

RADIOLOGICAL PHYSICISTS

by

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Foreword

The physicists presented here played important roles in the scientific epic that unfolded in the first half of this century. These few great names serve as a nucleus to a constellation of other scientists who made contributions during that time. The burst of scientific activity that was initiated by the discovery of x rays and the radioactive elements has not yet reached its peak. Undoubtedly, for generations to come, the events of which these scientists were protagonists will remain a source of inspiration.

The details of everyday scientific contributions are appropriately recorded in the professional publications that jealously safeguard the priorities of individual workers; however, the professional literature usually disregards the vicissitudes, the humor, the anguish, and the pain that are part of the scientific effort or the story, and the spiritual quest that is often their life. Scholarly overviews and dissertations, sophisticated and dry, are purposely impersonal.

In spite of originality, not all scientists receive due credit for their work; the spontaneous approval of their peers is often anxiously, though secretly, expected but not forthcoming. Some work suffers from lack of immediate recognition; success or acclaim sometimes comes belatedly and only after others have utilized many points of interest. Some are fortunate to find themselves in the right place at the right time. There are those who seem destined to shine, for they are blessed with extraordinary vision: They can see in the penumbra that lies beyond the lighted areas visible to everyone. And a few have unfathomable inspirations for which they themselves have no explanation. Altruistically devoted for the most part, their lives may be blessed with enchanting rewards or they may suffer the pathos of adversity.

The biographer's inquiry, not unlike the scientific search, may lead to unsuspected pathways and tempting deviations that may have to be resisted. Unlike the obituary writer, the biographer must avoid the partiality of the worshiper. Biography has never been accorded the attention received by other literary efforts; we find the experience rewarding in itself.

Our inquiries have benefited from the devotion of a number of dedicated daughters: Eve Curie (Mrs. Henry Labouisse) wrote the classic biography of her mother that forms the basis of our chapter on Marie Sklodowska Curie; Eve also wrote revealing observations on her sister Irène and brother-in-law Frédéric Joliot. Gwendolen Mary Bragg (Mrs. D. R. Caroe) wrote an affectionate biography of her father from which we borrowed details for our chapter on William H. Bragg; Mrs. Caroe gracefully reviewed our manuscript and made useful suggestions. Margarette Duane (Mrs. Richard Woods), helped us with details and illustrations for the chapter on William Duane. Helène Joliot (Mrs.

Michael Langevin) also helped in the preparation of the chapter on Frédéric Joliot. Nella Fermi (Mrs. Weiner) was jealously concerned with our understanding of her father, Enrico Fermi.

Many friends have been of great help: Brigit van der Werf-Messing of Rotterdam assisted in the procurement of European data; Barbara Ziehlke-Temme of Münster contributed translations of German texts; Jack Meredith of Manchester, England was enthusiastic about our chapter on his idol, Ernest Rutherford. Another old friend, Georges Gricourof of Paris, was very helpful with details of the Joliot-Curies and their lives at l'Arcouest. Professor Albert Bartlett of Boulder, Colorado gave scholarly advice for our discussion of the Compton Effect. For the details of the story of Edgar Sangier I am indebted to the officers of the Union Minière of Brussels, who opened their historical archives for our use, and also to Sangier's former secretary, the kind Madame Hamoir. The historical short interview and interchange was reconstructed from memory by General K. D. Nichols of Baltimore. Perluigi Cova, of Milan, helped to obtain background details for the Fermi story. A legion of others whose works have permitted these essays are quoted in the text or are listed in the references, a pale expression of our indebtedness.

In this volume we have utilized texts of our previously published articles on the same subjects. We are grateful to Phillip Rubin, M.D., editor of the *International Journal of Radiation Oncology, Biology, Physics* and to the publisher, Pergamon Press, for their permission to use those texts—presented here in revised form. We owe special thanks to the American Association of Physicists in Medicine and to its former President N. Suntharalingam, Ph.D., who first suggested this publication. Also to the AAPM Publications Committee, its chairman Benjamin M. Galkin, and its special consultant John S. Laughlin, Ph.D., all of whom enthusiastically endorsed the proposal. The skillful work and taste of Larry Feinberg and Kenneth R. Dreyhaupt of the American Institute of Physics will be readily appreciated by the reader. We are most appreciative and grateful to all of them.

Doing the necessary inquiry into the private lives of our subjects I have often reflected on my own and acknowledge to myself my good fortune. During those moments of reflection I decided to dedicate these essays to my children: Ann Cynthia (Mrs. Don Th. Jaeger), Juanita Inez (Mrs. Nathaniel Peters), and John Carl del Regato, Ph.D., whose affection has always sustained my professional efforts.

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