Editor's Note

On November 6 to 8, 2003, Yale University held the "Marie Curie Nobel Centenary: Celebrating Women in Science." The program stated: "This University-wide symposium is organized to celebrate the centenary of the first award of the Nobel Prize to Marie Curie, within the broader context of an examination of women in science. The conference will make visible the impact that women scientists have historically had in their fields and address the challenges for the 21st Century."

The participants in this symposium included many distinguished scientists from outside Yale including Bruce Alberts, President of the National Academy of Sciences; Shirley Tilghman, President of Princeton University; Charles Vest, President of the Massachusetts Institute of Technology; Jacqueline Barton, Professor of Chemistry at Caltech; Vera Rubin, Senior Researcher at the Carnegie Institution, and scholars such as Brenda Maddox, author; and Helena Pycior, Professor of History at University of Wisconsin-Milwaukee.

Two of the papers presented at this symposium are published in this issue of the *Yale Journal of Biology and Medicine*. Sara Rockwell, Professor of Therapeutic Radiology at Yale, writes on the life and science of Marie Curie, and Elga Wasserman, Senior Scholar at the Yale Law School, writes on the general issues facing women in science. In addition to these two symposium papers, the Classic Paper for this issue is directly related to the medical aspects of the scientific discoveries of Marie Curie.

Prior to the development of high-voltage X-ray generators in the mid to late 1930s, the only source of high energy radiation was the emanations of the naturally occurring radioactive elements. Radium, discovered by Marie and Pierre Curie in 1898 as the active component of the naturally radioactive mineral, pitchblende, was, for several decades, the only source of radiation for medical investigations and treatments. The potent biological effects of radiation was observed by many of the early researchers, including the discoverer of natural radi oactivity, Henri Becquerel, as well as Pierre Curie, both of whom suffered radiation damage to the skin ("burns").

In 1906, two French scientists, Jean Bergonié and Louis Tribondeau published a very short note ("Interpretation of some results from radiotherapy and an attempt to determine a rational treatment technique") in the weekly reports of the Paris Academy of Science in which they put forth an explanation for the biological actions of radiations. They asserted that "*X-rays are more effective on cells which have a greater reproductive activity; the effectiveness is greater on those cells which have a long lineage, on those cells the morphology and the function of which are least definitively fixed*. In more modern terms," one might say "the radiation sensitivity of a tissue is inversely proportional to its state of cellular differentiation." This simple principle, one that has been the guiding concept for nearly a century in the fields of both radiotherapy as well as medical oncology, has come to be known as "The Law of Bergonié and Tribondeau." It even merits an entry in current medical dictionaries.

Jean Alban Bergonié (1857-1925) was a physician on the faculty of the University of Bordeaux who was interested in medical physics and the biological effects of electricity and Louis Tribondeau (1872-1918) was a histologist educated in the French Naval Medical School. Their complementary interests and points of view can be seen in the reasoning and arguments put forth in their short but influential and prescient communication almost a century ago.