

# **Merle Antony Tuve**

## **A Register of His Papers in the Library of Congress**

**Prepared by Joseph Sullivan and Joseph McKeever  
Revised and expanded by T. Michael Womack**



**Manuscript Division, Library of Congress**

**Washington, D.C.**

**1996**

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## Collection Summary

**Title:** Papers of Merle Antony Tuve

**Span Dates:** 1901-1982

**Bulk Dates:** (bulk 1941-1966)

**ID No.:** MSS43448

**Creator:** Tuve, Merle Antony, 1901-1982

**Extent:** 147,000 items; 420 containers plus 1 classified; 168 linear feet

**Language:** Collection material in English

**Repository:** Manuscript Division, Library of Congress, Washington, D.C.

**Abstract:** Physicist. Correspondence, memoranda, speeches, articles, reports, laboratory and personal notebooks, notes, personnel records, printed material, blueprints, diagrams, photographs, and other papers relating to Tuve's administration of government-sponsored scientific projects such as the development of the proximity fuze for the U.S. Navy during World War II.

## Selected Search Terms

The following terms have been used to index the description of this collection in the Library's online catalog. They are grouped by name of person or organization, by subject or location, and by occupation and listed alphabetically therein.

### Names:

Tuve, Merle Antony, 1901-1982

Bush, Vannevar, 1890-1974--Correspondence

Fleming, J. A. (John Ambrose), Sir, 1849-1945--Correspondence

Hafstad, Lawrence, 1904- --Correspondence

Merriam, John C. (John Campbell), 1869-1945--Correspondence

Tatel, Howard E. (Howard Edwin), 1913- --Correspondence

Van de Graaff, Robert Jemison, 1901-1967--Correspondence

Van Doren, Carl, 1885-1950--Correspondence

Weatherwax, James Lloyd, b. 1884--Correspondence

Carnegie Institution of Washington. Dept. of Terrestrial Magnetism

Johns Hopkins University. Applied Physics Laboratory

National Academy of Sciences (U.S.)

National Radio Astronomy Observatory (U.S.)

Whitman, Winifred Gray. Papers of Winifred Gray Whitman (1930-1931)

### Subjects:

Astronomy

Atmosphere, Upper

Cosmic rays

Defense industries

Electricity

Geomagnetism

Geophysics--International cooperation

High voltages

International Geophysical Year, 1957-1958

Nuclear physics

Physics

Physics--Washington (D.C.)--Congresses

Proximity fuzes

Radiation

Science--Societies, etc.

Seismology

Van de Graaff generator

World War, 1939-1945--Science

**Occupation:**

Physicists

## Administrative Information

**Provenance:**

The papers of Merle Antony Tuve (1901-1982), experimental physicist and developer of the proximity fuze during World War II, were donated to the Library of Congress by Tuve in 1972. A small addition was given by Winifred Gray Whitman, wife of the donor, in 1982.

**Processing History:**

The papers of Merle Antony Tuve were arranged and described in 1974. Additional material received in 1982 was incorporated into the collection in 1996.

**Copyright Status:**

Copyright in the unpublished writings of Merle Antony Tuve in these papers and in other collections of papers in the custody of the Library of Congress has been dedicated to the public.

**Security Classified Documents:**

Government regulations control the use of classified material in this collection. Manuscript Division staff can furnish information concerning access to and use of classified items.

**Preferred Citation:**

Researchers wishing to cite this collection should include the following information: Container number, Merle Antony Tuve Papers, Manuscript Division, Library of Congress, Washington, D.C.

## Biographical Note

<i>Date</i>	<i>Event</i>
1901, June 27	Born, Canton, South Dakota
1922	B.S., University of Minnesota, Minneapolis, Minn.
1922-1923	Teaching fellow, University of Minnesota, Minneapolis, Minn.
1923-1924	Instructor in physics, Princeton University, Princeton, N.J.
1924-1926	Instructor in physics, Johns Hopkins University, Baltimore, Md.
1926	Ph.D., Johns Hopkins University, Baltimore, Md.
1926-1946	Member, Department of Terrestrial Magnetism, Carnegie Institution, Washington, D.C.
1927	Married Winifred Gray Whitman
1940-1945	Director, Section T, Office of Scientific Research and Development
1945-1946	Director, Applied Physics Laboratory, Johns Hopkins University, Silver Spring, Md.
1946-1966	Director, Department of Terrestrial Magnetism, Carnegie Institution, Washington, D.C.

1966 Retired  
1982, May 15 Died, Bethesda, Md.

## Scope and Content Note

The papers of Merle Antony Tuve span the years 1901-1982, with the bulk of the items concentrated in the period between 1941 and 1966. The collection focuses on Tuve's work as a physicist and consists of ten series: [Family Correspondence](#), [General Correspondence](#), [Laboratory File](#), [Administrative File](#), [Subject File](#), [Speeches and Writings](#), [Miscellany](#), [Printed Matter](#), [Notebooks of Winifred Gray Whitman](#), and [Addition](#). Included in the papers are correspondence, memoranda, reports, laboratory and personal notebooks, diagrams, blueprints, personnel records, speeches, articles, notes, photographs, and near-print and printed matter.

Although some of Tuve's files are personal in nature, the greater number concern his administration of government-sponsored scientific projects such as the development of the proximity fuze for the United States Navy during World War II. Other [administrative office files](#) reflect his directorship of the Applied Physics Laboratory of Johns Hopkins University, 1945-1946, and the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, 1946-1966. Subjects of note include the Radio Astronomy Project at Greenbank, West Virginia, seismics, cosmic-ray flares, magnetism, and the composition of the upper atmosphere. Material in the file relating to the Applied Physics Laboratory concerns the conversion of war industries to peacetime use. Other topics of interest are the International Geophysical Year, the National Academy of Sciences, and the Washington Conference on Theoretical Physics, 1939-1940.

A sizable portion of the files in the [Laboratory](#) and [Miscellany](#) series relate to Tuve's academic years, his early teaching career, and his experimental research projects before 1940 with the Carnegie Institution. Project reports, many in Tuve's handwriting, describe experiments with high voltage, the Van de Graaff magnetic field, and basic studies in nuclear physics. Of interest are Tuve's personal notebooks in the [Miscellany](#) series which reflect his thoughts on a wide range of topics. The collection also contains scientific [notebooks](#) of Tuve's wife, Winifred Gray Whitman. On the medical staff of St. Elizabeth's Hospital in Washington, D.C., Whitman, who retained her maiden name, collaborated with Tuve from 1928 to 1932 in analyzing the effects of high frequency resonance radiation on animals. The notebooks, which record experiments relating to this subject, cover the period 1930-1931 and contain observations in Tuve's handwriting and notations by Whitman.

Among Tuve's prominent correspondents are Vannevar Bush, John A. Fleming, L. R. Hafstad, John Merriam, Howard Tatel, Robert J. Van de Graaff, Carl Van Doren, and J. L. Weatherwax.

The [Addition](#) contains correspondence, writings, and miscellaneous material. For the most part, the correspondence in this addition consists of exchanges of letters between Tuve and professional colleagues and friends concerning physics, astronomy, terrestrial magnetism, and related topics during the period following his retirement until his death. There is a small amount of correspondence concerning family matters.

Writings among the addition are divided into two sections, writings by Tuve and writings by others. Writings by Tuve include offprints of scientific papers, speeches, and eulogies. Of note is Tuve's 1973 publication *Velocity Structures in Hydrogen Profiles*, coauthored with Soren Lundsager. Writings by others consist primarily of offprints written by colleagues as well as a copy of the doctoral dissertation by each of Tuve's children. Also included are drafts of *The Deadly Fuze: The Secret Weapon of World War II*, submitted to Tuve for commentary by the author, Ralph B. Baldwin. This work, published in 1980, chronicles the efforts of Tuve and other scientists in the field of weapons research.

Miscellany includes awards, biographical material, obituaries, retirement material, and wills. Also represented are organizations such as the American Geophysical Union, the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, the Cosmos Club, the Applied Physics Laboratory of Johns Hopkins University, and the National Academy of Sciences, for which Tuve served as home secretary for many years. There are biographical files on Tuve's children as well as his father, sister, and brothers, and numerous photographs, including images of buildings, Tuve family members, award and dedication ceremonies, luncheons and receptions, demonstrations of electronic equipment, and group portraits of formal gatherings as well as single portraits of Tuve. The file on the Ronne Antarctic Research Expedition details the discovery and naming of Mt. Tuve on the southernmost continent.

## Organization of the Papers

The collection is arranged in eleven series:

- Family Correspondence, 1915-1953
- General Correspondence, 1912-1972
- Laboratory File, 1928-1940
- Administrative File, 1941-1969
- Subject File, ca. 1920-1972
- Speeches and Writings, 1920s-1960s
- Miscellany, 1914-1960s
- Printed Matter, 1908-1960s
- Notebooks of Winifred Gray Whitman, 1930-1931
- Addition, 1901-1982, n.d.
- Classified, 1941

## Description of Series

<i>Container</i>	<i>Series</i>
BOX 1	<b><u>Family Correspondence, 1915-1953</u></b> Letters between Tuve and family members. Arranged alphabetically by name of family member.
BOX 2-3	<b><u>General Correspondence, 1912-1972</u></b> Letters sent and received. Arranged chronologically.
BOX 4-25	<b><u>Laboratory File, 1928-1940</u></b> Correspondence, reports, notes, diagrams, mimeographed material, personnel records, printed matter, and miscellaneous material concerning Tuve's work in the Terrestrial Magnetism Department of the Carnegie Institution. Arranged chronologically by year.
BOX 26-255	<b><u>Administrative File, 1941-1969</u></b> Correspondence, reports, notes, diagrams, blueprints, mimeographed material, personnel records, printed matter, and miscellaneous material comprising the director's office files for the Office of Scientific Research and Development, the Applied Physics Laboratory of Johns Hopkins University, and the Department of Terrestrial Magnetism of the Carnegie Institution. Each file is arranged by period.
BOX 256-357	<b><u>Subject File, ca. 1920-1972</u></b> Mostly files related to Tuve's scientific interests beyond his direct duties as director of the Carnegie Institution's Department of Terrestrial Magnetism. Arranged alphabetically by subject.
BOX 358-369	<b><u>Speeches and Writings, 1920s-1960s</u></b> Typed and printed articles and speeches. Unarranged.
BOX 370-403	<b><u>Miscellany, 1914-1960s</u></b> Notebooks, student and teaching materials, correspondence, desk calendars, etc. Arranged by type of material.
BOX 404-411	<b><u>Printed Matter, 1908-1960s</u></b>
BOX 411-413	<b><u>Notebooks of Winifred Gray Whitman, 1930-1931</u></b> Research notebooks kept by Whitman, Tuve's wife, at Johns Hopkins University relating to radiation and cancer.
BOX 414-420	<b><u>Addition, 1901-1982, n.d.</u></b> Correspondence and writings by Tuve and others, arranged chronologically, and miscellaneous material, arranged alphabetically by name of individual, organization, topic, or type of material.
BOX CL1	<b><u>Classified, 1941</u></b> Report removed from the Office of Scientific Research and Development subseries within the Administrative File. Organized and described according to the series, box, and folder from which the item was removed.

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<b>BOX 4-25</b>	<b>Laboratory File, 1928-1940</b> Correspondence, reports, notes, diagrams, mimeographed material, personnel records, printed matter, and miscellaneous material concerning Tuve's work in the Terrestrial Magnetism Department of the Carnegie Institution. Arranged chronologically by year.
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<b>BOX 26-255</b>	<b>Administrative File, 1941-1969</b> Correspondence, reports, notes, diagrams, blueprints, mimeographed material, personnel records, printed matter, and miscellaneous material comprising the director's office files for the Office of Scientific Research and Development, the Applied Physics Laboratory of Johns Hopkins University, and the Department of Terrestrial Magnetism of the Carnegie Institution. Each file is arranged by period.

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## Printed Matter, 1908-1960s

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