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Robert Stanton Avery Papers, 1855-1894

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Collection Overview

Repository:	Smithsonian Institution Archives, Washington, D.C., osiaref@si.edu
Title:	Robert Stanton Avery Papers
Identifier:	Record Unit 7068
Date:	1855-1894
Extent:	2.93 cu. ft. (2 record storage boxes) (1 document box) (1 12x17 box) (1 oversize folder)
Creator::	Avery, Robert Stanton, 1808-1894
Language:	Language of Materials: English

Administrative Information

Preferred Citation

Smithsonian Institution Archives, Record Unit 7068, Robert Stanton Avery Papers

Historical Note

Robert Stanton Avery (1808-1894) graduated from Harvard Divinity School in 1846, but soon turned his attention to mathematics and its application to the physical sciences. Avery taught school in the South, and in 1853 joined the United States Coast Survey (USCS) where he became chief of the Tidal Division. His duties included receiving observer reports taken from tide gauges established on the coasts of the United States and computing tide estimates based on the data received. When Avery retired from the USCS in 1885, he devoted his remaining years to the development of the techniques of phonetic spelling.

Introduction

This finding aid was digitized with funds generously provided by the Smithsonian Institution Women's Committee.

Descriptive Entry

These papers consist of correspondence with members of the United States Coast Survey chiefly concerning tide gauges; descriptions and drawings of working parts of clocks and tide gauges; mathematical equations and tables; records of data connected with Coast Survey work; office notes and vouchers; drafts for articles written and collected by Avery; USCS mathematical and scientific publications; and Avery's phonetic alphabet primers. Also included is correspondence concerning a proposal to print Avery's primers in Great Britain and an obituary of Avery.

Notations within the papers are frequently done in stenography. Knowledge of stenography will be helpful in understanding this material. Correspondents include: Robert Stanton Avery, Alexander Dallas Bache, John Batchelder, Thomas Craig, Julius Erasmus Hilgard, Samuel P. Langley, Macmillan & Co., Levi W. Meech, Benjamin Peirce, Charles Anthony Schott, William Wesley and Son, and B. Westermann & Co.

Names and Subject Terms

This collection is indexed in the online catalog of the Smithsonian Institution under the following terms:

Subjects:

Mathematics
Tide-waters

Types of Materials:

Clippings
Drawings
Manuscripts

Names:

Avery, Robert Stanton, 1808-1894
B. Westermann & Co.
Bache, A. D. (Alexander Dallas), 1806-1867
Batchelder, John, 1791-1871
Craig, Thomas, 1855-1900
Harvard Divinity School
Hilgard, J. E. (Julius Erasmus), 1825-1891
Langley, S. P. (Samuel Pierpont), 1834-1906
Macmillan & Co.
Meech, Levi W. (Levi Witter)
Peirce, Benjamin, 1809-1880
Schott, Charles A. (Charles Anthony), 1826-1901
U.S. Coast and Geodetic Survey
United States Coast Survey
William Wesley and Son

Container Listing

Series 1: CORRESPONDENCE. ARRANGED ALPHABETICALLY 1856-1894.

Box 1

Box 1 of 4	A - C
Box 1 of 4	F - H
Box 1 of 4	L - M
Box 1 of 4	N - P
Box 1 of 4	R - W
Box 1 of 4	Miscellaneous correspondence

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Series 2: RECORDS OF DATA AND COMPUTATIONS.

Box 1

Box 1 of 4	Astronomical
Box 1 of 4	Astronomical
Box 1 of 4	Astronomical, oversize (see Box 3)
Box 1 of 4	Lunar, Paris, Greenwich, Alcyone, 1850-1860
Box 1 of 4	Lunar, Boston, 1855, 1857
Box 1 of 4	Lunar, 1870-1873
Box 1 of 4	Lunar, Honolulu, Hawaii, 1877-1878
Box 1 of 4	Lunar, Sausalito, California, 1878
Box 1 of 4	Meteorological
Box 1 of 4	Tide, San Diego, California, 1854-1874
Box 1 of 4	Tide, Baltimore, Philadelphia, 1855
Box 1 of 4	Tide, Sitka, Alaska Territory, 1867
Box 1 of 4	Tide, Sandy Hook, New Jersey, 1875
Box 1 of 4	Tide, Tahiti, 1878
Box 1 of 4	Tide, oversize (see Box 3)
Box 1 of 4	Notes, figures, and tables (3 folders)

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Series 3: MATHEMATICAL EQUATIONS AND TABLES.

Box 1

Box 1 of 4	Geometric theories, equations, and solutions (3 folders)
Box 1 of 4	Logarithmic tables
Box 1 of 4	Metric system
Box 1 of 4	Tidal formulas
Box 1 of 4	Table of Products of All Integer Numbers Up to 100 Multiplied by 100, by Robert S. Avery
Box 1 of 4	Table of Products of Numbers up to 100, by Robert S. Avery
Box 1 of 4	Table of squares to 1000 squared
Box 1 of 4	Table of the Values of Sin Q, Sin 2Q, Sin 3Q, Cos Q, Cos 2Q, Cos 3Q in Time, by Robert S. Avery
Box 1 of 4	Tables of Factors for Reduction of Transit Observation
Box 1 of 4	Mathematical miscellaneous

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Series 4: CLOCKS AND TIDE-GAUGES.

Box 1

- | | |
|------------|--|
| Box 1 of 4 | Drawings and descriptions of working parts of clocks and tide-gauges. See Box 3. |
| Box 1 of 4 | Papers relating to tide-gauges, and meters |
| Box 1 of 4 | Papers relating to clocks for tide-gauges |
| Box 1 of 4 | Plans for putting up tide-gauges; transportation and accommodations, 1874-1876 |
| Box 1 of 4 | Avery's report of his visit to clock dealers, October 1870 |

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Series 5: OFFICE NOTES.

Box 1

- | | |
|------------|---|
| Box 1 of 4 | Circular concerning working hours, 1867 |
| Box 1 of 4 | Travel expense vouchers |
| Box 1 of 4 | Office notes miscellaneous |

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Series 6: PHONETIC ALPHABET PROJECT.

Box 1

- | | |
|------------|--|
| Box 1 of 4 | Papers concerning the Phonetic Alphabet |
| Box 1 of 4 | Proofs and corrections for Avery's Phonetic Alphabet books |
| Box 1 of 4 | Papers concerning electrotyping |

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Series 7: HANDWRITTEN ARTICLE DRAFTS AND NOTES.

Box 1

- Box 1 of 4 A Brief History of Intemperance and Temperance, by William M. (?) Meech.
- Box 1 of 4 A First Cause Proved from the Nature of Chance, by L. W. Meech.
- Box 1 of 4 A Tabular Statement of Results Computed for Tide Tables for Charts of the Western Coast of the United States, by R. S. Avery.
- Box 1 of 4 A Tide-gauge with Heating Apparatus, by R. S. Avery.
- Box 1 of 4 Barometer
- Box 1 of 4 Character Essential to Success in Life, author unknown.
- Box 1 of 4 Clock
- Box 1 of 4 Clock and Watchwork
- Box 1 of 4 Corrections for the Moon's Parallax
- Box 1 of 4 Description of a Heating Apparatus to use with a Tide-gauge
- Box 1 of 4 Device for regulating the movements of the cylinders of a self-adjusting apparatus
- Box 1 of 4 Dipleidoscope (extract)
- Box 1 of 4 Direction for Starting the Tide-gauge at Fox Island - For the use of the observer
- Box 1 of 4 Discussion by R. S. Avery of the Height of the Tides Observed at San Francisco in 1855
- Box 1 of 4 Discussion by R. S. Avery of the Sidereal Time of Tides Observed at San Francisco in 1855
- Box 1 of 4 Experiments with Spiral Springs
- Box 1 of 4 Extracts from Historical Recollections of Connecticut, author unknown
- Box 1 of 4 For Tide-gauge, Float and Tubes
- Box 1 of 4 Forms for Some Computation in Harmonic Analysis, by R. S. Avery
- Box 1 of 4 (No title) Logarithms
- Box 1 of 4 Magnetic Survey, by Alexander Dallas Bache, circa 1862, pp. 3-51
- Box 1 of 4 Magnetic Survey, by Alexander Dallas Bache, circa 1862, pp. 52-101

- Box 1 of 4 Magnetic Survey, by Alexander Dallas Bache, circa 1862, pp. 102-161
- Box 1 of 4 Mode of Forming a Brief Tidal Table for a Chart, by R. S. Avery
- Box 1 of 4 Mode of Forming a Brief Prediction Tide Table, by R. S. Avery
- Box 1 of 4 New Mode of Approximation
- Box 1 of 4 New Style gauge for North Haven, Maine, and other papers
- Box 1 of 4 Notebook
- Box 1 of 4 Observing Current, by R. S. Avery
- Box 1 of 4 Of the Tide at Papeete, Tahiti, by R. S. Avery, February 13, 1860
- Box 1 of 4 On Recording Tidal Observations, by R. S. Avery
- Box 1 of 4 (No title) relating to origin of language, author unknown
- Box 1 of 4 Plan for a Box Tide-gauge, 1879
- Box 1 of 4 Papers relating to tide observation in the Polar Region
- Box 1 of 4 Preliminary Note on a New Tide Predictor by E. Robert (extract, 1879)
- Box 1 of 4 Self-registering tide gauge
- Box 2
- Box 2 of 4 Suggestions Relative to Tidal Discussion, December 1856
- Box 2 of 4 The Historians of Persia, author unknown
- Box 2 of 4 The Time Argument for Tidal Computations, 1857
- Box 2 of 4 Tide (extract, 1868)
- Box 2 of 4 Tide-gauge with a suspended balance tube glycerine
- Box 2 of 4 To Prof. A. D. Bache, Superintendent of the U. S. Coast Survey, from R. S. Avery, September 1, 1858
- Box 2 of 4 To Prof. A. D. Bache, Superintendent of the U. S. Coast Survey, from R. S. Avery, April 5, 1859
- Box 2 of 4 To Prof. A. D. Bache, Superintendent of the U. S. Coast Survey, from R. S. Avery, June 14, 1859
- Box 2 of 4 To Prof. A. D. Bache, Superintendent of the U. S. Coast Survey, from R. S. Avery, September 22, 1859

Box 2 of 4	To Prof. A. D. Bache, Superintendent of the U. S. Coast Survey, from R. S. Avery, September 30, 1859
Box 2 of 4	To Prof. A. D. Bache, Superintendent of the U. S. Coast Survey, from R. S. Avery, December 23, 1859
Box 2 of 4	To Prof. A. D. Bache, Superintendent of the U. S. Coast Survey, from R. S. Avery, February 26, 1860
Box 2 of 4	To Prof. A. D. Bache, Superintendent of the U. S. Coast Survey, from R. S. Avery, August 23, 1860
Box 2 of 4	Transformation of Mr. Meech's Formula for the Time of a Tide, by R. S. Avery, 1856
Box 2 of 4	Variation of the Needle (extract)
Box 2 of 4	Miscellaneous

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Series 8: PUBLICATIONS.

Box 2

- Box 2 of 4 A General Differential Equation in the Theory of the Deformation of Surfaces, by Thomas Craig, 1879
- Box 2 of 4 Almanac, 1884
- Box 2 of 4 Anti-Phonetic First-book, by Robert Stanton Avery, 1893
- Box 2 of 4 The Astronomical Journal, 1855
- Box 2 of 4 Avery's Phonetic Alphabet, by Robert Stanton Avery, 1893
- Box 2 of 4 Catalogues
- Box 2 of 4 Catalogues
- Box 2 of 4 Civil Service Reform Association
- Box 2 of 4 Committee for the Purpose of Promoting the Extension, Improvement, and Harmonic Analysis of Tidal Observation, 1870
- Box 2 of 4 Directions for the Observation of Tides, 1852
- Box 2 of 4 Directions in Regard to the Operations of the Coast Survey, 1855-1856
- Box 2 of 4 Fluctuations in the Moon's Mean Motion by Simon Newcomb, 1909
- Box 2 of 4 Laws and Regulations relating to the Coast and Geodetic Survey of the United States, 1881
- Box 2 of 4 The Mathematical Magazine, January-October, 1882
- Box 2 of 4 The Mathematical Magazine, January-October, 1883
- Box 2 of 4 The Mathematical Magazine, January-October, 1884
- Box 2 of 4 The Mathematical Visitor, July 1880
- Box 2 of 4 The Mathematical Visitor, January 1881
- Box 2 of 4 The Mathematical Visitor, January 1882
- Box 2 of 4 The Motion of a Solid in a Fluid, by Thomas Craig, 1879
- Box 2 of 4 Nature, August 9, 1883
- Box 2 of 4 Newspaper article, October 8, 1894

- Box 2 of 4 On a Method of Swinging Pendulums for the Determination of Gravity Proposed by M. Faye, by C. S. Peirce, 1879
- Box 2 of 4 On Steady Motion in an Incompressible Viscous fluid, by Thomas Craig, 1880
- Box 2 of 4 On the Tidal Current of New York Bay Near Sandy Hook, by A. D. Bache, 1868
- Box 2 of 4 On Tides and Tidal Action in Harbor, by J. E. Hilgard, 1875
- Box 2 of 4 Philosophic Society of Washington
- Box 2 of 4 Phonetic First-book, by Robert Stanton Avery, 1893
- Box 2 of 4 The Phonetic Primer, by Robert Stanton Avery, 1893
- Box 2 of 4 Photograph of the Tycho region of the Moon
- Box 2 of 4 Report of the Committee Approved for the Purpose of Promoting the Extension, Improvement, and Harmonic Analysis of Tidal Observation, 1872
- Box 2 of 4 Roberts' Tide Predicting Machine, December 1879
- Box 2 of 4 Science, January 4, 1884
- Box 2 of 4 Science of the Tide, by William Whewill, 1834
- Box 2 of 4 Self-Registering Tide Gauge; Instruction for Observers, by A. D. Bache, November 26, 1859
- Box 2 of 4 Tidal Area of San Francisco Bay, 1881
- Box 2 of 4 Tide and Tidal Phenomena, by Henri Mitchell, 1868
- Box 2 of 4 Un Ensayo de Fotografia Lunar, Luis G. Leon, 1909
- Box 2 of 4 United States Coast Survey, 1860
- Box 2 of 4 United States Coast and Geodetic Survey publications, 1868-1875
- Box 2 of 4 United States Coast and Geodetic Survey publications, 1879-1882
- Box 2 of 4 United States Coast and Geodetic Survey publications, 1882-1884
- Box 2 of 4 Papers printed in German
- Box 2 of 4 Lists of publications

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Series 9: LARGE FORMAT MATERIALS.

Box 3

Box 3 of 4 Drawings and notes for working parts of clocks and tidal gauges

Box 3 of 4 Tables, miscellaneous

Box 4

Box 4 of 4 Tidal charts
[Image\(s\): Tidal calculations document \[Image no. SIA2012-1121\]](#)

Oversize

Oversize Calculations (unidentified) - Likely tidal calculations and calculations of mathematical functions, circa 1857

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