
BOOK REVIEW

The Cell Builders. H. Garrett DeYoung. 1986. Doubleday, New York. 227 p. \$16.95 hardcover.

The Cell Builders has something for everyone. A riveting account of the conception, birth, and development of monoclonal antibody, anti-cancer therapy, it is also three intricately woven threads that reflect the multidimensional fabric of the still-fledgling field of biotechnology.

For the lover of romance and drama, *The Cell Builders* is the story of Jack Christie, a physician who suddenly finds himself a patient in the clutches of lymphoma. As Christie struggles to accept and understand and ultimately fight his disease, the reader becomes personally a part of his battle—one that taps into the latest biotechnological tools as monoclonals are developed against his cancer cells. Through Jack's eyes, we see a cancer's effects on personality, lifestyle, and relationships, a telling contrast to the clinical, microscopic view of the errant cells seen through the eyes of researchers in other parts of the book.

Throughout *The Cell Builders*, DeYoung deftly delivers lessons in immunology, genetics, and cell biology as Christie and his wife leaf through medical journals, or as the author himself tours the facilities that provide Christie with his hopeful "magic bullets." The author, a chemist by training, brings to the narrative a unique perspective, because as a senior editor at *High Technology* magazine, he has personally witnessed the debut and growth of the biotechnology industry from an insider's perch.

In parallel to Christie's tale is the accurate portrayal of research at all levels, from Kohler and Milstein's Nobel-prizewinning work on monoclonals ("It was so simple, yet so grand, that he couldn't understand why no one had thought of it before."), to eager young post-docs and Ph.D.s carving their niches in the unanticipated smorgasbord of new biotech companies, to a talented research assistant with an uncanny ability to make any cell in her

care grow. DeYoung shows us the camaraderie and competition, the slave labor and serendipity, that is science.

The business-minded will not be disappointed either, for the third thread chronicles the evolution of Damon Biotech, one of the first companies to tap innovative biological research and attempt to apply it to the health care industry—specifically, the scale-up and delivery of monoclonal antibodies. The government's role in developing the technology is also perused. Gradually, the doings at Damon, the National Cancer Institute, and Christie's search for a cure converge, with a surprise ending.

The Cell Builders will mean different things to different people. For the scientist or scientist-to-be, it is a highly entertaining "you are there" summary of a medical milestone, one we are surely to hear more about. Christie's fight against cancer as a backdrop against the development of monoclonal antibody therapy offers a human perspective sometimes overshadowed in the laboratory. For the layperson, however, the sidetrips into lymphocyte interactions and the intricacies of genetic engineering and cell culture may be rough-going—despite the considerable writing skills of the author.

But the unusual mix of science and storytelling that distinguishes *The Cell Builders* from other popular science books makes it ideal for the college student—particularly one intimidated by science. For interspersed between Christie's private battle against his ravaged body and the intrigues of corporate biotechnology and the government research system can be found some of the clearest and most exciting descriptions anywhere of the basic biology behind immunotherapy, genetic engineering, cancer cell biology, and, perhaps most importantly, of how science is conducted.

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