

Arthur Louis Day Papers, 1888-1898, 1902-1918



**Carnegie Institution of Washington
Geophysical Laboratory Archives
Washington, DC**

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May 2018

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GL-2010-01

Introduction

Abstract: This collection contains the personal papers of physicist Arthur Louis Day, who served as first director of the Geophysical Laboratory of the Carnegie Institution of Washington. The papers primarily document Day's personal activities including correspondence with his family while he was a student and then a physics instructor at Yale University and a staff member of the Physikalisch-Technische Reichsanstalt in Charlottenburg, Germany. The papers also document some of Day's professional activities including his work with the optical glass company Bausch & Lomb and with the United States Geological Survey.

Name of Creator: Day, Arthur L. (Arthur Louis), 1869-1960

Extent: 2.5 linear feet: 6 document boxes.

Languages: English and German

Acquisition: The materials in this collection were acquired through two donors: Herman William Birgfeld III in October 2010, and Robert P. Weed in May 2018.

Access Restrictions: There are no access restrictions to this collection.

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Preferred Citation: Arthur Louis Day Papers, 1888-1898, 1902-1918, Geophysical Laboratory, Carnegie Institution of Washington, D.C.

Processing: Processing was completed by Susan A. Schmidt and Shaun Hardy in 2012, and Mary Ferranti in 2018. The finding aid was prepared by Mary Ferranti and Shaun Hardy in May 2018. This collection was processed through the generous support of the Robert and Margaret Hazen Foundation.

Arthur L. Day Biographical Sketch

Arthur L. Day was born in Brookfield, Massachusetts in 1869. He received an A.B. from Sheffield Scientific School at Yale University in 1892, and Ph.D. from Yale in 1894. After graduating, Day spent the next few years teaching physics at Yale. During the summers of 1894 and 1895, Day worked with German physicist Friedrich Kohlrausch studying the conductive properties of electrolytes. In 1897, Day went to the Physikalisch-Technische Reichsanstalt in Charlottenburg-Berlin where he became a staff member. During that time, Day became interested in high-temperature thermometry which became his primary research interest for the next fifteen years.

In 1900, Day accepted a temporary appointment as a physical geologist at the U.S. Geological Survey in their newly established physical laboratory where their principal interest was conducting high-temperature research in silicate equilibria. The position was made permanent in 1901. Day's research at the Geological Survey on the high temperature relations of plagioclase and the extension of the gas thermometer scale to high temperatures caught the interest of the Carnegie Institution of Washington, which awarded him research grants in 1904 and 1905.

Day was hired as director of Carnegie's newly created Geophysical Laboratory in 1907. He continued his research from previous years by extending the standard gas thermometer scale from 1,200 degrees Celsius to 1,600 degrees Celsius in a series of experiments in 1911. His work created a practical temperature scale defined in terms of closely spaced melting points of pure substances. Day then turned his attention to the geophysics and geochemistry of volcanoes and hot springs, including the Hawaiian volcanoes, Yellowstone National Park, Lassen Peak, and The Geysers in California.

During World War I, from 1917 to 1918, Day became head of optical glass production at the U.S. War Industries Board. From 1918 to 1920, Day took a leave of absence from the Geophysical Laboratory to become the Vice President in Charge of Manufacturing at the Corning Glass Works in New York. From 1921 to 1936, he served as the Chairman of Carnegie's Advisory Committee in Seismology, which oversaw a regional seismic monitoring program in southern California. Day advocated for the establishment of the Seismological Laboratory in Pasadena in 1921 and mentored its first director, Harry O. Wood. Day continued as director of the Geophysical Laboratory of the Carnegie Institution until his retirement in 1936.

Day's extensive scientific research spanned the fields of physics, physical chemistry, seismology, volcanology, and glass and ceramic research. Day was awarded John Scott Medal, the Wollaston Medal (Geological Society of London), the Penrose Medal (Geological Society of America), the Bakhuis Roozeboom Medal (Royal Academy of Amsterdam), and the William Bowie Medal (American Geophysical Union).

Day served as vice president of the National Academy of Sciences (1933–1941) and president (1938) of the Geological Society of America, which created the Arthur L. Day Medal in his honor in 1948. Day died in 1960 from a coronary thrombosis. His bequest to the National Academy of Sciences funds the Arthur L. Day Prize and Lectureship, which has been awarded since 1972 to scientists making "lasting contributions to the study of the physics of the Earth."

Scope and Content

This collection contains the personal papers of Arthur Louis Day spanning the years 1888 through 1918, with a gap between the years 1898 and 1902. Approximately half of the collection consists of Day's personal correspondence with his family while he was a student and then a physics instructor at Yale University and a staff member of the Physikalisch-Technische Reichsanstalt in Charlottenburg, Germany. The collection also contains two boxes of photocopied material that document Day's personal and professional activities from 1902 to 1918.

Arrangement

This collection consists of three series contained in six document boxes. Series one contains two subseries. The collection is arranged chronologically by year and thereunder by month.

Series 1: Correspondence, 1888-1898, n.d.

This series consists of approximately 456 letters written by Arthur L. Day primarily to his parents Daniel P. Day and Fannie Hobbs Day. The letters are arranged chronologically.

Series 1, Subseries 1: Letters from Arthur L. Day to his family, 1888-1897

This subseries consists of letters written by Day between the years 1888 and 1897, while Day was attending and then subsequently teaching at Yale University. The letters are mainly to his parents, Daniel P. Day and Fannie Hobbs Day, in Westboro[ugh], Massachusetts. Included are letters Day wrote to his family from Germany during the summers of 1894 and 1895, while he was working with Friedrich Kohlrausch. The letters are arranged chronologically.

Series 1, Subseries 2: Letters from Arthur L. Day to his family, 1897-1898

This subseries consists of letters Day wrote mainly to his parents Daniel P. Day and Fannie Hobbs Day, between the years 1897-1898. Most of the letters were written while Day was working in Charlottenburg-Berlin at the Physikalisch-Technische Reichsanstalt. The letters are arranged chronologically.

Series 2: Correspondence, 1902-1918 (photocopies). 2018.

This series consists of approximately 1500 pages of photocopied correspondence documenting Day's personal and professional activities between the years 1902 and 1918. The letters are arranged chronologically.

Series 3: Manuscripts and photographs, 1915, n.d.

This series consists of one typescript, two handwritten manuscripts, two photographs, and some typed notes.

Folder Listing

Series 1: Correspondence, 1888-1898, n.d.

Series 1, Subseries 1: Letters from Arthur L. Day to his family, 1888-1897

	<u>Box</u>	<u>Folder</u>
Correspondence: Day to Family, 1888, April-September	1	1
Correspondence: Day to Family, 1888, October-December		2
Correspondence: Day to Family, 1889, January-February		3
Correspondence: Day to Family, 1889, March-June		4
Correspondence: Day to Family, 1889, September-October		5
Correspondence: Day to Family, 1890, January-May		6
Correspondence: Day to Family, 1890, June-December		7
Correspondence: Day to Family, 1891, January-April	2	1
Correspondence: Day to Family, 1891, May-December		2
Correspondence: Day to Family, 1892, January-May		3

Correspondence: Day to Family, 1892, September-December		4
Correspondence: Day to Family, 1893, January-March		5
Correspondence: Day to Family, 1893, April-August		6
Correspondence: Day to Family, 1893, September-October		7
Correspondence: Day to Family, 1893, November-December	2	8
Correspondence: Day to Family, 1894, January-March		9
Correspondence: Day to Family, 1894, April-November		10
Correspondence: Day to Family, 1895, January-December		11
Correspondence: Day to Family, 1896, January-December	3	1
Correspondence: Day to Family, 1897, January-May		2
Correspondence: Day to Family, 1897, June-August		3
Correspondence: Day to Family, n.d.		4

Series 1, Subseries 2: Letters from Arthur L. Day to his family, 1897-1898

Correspondence: Day to Family, 1897, September-December		5
Correspondence: Day to Family, 1898, January-November		6

Series 2: Correspondence, 1902-1918

Correspondence, 1902-1907, July-December	4	1
Correspondence, 1908-1910, January-December		2
Correspondence, 1911-1916, January-November		3
Correspondence, 1917, March-August		4
Correspondence, 1917, September-December		5
Correspondence, 1918, January-February	5	1
Correspondence, 1918, March-April		2

Series 3: Manuscripts and photographs, 1915, n.d.

Energy Dissipated by Geysers and Hot Spring, typed manuscript, three pages, n.d.	6	1
Excelsior Geyser Basin, Yellowstone, two b&w photographs, n.d.		2
Beehive [Geyser, Yellowstone], handwritten manuscript, n.d., (fragile condition)		3
Thermoelectric Work, handwritten manuscript, n.d.		4
Original notes on Yellowstone National Park, by W.H. Hallock, typed notes, 1915, (fragile condition)		5

Subject Terms

Topics:	Geysers–Yellowstone National Park Geophysics High temperatures–Research
Occupation:	Geophysicists Physicists

Corporate Names: Carnegie Institution of Washington. Geophysical
Laboratory
Yale University
Physikalisch-Technische Reichsanstalt (Germany)
Bausch & Lomb Optical Company
Geological Survey (U.S.)

Personal Names: Day, Daniel P.
Day, Fannie Hobbs

Forms: Correspondence
Manuscripts
Notes
Photocopies
Photographic prints

Bibliography

Abelson, Philip H. "Arthur Louis Day, 1869-1960." *Biographical Memoirs of the National Academy of Science* 47 (1975): 27-47. Available online:
<http://www.nasonline.org/publications/biographical-memoirs/memoir-pdfs/day-arthur.pdf>

Sosman, Robert B. "Memorial to Arthur Louis Day (1869-1960)." *GSA Bulletin* 75 (1964): P147-P156. Available online: [https://doi.org/10.1130/0016-7606\(1964\)75\[P147:MTALD\]2.0.CO;2](https://doi.org/10.1130/0016-7606(1964)75[P147:MTALD]2.0.CO;2)

Related Collections

Leason Heberling Adams papers, 1919-1968, Manuscript Division, Library of Congress. Finding aid available online : (<http://rs5.loc.gov/service/mss/eadxmss/eadpdfmss/2009/ms009312.pdf>)