

The Longevity Seekers: Science, Business, and the Fountain of Youth, by Ted Anton. University of Chicago Press, 2013. Pp. xv + 223. \$26 (hardcover); \$18 (electronic).

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The idea—perhaps the fervent hope, or obsession—that science will devise a way to retard old age and prolong life has been with us for centuries. Historically, most scientific longevity efforts have been relegated to the dust bin of quackery, taking their place alongside yogurt enemas and chimpanzee testicle transplants. But while desire for a scientific solution to old age and mortality has never waned, our scientific understanding of aging—and the perceived legitimacy of basic scientific research on aging—has taken a dramatic shift since the 1980s. It is the story of this shift that Ted Anton, Professor of English at DePaul University, chronicles in his most recent book, *The Longevity Seekers: Science, Business, and the Fountain of Youth*.

For a scientist to pursue the biology of aging prior to the 1980s, Anton tells us, was a sort of career suicide; the reigning dogma was that aging was simply random decay, both uninteresting to study and even worthy of ridicule. Thirty-some years later, however, the reigning scientific view is that aging is instead a controlled process that can be manipulated. *The Longevity Seekers* illuminates this paradigm shift in understanding through a chronological tale of scientific breakthroughs, moving from geneticist Cynthia Kenyon's astonishing discovery that tweaking a single gene could dramatically extend the lifespan of the lowly nematode worm to today's increasingly complex understanding of four gene pathways that regulate human longevity through both inherited and environmentally-influenced mechanisms.

But *The Longevity Seekers* is also “the social history of a science idea,” and Anton simultaneously reports on the public reception of these scientific discoveries (ix). Indeed, the book is at its most engaging in the moments when he recounts the personality clashes, academic stakes, public fascination, and business influences that were part of translating longevity science from a field of pure research into the “gerotech” industry, where profitable treatments

instead of knowledge are the gold standard. His exemplar case of this translational science is research into resveratrol, a compound naturally occurring in red wine. Resveratrol inspired unprecedented financial capital and incited public fervor as news of its potential was spread via *The New York Times*, *60 Minutes*, and *Oprah*, all while the scientific claims about the compound were being fiercely contested.

Anton's book is the result of over a decade of meticulous research. He watched the science unfold first-hand, observing and even participating in classes, lab work, and conferences, and conducting more than two hundred interviews with a cast of characters ranging from big-name scientists to even-bigger financiers. A humanist by training and writing for a non-expert audience, Anton does a notable job of explaining the nuances of the scientific discoveries in laymen's terms. Nevertheless, the story he tells is one of ever-growing complexity and characters—from scientists to genes to companies. The Longevity Gene Timeline and List of Longevity Genes provided in the back of the book are not enough to keep clear in the reader's mind the “who-begat-whom” of scientific apprenticeship wherein lies some of most interesting drama of the unfolding science. For example, Sirtris and Elixir, two high profile companies begun by longevity scientists, were both researching the same gene and, at one point, the same compound: resveratrol. The innovation race between them was heightened by a “family feud,” as Sirtris was begun by David Sinclair, former student of Elixir's co-founder Leonard Guarente (70). While the science involved in this shift from the “circle of friends” researching worms and yeast to the “aggressive rivals” of “gerotech” grows unavoidably complicated as labs and gene pathways multiply, Anton resists offering a reductionist, and thus simpler to follow, account (45).

The Longevity Seekers provides an insightful science studies critique of how big business, big personalities, and big hype dramatically shaped the actual practice of longevity science. The critique that age studies scholars are likely to seek—how this science has shaped and may yet shape the lived realities of aging in our contemporary world—is what Anton explores in the final two chapters of the book. These chapters offer a surprising shift from objective

science reporting to a more personal approach framed by Anton's first-person accounts of experiences with his aging parents. Presenting demographic predictions and competing interpretations of how those demographics will shape the diverse experiences of global aging in the decades ahead, Anton broaches some of the larger social questions that scientific manipulation of human longevity seems so obviously to raise, and yet which appear remarkably little considered within the science itself: "What if we remained healthy and lived longer? What effect would humans living longer have on the planet?" (140).

Anton has room to touch only briefly on the politics and ethics of longevity in these final chapters, arguing that "any research that can further human *health* span" (versus simply lengthening life at any quality) should be supported (153, my emphasis). He mentions in passing the scholarly field of age studies and its efforts to refocus attitudes toward age, but his thoughtful study is a compelling invitation for age studies scholars to provide further cultural critique (69, 154). For example, Anton notes how cosmetic companies like Avon and Estée Lauder became an unexpected funding source for longevity science and developed new products based on emerging findings. What are the consequences of this interplay between scientific longevity research and our continually growing anti-aging consumer culture for individuals' aging experiences? Moreover, how might this changing scientific understanding of aging—from "perfectly normal" random decay to disease-like controllable phenomenon—affect what aging means both to individuals and to society at large (119, 103)?

While Dr. Oz's hyping of resveratrol may, for some, echo the charlatanry of history's many forays into the scientific prolongation of youth and life, there is no question that the molecular genetics of aging has reached a new plane of scientific legitimacy. This reality should give us all cause for careful reflection, perhaps best accomplished over a glass of red wine.