Howard Edwin Tatel Papers, 1924-1960
(Bulk 1945-1957)

Carnegie Institution of Washington
Department of Terrestrial Magnetism Archives
Washington, DC

Finding aid written by:
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Introduction

Abstract: This collection contains the personal papers of physicist, Dr. Howard E. Tatel, throughout his employment at the Department of Terrestrial Magnetism of the Carnegie Institution of Washington. They span roughly 12 years, including correspondence, drawings, notes, and manuscripts. Tatel's work in radio astronomy and seismology, as well as many other topics are documented.

Extent: 4 linear feet; 3 records center cartons, 1 flat box, 2 map folders

Acquisition: The records have been in the possession of the Department of Terrestrial Magnetism (DTM) since their creation.

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

Preferred Citation: Howard Edwin Tatel Papers, 1924-1960, Department of Terrestrial Magnetism, Carnegie Institution of Washington, Washington, D.C.

Processing: This collection was processed by Ann Mulfort in March 2005 through the generous support of the National Historical Publications and Records Commission.

H.E. Tatel Biographical Sketch

Howard Edwin Tatel was born on December 22, 1913 in New York City. After completing his B.S. and M.S. degrees in 1935 and 1936 at the Massachusetts Institute of Technology, he earned a Ph.D. from Stanford University in 1939. He was a Research Associate in nuclear physics at the University of Michigan from 1939-1941 when he was called upon by the Carnegie Institution of Washington (CIW) to aid in their defense work for the OSRD (Office of Scientific Research and Development) directed by then President of Carnegie, Dr. Vannevar Bush. Throughout World War II, he worked on the proximity fuze project with Dr. Merle A. Tuve at the Applied Physics Laboratory of Johns Hopkins University.

As the newly appointed director of the Department of Terrestrial Magnetism (DTM), Tuve hired Tatel in September, 1947 to work on explosion seismology. In 1948, Tatel was named Chairman of DTM's Earth Crust Section. During his tenure, major seismologic expeditions included California in 1949; Canadian Shield, Puget Sound, and Mesabi Range studies in 1951; Colorado Plateau in 1954; Alaska and Yukon Territory in 1954; and the Andean Expedition of 1957. The 1957 expedition to Peru, Bolivia, and Chile was in conjunction with the International Geophysical Year (IGY). Tatel served as the US Secretary of the Panel on Seismology and Gravity during this expedition. This was his last expedition. Tatel died on November 15, after

emergency surgery to remove a brain tumor. He left behind wife Molly (married in 1938), son David, and daughter Judith.

Although devoting most of his work to seismology, Tatel also studied gravity and radio astronomy. His talent for developing special equipment flourished. These talents culminated in the patents of several of his autonomous and cooperative designs: magnetic detonator, projectile radio sonde, telemetric gages, anti-collision system for ships and planes, as well as components of the proximity fuze. In addition, his work leading to the design and production of a radio telescope for DTM was recognized in 1958 by the naming of the Howard E. Tatel Telescope at the National Radio Astronomy Observatory (NRAO) in Green Bank, WV. He was a member of the American Geophysical Union and the USA National Committee of the International Scientific Radio Union, as well as a fellow of the American Physical Society and a board member of the American Geological Institute.

Scope and Content
This collection contains the personal papers of Dr. Howard Edwin Tatel throughout and after World War II until his death in 1957. Materials include correspondence, notes, manuscripts, publications, drawings, equipment designs, and photographs. His interests and work in such varied fields as radio astronomy, cosmic rays, gravity, nuclear physics, and seismology are documented. In addition, his talent for equipment design development is revealed in this collection.

Arrangement
This collection is arranged in three series:

Series 1: General, 1934-1935, 1938, 1940, 1942-1943, 1945-1957, n.d.
Series 2: Radio astronomy, 1944, 1946, 1952-1957, n.d.
Series 3: Seismology, 1924, 1946-1957, 1959-1960, n.d.

The files are arranged alphabetically within each series, with the exception of the Seismic Monograph materials in series 3. They are arranged in chapter order after the notes and outlines files.

Series 1: General, 1934-1935, 1938, 1940, 1942-1943, 1945-1957, n.d.
This series contains correspondence; drawings; notes; foreign scientific reprints; and photographs which demonstrate the breadth of Tatel's scientific interests and work. Of note in this series is the assembly of Tatel's series of lectures (1947-1948) containing over 200 pages, with former DTM Director John Fleming's commendation to DTM for adding Tatel to its staff. (See ["Geophysical Notes" Lecture Series] file.)

Series 2: Radio astronomy, 1944, 1946, 1952-1957, n.d.
This series includes telescope and antenna drawings; photographs; correspondence; graphs; and calculations which demonstrate Tatel's talent for designing equipment. He worked extensively with the Blaw-Knox Company of Pittsburgh to create a radio telescope for DTM. Although he died before seeing his vision realized, an 85 foot telescope was constructed and named in his memory in 1958. It was the first major radio telescope to be installed at the National Radio Astronomy Observatory in Green Bank, WV. As of 2000, it was still in use.

Series 3: Seismology, 1924, 1946-1957, 1959-1960, n.d.
This series contains correspondence; photographs; graphs; calculations; notes; drawings; foreign scientific reprints; and manuscripts of articles and an unpublished partial monograph. The monograph files contained in this series are a collaboration between Tatel and DTM Director, Dr. Merle A. Tuve. Upon Tatel's death, it appears that Tuve added notes (1959-1960), but did not complete the project. These files are arranged first by notes and outlines, then by chapter number as listed in the outline file.

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Subject Terms

Topics: Radio astronomy
Seismology

Occupation: Geophysicists
Physicists

Corporate Names: Carnegie Institution of Washington. Dept. of Terrestrial Magnetism.

Personal Names: Tuve, Merle Antony, 1901-1982.

Forms: Calculations
Correspondence
Design drawings
Graphs
Lecture notes
Manuscripts

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Related Collections

Merle Antony Tuve Papers, Manuscript Division, Library of Congress, Washington, D.C.

Seismology Program Records, 1932-2001, Department of Terrestrial Magnetism, Carnegie Institution of Washington, Washington, D.C.