

Guide to the Beatrice Tinsley Papers

MS 2130



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Collection Overview

REPOSITORY: Manuscripts and Archives
Yale University Library
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CALL NUMBER: MS 2130

CREATOR: Tinsley, Beatrice M.

TITLE: Beatrice Tinsley papers

DATES: 1962–1993

PHYSICAL DESCRIPTION: 4 linear feet (9 boxes)

LANGUAGE: The materials are in English.

SUMMARY: The collection documents Beatrice Tinsley's life and career spent studying the formation and evolution of galaxies and her dedication to scientific inquiry. The collection contains items and documents showing the progression of her work, recording how she collaborated with renowned astronomers and scientists across the world. The collection also contains materials related to her time as a faculty member at Yale, pushing for initiatives focused on affirmative action and the recruitment of women to Yale's faculty. The Beatrice Tinsley papers consists of research materials, manuscripts, notes, notebooks, correspondence, personal papers, and photographs.

ONLINE FINDING AID: To cite or bookmark this finding aid, please use the following link: <https://hdl.handle.net/10079/fa/mssa.ms.2130>

Requesting Instructions

To request items from this collection for use in the Manuscripts and Archives reading room, please use the request links in the HTML version of this finding aid, available at <https://hdl.handle.net/10079/fa/mssa.ms.2130>.

To order reproductions from this collection, please go to http://www.library.yale.edu/mssa/ifr_copy_order.html. The information you will need to submit an order includes: the collection call number, collection title, series or accession number, box number, and folder number or name.

Key to the container abbreviations used in the PDF finding aid:

b. box
f. folder

Administrative Information

Immediate Source of Acquisition

Transferred from the Yale Astronomy Library, 2022.

Conditions Governing Access

The materials are open for research.

Conditions Governing Use

Copyright and other associated proprietary rights for unpublished materials authored or otherwise produced by Beatrice Tinsley was transferred to Yale University. These materials may be used for non-commercial purposes without seeking permission from Yale University as the copyright holder. For other uses of these materials, please contact beinecke.library@yale.edu. Copyright status for other collection materials is unknown. Transmission or reproduction of materials protected by U.S. Copyright Law (Title 17, U.S.C.) beyond that allowed by fair use requires the written permission of the copyright owners. Works not in the public domain cannot be commercially exploited without permission of the copyright owners. Responsibility for any use rests exclusively with the user.

Preferred Citation

Beatrice Tinsley Papers (MS 2130). Manuscripts and Archives, Yale University Library.

Processing Information

Collections are processed to a variety of levels, depending on the work necessary to make them usable, their perceived research value, the availability of staff, competing priorities, and whether or not further accruals are expected. The library attempts to provide a basic level of preservation and access for all collections and does more extensive processing of higher priority collections as time and resources permit.

Biographical / Historical

Astronomer Beatrice Tinsley was born Beatrice Muriel Hill in Chester, England in 1941.

Tinsley attended the University of Canterbury in Christchurch, New Zealand, and graduated with a master's degree in physics, chemistry, and mathematics. While there, she married Brian Tinsley, a classmate in the physics program. She moved with him to Texas, after he accepted a position at the University of Texas at Dallas, but she immediately found life away from astrophysics and research unfulfilling.

Tinsley enrolled in the University of Texas at Austin in 1964, becoming the only woman in the astronomy Ph.D. program at the time. She received her Ph.D. in 1968, writing her dissertation on the expansion of the universe and the inconstant nature of galaxies. During this time, she and her husband adopted their son, Alan and later, their daughter, Teresa. In 1972, with James Gunn, J. Richard Gott and David Schramm, Tinsley began work on research to prove the universe was expanding and would continue to expand forever.

The family moved to Pasadena, California, where Tinsley worked at the California Institute of Technology and continued her research. In 1974, her paper, *An Unbound Universe* was published in the *Astrophysical Journal*. The paper was credited with challenging the accepted theories of the universe and ushering in a

new generation of cosmologists. Following the paper's publication, Tinsley received the 1975 Annie Jump Cannon Award, an award given annually to women with "outstanding research and promise for future research."

Towards the end of 1975, Tinsley accepted a position at Yale University as its first female astronomy professor. During her time at Yale, Tinsley was a revered teacher and mentor to students. The research she conducted and led at Yale contributed to the widespread acceptance of the big bang theory. Her paper, co-authored with Richard Larson, titled *Star Formation Rates in Normal and Peculiar Galaxies* in 1978 was instantly impactful, illustrating models for hundreds of galaxies.

Tinsley organized and hosted a widely attended conference at Yale on galaxy evolution and star formation in 1977 and transcribed the proceedings. The transcriptions were later turned into a book titled *The Evolution of Galaxies and Stellar Populations: Conference at Yale University, May 19-21, 1977*. In 1978, Tinsley was diagnosed with melanoma and underwent surgery and chemotherapy that was ineffective. Beatrice Tinsley died on March 23, 1981. Her final paper, *Chemical Evolution in the Solar Neighborhood*, was published in the *Astrophysical Journal* posthumously.

Tinsley was also very active outside of physics and astronomy, working and advocating with Zero Population Growth and Planned Parenthood. At Yale she dedicated time to advocating for affirmative action and hiring women to the faculty. She was also an active musician and avid fan of literature.

Sources: Catley, Christine Cole. *Bright Star: Beatrice Hill Tinsley Astronomer*. Cape Catley Ltd. Auckland, New Zealand. 2006. Hill, Edward. *My Daughter Beatrice*. The American Physical Society. 1986.

Scope and Contents

The Beatrice Tinsley papers document the research and life of astrophysicist and Yale faculty member, Beatrice Tinsley (1941-1981). The papers consist of correspondence, work files, research notes, research proposals, grant reports, notebooks and workbooks, manuscripts, grant applications, and conference proposals and reports. Also included are materials covering topics outside of astrophysics, including papers and work on affirmative action and the recruitment of women to Yale. The material covers the approximate dates 1967-1981, with some posthumous material dating to 1993.

In some folders, clippings and excerpts of published articles are included with research and correspondence. These articles have been retained for context, as the correspondence or research material relates to the subject of the articles, and often includes annotations by Tinsley.

The collection includes personal documents, including papers Tinsley held relating to her immigration to the United States, photographs of family members, and portraits of her throughout her career. Also included are undated poetry manuscripts.

Finally, posthumous material, compiled by colleagues following her death, is included with the collection. This consists of the program and register book for her memorial and funeral, clippings and manuscripts of obituaries, as well as pre-published versions of papers her research inspired.

Arrangement

Arranged into five series: Series I. Research, 1962-1981. Series II. Correspondence, 1967-1981. Series III. Professional papers, 1967-1980. Series IV. Personal papers, circa 1963-1980. Series V. Posthumous material, 1981-1993.

Collection Contents

Series I: Research, 1962–1981

Series I. consists of manuscripts, notes, mathematical analyses, hand-drawn charts and graphs, some correspondence around research topics, grant funding proposals and reports, and published papers frequently with annotations.

Arranged chronologically.

b. 1, f. 1	Theory of the Crystal Field in Neodymium Magnesium Nitrate (Master's thesis)	1962
b. 1, f. 2	Notebooks, research notes	1965–1971
b. 1, f. 3	Equivalent Widths of Interest for Studies of the Composition and Evolution of Galaxies (PhD dissertation)	1967
b. 1, f. 4	Research manuscripts, typescript	1967–1979
b. 1, f. 5	Open clusters	1971
b. 1, f. 6	Notebooks, research notes	1971–1980
b. 1, f. 7	Hoyle-Narliker Cosmologies	1972
b. 1, f. 8	Mass luminosity and color of spiral galaxies	1973–1974
b. 1, f. 9	Galaxy profiles	1974–1977
b. 1, f. 10	Elliptical Galaxies M-L-Z theory	1975–1978
b. 1, f. 11	Sloan fellowship	1975–1979
b. 2, f. 1	NSF grant project, Studies in Galactic Evolution	1975–1979
b. 2, f. 2	Evolution of Chemical Abundances and Stellar Populations, lecture	1976
b. 2, f. 3	CNO Research, models	1976–1977
b. 2, f. 4	Variable G. Cosmologies	1977
b. 2, f. 5	Space Telescope, Wide Field Camera	1977
b. 9, f. 1	Space Telescope, Wide Field Camera blueprints	1977
b. 2, f. 6	E Models	1977
b. 2, f. 7	Connection Between Chemical and Dynamical Evolution, IAU Colloquium	1977 September
b. 2, f. 8	NSF grant project, Galactic Evolution and Related Studies	1978–1981
b. 2, f. 9	Princeton space telescope meeting	1979
b. 2, f. 10	Chemical evolution	1979–1981
b. 2, f. 11	FIB Cosmology research	1979
b. 2, f. 12	Published articles and correspondence	1980

b. 2, f. 13	Galaxy masses	1980
b. 3, f. 1	NSF proposal, Galactic Evolution and Related Studies	1980
b. 3, f. 2	Galaxies book	circa 1980
b. 3, f. 3	Published articles and correspondence	1981
b. 3, f. 4	Chemical evolution in the Solar Neighborhood IV. Some Revised General Equations and a Specific Model	1981

Series II: Correspondence, 1967–1981

Series II. contains correspondence with collaborators, contemporary astronomers, colleagues, and students. Many of the letters concern Tinsley's own research or her comments on a colleague's work. The correspondence also includes referee reports for scientific journals, including Tinsley's written responses to current research in the field.

Arranged alphabetically by correspondent last name.

b. 3, f. 5-6	Barnothy, Jenó	1971–1978
b. 3, f. 7	Basinska-Grzesik, Ewa	1977–1979
b. 3, f. 8	Ellis, Richard	1977–1979
b. 3, f. 9-10	Faber, Sandy	1975–1981
b. 3, f. 11	Gudehus, Donald H.	1974
b. 3, f. 12-13	Larson, Richard	1972–1981
b. 4, f. 1	Reeves, Hubert	1979–1980
b. 4, f. 2	Stryker, Linda, Thesis research	1979–1980
b. 4, f. 3	Van den bergh, Sidney	1977–1979
b. 4, f. 4-10	Referee reports	1973–1980
b. 5, f. 1-7b. 4, f. 11-13	General correspondence	1967–1981

Series III: Professional papers, 1967–1980

The materials in Series III. consist of materials related to her career as a faculty member at Yale University, as well as professional appointments she held at other institutions such as UC Santa Cruz and Caltech. The material covers some of her work related to cosmology research, but also includes work outside of this area, including committee work, letters of recommendation, personnel files, society memberships and awards, and papers documenting her work on affirmative action and the recruitment of women at Yale.

Arranged chronologically.

b. 6, f. 1-2	Notes and publications	1967–1974
b. 6, f. 3-5	Faculty Affirmative Action Advisory Committee	1973–1976
b. 6, f. 6	Society memberships and awards	1973–1980
b. 6, f. 7	UC Santa Cruz appointment, LICK Observatory	1974–1975
b. 6, f. 8	Yale personnel files Professional papers, letters of interest, recommendations, CV.	1974–1978
b. 6, f. 9-10	Faculty Advisory Committee on the Recruitment of Women and Minority Faculty	1975–1977
b. 7, f. 1	Yale appointment and faculty materials	1975–1980
b. 7, f. 2-4	Notes and publications	1975–1976
b. 7, f. 5-7	The Evolution of Galaxies and Stellar Populations, conference registrations and correspondence	1976–1977
b. 7, f. 8	The Evolution of Galaxies and Stellar Populations, conference transcripts, book material, proofs	1977–1980
b. 7, f. 9	Notes and publications	1977
b. 8, f. 1	The Evolution of Galaxies and Stellar Populations Conference, Yale University	1977 May 19– 1977 May 21
b. 8, f. 2	Committee on Self-Evaluation of Undergraduate Science Education at Yale	1978
b. 8, f. 3	Notes and publications	1978–1979
b. 8, f. 4	Extragalactic working group, Astronomy Survey Committee	1980

Series IV: Personal papers, circa 1963 - 1980

Series IV. Consists of personal documents related to Tinsley's immigration to the US, as well as family photographs and portraits, and poetry manuscripts.

Arranged chronologically.

b. 8, f. 5	Personal documents	1963-1980
b. 8, f. 6	Family photographs and professional portraits	circa 1976
b. 8, f. 7	Poetry	undated

Series V: Posthumous material, 1981–1993

Series V consists of material related to Tinsley's death, including clippings of obituaries, memorial service ephemera, and papers written by her colleague and frequent collaborator, Richard Larson, published after her death.

Arranged chronologically.

b. 8, f. 8	Obituaries and clippings	circa 1981
b. 8, f. 9	Memorial service	1981
b. 8, f. 10	Richard Larson papers	1992–1993

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.

Subjects

Affirmative action programs
Astronomy
Tinsley, Beatrice M.
Women astronomers
Women in science
Yale University -- Faculty