RADIOLOGICAL ONCOLOGISTS: The Unfolding of a Medical Specialty

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FOREWORD

"The possible curative applications of the new rays are as promising as they are astonishing," noted one observer just months after Wilhelm Röntgen discovered the X ray in November of 1895. By summer of the following year, several investigators of the "New Light" had noted unusual effects while making diagnostic and experimental radiographs: epilation, erythema, soreness, and suppurating lesions. As early as January of 1896 one intrepid individual had trained the rays on a recurrent carcinoma of the breast, reporting promising palliation. What is most amazing on looking back at these events is the speed with which the new technology was applied to a comprehensive range of malignant and benign conditions. Keeping in mind the lack of understanding of the action of radiations, the wide variability of apparatus and current, and the paucity of information on cancer pathology, the numbers of patients and practitioners who actively sought the "healing rays" becomes bewildering.

In this volume, Juan A. del Regato, M.D., gives new coherence to the story in a selection of biographies of those who have studied and applied radiations to disease. Through the work of these individuals it becomes possible to see that each was engaged in twin pursuits: the development of the science of radiation therapy, and the enhancement of the art of healing. In many medical venues these two areas of interest—research and clinical practice—have been separated for so long that they meet now only in journals and around conference tables. But Dr. del Regato shows that throughout this first hundred years of radiation oncology, its most prominent practitioners have been actively engaged in both spheres. From the earliest empirical applications of the rays to the establishment of dedicated centers of treatment, these clinicians, pathologists, and physicists demonstrate a remarkable willingness to experience life in the laboratory as well as on the wards.

The lives included here do not constitute a hagiographic parade of positive accomplishments. The disastrous results are included with the breakthroughs: the disappointments with the satisfactions. Dr. del Regato breathes life into some of the old controversies in the field, providing background for the generation that has inherited them without quite knowing why. He brings a lifetime of insight and understanding to bear on these individuals, many of whom he knew professionally and personally. Most important, he reminds us that the first hundred years of radiation oncology involved daring, dedication, and leaps of imagination that would be considered irresponsible in today's more carefully controlled medical environment. The splendid biographical notes, with thumbnail sketches of over a hundred figures, only reinforce this notion of hard work, creative application, and personal sacrifice in a field which, quite literally, has had to keep re-inventing both its science and its application as it goes along. The reader will note that although several women appear in the notes, none of the main chapter subjects is a woman. For the first seventy-five years, women constituted only a tiny percentage of radiation therapists. The numbers of young women now in training, and the accomplishments of distinguished women radiation oncologists already in departments across the U.S., assure us that summaries of the next hundred years will reflect a more balanced field.

Radiology, in all its facets, has a unique history. The first field in which an electrical machine intervened in the sacred intercourse of patient and physician, it was also the first specialty which had to address seriously the hallmark concerns of modern medicine: cost and ownership of technology, access to advanced techniques, and standardization of practice and practitioner qualifications. These were questions first addressed in radiology before the turn of the century. In radiation therapy, these issues had a special urgency, affecting the lives of individuals seeking what previously would have been considered miracles. Dr. del Regato places the interacting roles of practitio-

ners, patients, and machines in a series of changing contexts through the work of his 20 subjects, and so illuminates our contemporary scene as well.

Many readers will have questions as to various uses of words and phrases in this book. Röntgen, for instance, carries the umlaut when it represents the man himself or institutions or works named directly after him. Subsequent eponymous applications (roentgen unit, roentgen rays, Roentgen Society) are spelled as they first appeared, with the unligatured "oe" combination. Had our predecessors in the field shared our access to keyboards with a full range of diacritical marks, we might all have kept to the discoverer's original spelling.

More interesting is the juxtaposition of the terms radiation therapy and radiation oncology. The latter has almost entirely replaced the former in contemporary usage, though oncology omits from its umbrella the now increasingly rare applications of radiation in benign conditions. In fact, the use of the term radiation therapist to refer to a radiation oncologist is quite unfashionable today. For the men and women discussed in Dr. del Regato's book, however, it was the unquestioned name of the field in which they worked. It is useful to look at the reasons behind this significant change in professional nomenclature.

Consider the situation of the earliest physicians and medical workers using radiation to treat disease: applying a new and somewhat frightening technology, it was necessary to convince patients already in distress to submit to repeated and often painful exposures. Non-hospitalized patients had to be trusted to return for subsequent treatments. Designating the field as radiation therapy indicated not only that it consisted of an integral course of treatments, but that it aimed at rehabilitating the patient. In addition, the public associated the name radiation therapy with electrotherapy, a relatively benign and harmless pseudo-science. (Indeed many electrotherapists slipped through the medical back door to become radiologists in these early years.) The choice of radiation- or radio-therapy, then, had the ring of the familiar while conveying a notion of gradual and concerted movement toward a cure—surely comforting to individuals with maladies for which there was generally believed to be no hope.

But as Dr. del Regato documents thoroughly in these lives and work, the field has not been one of "therapy," at least as the term is understood today. It is a science, the knowledge and application of which are built on a hundred years of painstaking research, experimentation, and professional dedication. The radiation oncologist represents in his or her practice a constellation of health professionals—physicists, nurses, technicians, research scientists, imaging specialists, and others—in the carefully planned and individually designed treatment of cancer. The term describes a true medical field, not a course of therapy. But it was the radiation therapists of the first hundred years who, through innovation, perseverance, and often the sacrifice of their lives, made the next hundred years possible for radiation oncologists. Dr. del Regato has done us a rare and valuable service in telling their stories.

Nancy Knight
Director, Center for the American History of Radiology

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INTRODUCTION

A history of radiation oncology is a difficult undertaking, for radiotherapy is a richly braided fabric of interwoven threads—physics, radiobiology, tumor pathology, and clinical medicine. Each component has its own rhythm and progression, not always historically synchronous with the others. Moreover, time amalgamates the original with the erroneous and the irrelevant. In order to be a faithful and reliable courier of scientific excellence, the historian must endeavor to seek out the gold from a mixed bag of ordinary change. In addition, a history of our specialty implies an account of its rise within the ranks of organized medicine to a position of recognized authority and academic respectability.

In presenting to the reader this book of biographies, I take sanctuary in the words of Sir Thomas Carlyle (1795–1881), the sage Scottish historian credited with saying that "history is the essence of numerous biographies." Biography reveals the genealogy of ideas and concepts and puts them in a light to inspire others to emulate the great. It is also true that biography humanizes dry scientific facts, relating them to the protagonist's character, as well as adding interest to the historian's task.

Some of our subjects made truly seminal contributions which form the basis of our knowledge. Others were resourceful pragmatists who implemented clinical applications of the physical sources of ionizing radiations. Still others seized the opportunity to rally other disciplines around the standard of radiotherapy to create truly multidisciplinary approaches in the treatment of patients and in cancer research.

There have been, of course, many other creditable contributors to the progress of radiation oncology. We have added in this volume a section of biographical notes with over a hundred biographical sketches of workers, many of whom deserve a full-length biography of their own. There is ample room left for sleuthing by future dedicated biographers.

It was my good fortune to have entered the field of radiation oncology in the spring of my life. It was a field in need of plowing, and the season was favorable. I have been a witness as well as a participant in the unfolding of our specialty. In order to relate our own scientific and professional experiences as a measure of the obstacles conquered, I have chosen to do this in the form of an autobiography. It could be argued that this subjective narrative counters the required objectivity of the historian. I trust the reader to understand my motivation and forgive the immodesty incurred. The exhaustive list of references should serve as a source for additional viewpoints and further investigation.

In a page of acknowledgements we have listed the names of numerous persons who gave kind help to our pursuit, and we have stated that they were veritable co-authors of our enterprise. But we wish to give deserved credit to the staffs of the American College of Radiology and the Radiology Centennial who facilitated the publication process: Vickie Giannotti, Rebecca Haines, Sean M. McKenna, and Thomas M. Rogers. Sincere thanks go as well to Nancy Knight, Director of the Center for the American History of Radiology, who has edited each page of the book and contributed valuable suggestions to the author. We are honored that she has written the foreword.

Juan A. del Regato, M.D.

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Juan A. del Regato, M.D.

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