes two hoods and a cap.

Mary Lea Shane papers 1949-1986

Related Materials

More materials created by and related to Mary Lea Shane can be found in the "Astronomers and key figures" section of the Lick History series of the Lick Observatory Records:

[UA.036 Series 8: Lick History](#)

Scope and Contents

This series includes Mary Lea Shane's research notes on the history of Lick Observatory and its prominent figures, drafts of writings, personal correspondence, and correspondence pertaining to the archives of the Lick Observatory and her role as curator.

box 14

American Institute of Physics - Joan Warnow 1969-1972

box 14

Hall, John S. 1977

box 14

Harvard College Observatory history 1972

box 14

Lick, Rosemary 1961-1965

box 14

Moore, Cora Keeler 1949-1971

box 14

Royal Astronomical Society 1977

box 14

Stirling, Josie (Mrs. James) 1956

box 16

Tucker, Jane S. 1949-1986

box 14

Notes on reflectors and refractors 1968

box 14

Notes on Henry Mathews 1949-1971

box 14

Lecture notes on history of Lick Observatory circa 1978

box 14

Research notes for history of Lick Observatory circa 1980

box 14

Research notes for talks and historical writings 1950-1966

box 14

Miscellaneous correspondence 1971-1980

box 15

Personal letters 1932

box 15

History of Lick Observatory, draft 1976 June

box 15

Notes on scrapbooks undated

box 15

Notes on W.H. Wright and R.G. Aitken undated

box 15

Notes on Floyd undated

box 15

Correspondence with Winnie Heron 1974-1981

box 15

Kono Tayee, Clear Lake, and Floyd family history 1972-1981

box 15

Dart/Wright correspondence 1976-1977

box 15

Floyd/Lyons history 1976

box 15

Gopcevic 1956-1982

Physical Description: 2 folders

Scope and Contents

Includes correspondence with Helen Wright Greuter.

box 15

Greuter correspondence 1976

box 15

Gooble, Marion 1971-1979

Scope and Contents

Lake County Chamber of Commerce, Clear Lake

box 15

Clagett, Brice M. 1971-1972

Scope and Contents

Descendant of Richard Floyd and William McAdoo

box 15

Keane, Augustin 1959-1968

Scope and Contents

Attorney for Marian Gopcevic estate

box 16

Miscellaneous notes 1955

box 16

Index card notes undated

Scope and Contents

Contains information on letters of historic interest in Mary Lea Shane's research.