

My Daughter Beatrice

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*A Personal Memoir of Dr Beatrice
Tinsley, Astronomer*

Edward Hill

1986, The American Physical Society
New York.

(Price not stated)

This is a charming little book, written by a devoted father on his brilliant and affectionate daughter, who was also one of the finest astronomers of her generation. Beatrice Muriel Tinsley née Hill was born in Chester in Western England of a Welsh father and a Scottish mother. After World War II, the parents decided to migrate to New Zealand where Beatrice had her schooling and university education. Music and science were both her passion, although she never seriously considered pursuing a career in music. She did receive formal training in playing the violin and became quite an adept violinist, performing in small concerts in New Zealand and later in the United States.

In 1963, Beatrice moved with her husband Brian Tinsley to Dallas, Texas and soon after, she enrolled in the Graduate Program of the newly started Department of Astronomy at The University of Texas, Austin. Her deep commitment to pursuing a scientific career is splendidly exemplified by the fact that as a graduate student she flew down every Tuesday morning from Dallas to Austin to attend classes and then bussed back for five hours

every Friday afternoon to be with her husband over the weekend. Her thesis at UT Austin was completed in 1967 and published soon after in *The Astrophysical Journal*. It is still considered a path-breaking piece of work, using for the first time our detailed and rather accurate knowledge of the evolution of stars to chart out how the evolution of a large collection of them, making up a galaxy, influences the evolution of the galaxy itself. This had to be understood before cosmological evolution could be seriously studied by looking at galaxies at different look-back times, to decide the kind of universe we are living in.

When she died of cancer barely two months after her 40th birthday, Beatrice was a Professor of Astronomy at Yale University and at the peak of her career. In a working life of less than twenty years as an astronomer, she had blazed a trail which became one of the most active and important lines of research in astrophysics. No conference on galaxies and stellar populations, or on observational cosmology, was held or organised, during this brief period, where she did not play a leading role. She herself, along with Richard Larson of Yale, organised in 1977 the outstandingly successful conference on 'The Evolution of Galaxies and Stellar Populations' that was a trend-setter in extragalactic research. In addition, she taught at various levels, devised graduate programs in astronomy, and found time to encourage students and younger colleagues in all aspects of their work. One simply marvels at her

extraordinary capacity to undertake so many different tasks and accomplish every one of them so well.

Beatrice Tinsley lived a life of great intensity, both socially and scientifically, and after she adopted two kids, a boy and a girl, she continually struggled to balance the demands of home and of her career as an astronomer, since her commitment to both was total. When she left home in New Plymouth, New Zealand to enter the University of Canterbury in Christchurch, she started writing letters to her parents regularly, a habit she maintained for the next twenty three years until her death in 1981. Her father, Edward Hill, preserved the letters and also other treasures of her childhood like school reports and little pieces of her writing. When the American Astronomical Society instituted the biennial Beatrice M Tinsley Prize as a tribute to Beatrice's contributions to astronomy, he was inspired to collate the material and bring out this biography of his daughter's. He was encouraged by the very positive response of some astronomer-colleagues of Beatrice Tinsley. The American Physical Society undertook the publication of the book as a special project of its Committee on the Status of Women in Physics. The book also includes a superb Introduction by Sandra M Faber of the Lick Observatory, herself an outstanding astronomer, who has worked in allied fields of extragalactic astronomy, and an Obituary by her colleagues Richard Larson and Lynda Stryker, reprinted from the *Quarterly Journal of the RAS*.

It had not been easy for Beatrice Tinsley to live the life she was given. She had to struggle because she was a woman, because she was a loving mother and a wife, roles which were often at conflict with her career activities. Her marriage to Brian Tinsley came under considerable strain for these very reasons. She never found a permanent placing at the newly started campus of The University of Texas in Dallas, where Brian became a full Professor of Physics. Between 1968 and 1975, she had to move nearly every year from one position to another until she found her permanent placement at Yale. Eventually, Brian and she divorced. She had to overcome many odds to fulfil her desires and commitments as a mother and as an astronomer. At Yale, in association with Richard Larson, she produced an impressive body of work on galactic evolution which had a large impact on the subsequent development of the field. The association with Larson was also spiritually rewarding as both loved music no less than they loved astronomy. Richard played the cello while she resumed playing the violin after settling down in Yale. But in a tragic twist of fate, she was diagnosed to have melanoma, a particularly incurable form of cancer, the year she was promoted to a full professorship. She fought bravely for three years working to the very best of her abilities almost till the last days of her life before she succumbed. Her last paper was submitted to *ApJ* ten days before her death and was published soon after with a short obituary note by the Editor.

The life of Beatrice Tinsley should provide inspiration to all students of science and all budding astronomers. Her memorial service at Yale was described as a 'celebration of a beautiful life'. Her father, in writing the little book, never lost sight of this transcendental perspective and the spirit comes through beautifully in the hundred odd pages that he penned down, weaving Beatrice's letters to her parents with his own recollection of the events surrounding her life. Aptly, the book has been dedicated to 'Every parent of a gifted

child, every woman who has struggled between family and a career, to everyone interested in science and to those who love stars, galaxies and space'. I am sure this adequately covers the complete readership of *Resonance* and the book will bring joy and a sense of fulfilment to all its enthusiastic readers.

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Information and Announcements

Kishore Vaigyanik Protsahan Yojana (KVPY) – 2004

The Department of Science and Technology, Government of India, offers attractive fellowships (Rs. 2000 to Rs. 5000 pm) and contingency grants for students studying in basic science, engineering and medicine. Selection to the programme takes into account academic excellence and demonstrated interest in pursuing research. Selection is open to all Indian nationals studying in India. Selection procedures are different for basic sciences, engineering and medicine. All of them however, include an interview for final selection.

Eligibility and Fellowships: Stream SA: Students enrolled in XI standard (science subjects) in 2004. Stream SP: Students pursuing science and enrolled in XI, XII, BSc (I or II year) can apply for KVPY by completing a project.

Engineering: Stream EA: Students enrolled in first year BE/BTech/BArch in 2004. Stream EB: Students enrolled in second year BE/BTech.B.Arch in 2004.

Medicine stream: Stream MA: Students enrolled in second year MBBS in 2004.

Please visit our website: www.iisc.ernet.in/kvpy for details. Also see major national/regional newspapers on 11 May 2004.

Last date for requisition of application: by post – 15 September 2004; in person – 30 September 2004;

Last date for receipt of completed application form: 1 October 2004.

