BOOK REVIEW

Joseph Leidy—The Last Man Who Knew Everything. BY LEONARD WARREN. New Haven: Yale University Press; 1999. 352 pages, \$35.00.

Anonymity is not a quality common to the subjects of biographies. Usually the name alone possesses the power to draw the reader into the story. Joseph Leidy's is not such a name, yet it could have been. That this man remains virtually unknown will seem remarkable after examining even a few of his numerous accomplishments. Yet, from history, Leidy vanished. His disappearance from the history of science is the mystery at the heart of Leonard Warren's compelling new biography, *Joseph Leidy—The Last Man Who Knew Everything*.

In the scientific community of the last century, Leidy was a giant. Born in Philadelphia in 1823, he was only 22 years old when he was invited to join the Academy of Natural Sciences. He held many posts during his long career, often simultaneously, including professor of anatomy at the University of Pennsylvania and professor of natural sciences at Swarthmore College. His talents and accomplishments were prodigious. While any child today could draw a bipedal Tyrannosaurus, it was Leidy, the father of American paleontology, who first described the dinosaur in this posture. His systematic taxonomy of the vast fossil record of the American West and Midwest was the foundation on which the field of paleontology was built. As the first American parasitologist, Leidy was almost alone in seeing the newly developed compound microscope as something more than a toy; with it, he discovered *Trichinella* in pigs as well as hundreds of other species of microscopic flora and fauna. Arguably the best known human anatomist of his time, he trained a generation of physicians and was the sole author and illustrator of a classic text that bore his name. The list goes on: forensic pathologist, comparative anatomist, biological taxonomist, geologist, academic administrator. Leidy left his mark in almost every contemporary field of scientific inquiry that fell under the broad umbrella of "natural science." At his death in 1891, Leidy was one of only a handful of scientists who enjoyed international acclaim.

To solve the puzzle of Leidy's modern anonymity, Warren paints his portrait against the larger backdrop of a scientific community on the verge of great social and epistemologic upheaval. Leidy was the last scion of several dying scientific traditions. His career sprang from the tradition of gentlemen scientists—hobbyists and patrons without university affiliation, for whom science was an avocation or cultural interest, like art or music, rather

than a vocational discipline. Although he was both child and champion of this tradition, Leidy was also an exception, a full-time scientist with university appointments and without a competing vocation. Warren's descriptions of this clubby world, its vision of the future of science, and the tenacious grip with which inertia held its institutions are fascinating. Within a generation, science would become a profession centered at the university, and the tradition of DaVinci, Jefferson, and Leidy would be gone. His loyalty to that tradition may have attenuated his legacy. Leidy was also a taxonomist at the dawning of the epoch of experimentation. His contributions of largely descriptive works stand in stark relief against the theorists and experimentalists who would steal the stage. Though the work of this next generation was often built on Leidy's, his contributions to it were eclipsed and went unacknowledged.

As with many historical biographies, the man that emerges in this book is hazy in outline, pieced together from letters, diaries, contemporary articles, and the vast canon he left behind. Regardless, Warren creates a compelling portrait of Joseph Leidy as a man of great warmth and integrity, a reluctant celebrity whose fame was a consequence of his keen mind, compulsive curiosity, and prolific pen. He was liked and admired by everyone. The surviving accounts of Leidy are uniformly glowing with praise, yet while his successes were trumpeted, details of his missteps go wanting in these contemporary accounts. Warren does not spare us Leidy's flaws and mistakes, but finds them between the lines in his subject's story. We learn that Leidy, though trained as a physician, reviled practice and abandoned it as soon as he was financially able. Though often called to lead, he was miscast in that role, and his lack of vision and foresight contributed to the decline of the institutions he led, like the Academy of Natural Sciences, as well as his own legacy.

Though very readable, the book bogs down at times. Long lists of Leidy's discoveries add to the sense of his accomplishments but are tedious and contribute little to the book. Likewise, throughout the book, the author mentions dozens of citizens and scientists but never links them in any meaningful way to Leidy or his world. These references are distracting and superfluous. A catalogue of his accomplishments and of the prominent people he encountered seems of less consequence than the veneration that resulted from his work. Nevertheless, the story of the rise and posthumous fall of this great man is engaging.

In the inclusions and omissions of history lie the unconscious values of a society. Joseph Leidy was an omission. Understanding why raises many great questions. What in a life's work makes it memorable? Who deserves the laurels when we measure the progress of science: those who connect the bits of current knowledge or leap past them with grand theories, or those who through skilled observation, brick by brick build the foundation for the next generation? Why do we remember so many whose theories were spectacularly wrong and forget one quiet giant who was so consistently right? In the answers to these questions lie the keys to the vanishing of Joseph Leidy. To those who enjoy grappling with such puzzles, I highly recommend this book.—**MARK EARNEST, MD, Denver, Colo.**

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