

# Renaissance Hobbies

A historian examines how idle pursuits became a science revolution.

## INGENIOUS PURSUITS

Building the Scientific Revolution.  
By Lisa Jardine.  
Illustrated. 444 pp. New York:  
Nan A. Talese/Doubleday. \$35.

By D. Graham Burnett

A FRIEND and I had a solemn pact, sealed in the laundry room of a West Philadelphia row house: at death we would ask God to defer the beatific vision. What we wanted instead was a small corner of heaven with running water, Bunsen burners and unlimited access to "The Fisher Scientific Catalogue," a mail-order mega-mall of reagents, glassware and specimens. Sudden omniscience had no appeal for us pubescent scientists: paradise would be figuring everything out ourselves. Our fantasy suggests a distinctly modern variation on the Faust story: instead of exchanging our souls for worldly power and knowledge, we wanted to trade divine power and knowledge for the chance to let our souls work eternally on the world. That two boys in their basement late in the 20th century could have tried to wed the Christian eschatology born of the first millennium to that most extraordinary fruit of the second — the epistemology of science — speaks volumes about the potency of current techniques for understanding the natural world. Nothing has more dramatically shaped the experience of modernity.

It is in this context — the mammoth significance of the history of science — that Lisa Jardine must be commended for her new book on the "scientific revolution" of the 17th century. This period saw a motley assortment of parlor tricks, celestial speculations, craft practices, philosophical anxieties, get-rich-quick schemes and rarefied mathematical musings fused into the foundations of what is humanity's most powerful system for agreeing on answers to a very big question: What is *really real* about the world around us? Robustly written, engagingly illustrated, briskly paced, quirkily detailed, "Ingenious Pursuits" may seduce readers not otherwise inclined to ponder the genealogy of the scientific enterprise.

Jardine, a historian at the University of London, uses thematic threads ("anatomy"; "navigation"), biographical trajectories (the astronomer Edmund Halley; the jack-of-all-trades Robert Hooke) and a good deal of narrative ingenuity to tie her story together. There is an English bias, and an emphasis on the period after 1650, but a "Cast of Characters" rolls off the period's key figures: the sickly Robert Boyle and his air pump, a source of endless speculation about empty space; Anton van Leeuwenhoek and his microscope, which dramatically extended vision but also nearly blinded those who became addicted to it; Christiaan Huygens, inventor of the pendulum clock, the most exacting metrical device of an age learning to prize precise measurement; William Harvey, who demonstrated the circulation of the blood; and, of course, Isaac Newton, with his reflecting telescope and his "Principia," the book that gave mathematical form to the very frame of heaven.

In addition to these familiar characters, a fair bit of "Ingenious Pursuits" takes place in traditional settings: the Royal Observatory at

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Greenwich, the Royal Society, the British Museum. Jardine manages to tell some portion of the history of each of them in her stealthy historical style. What could be lumbering is not; in fact, it might pass under a reader's sensors entirely unremarked. This lies somewhere between an asset and a liability: Jardine will attract readers; but the readers may or may not notice her argument. For, despite familiar elements, "Ingenious Pursuits" is anything but a standard survey of the scientific revolution. Rather, it offers a particular take on what science was in the 17th century and what it remains. Jardine writes, "The practice of science has been one and the same throughout its history — a story of chance, creative misunderstanding, wrong turnings, sudden opportunities taken, succumbing to sponsorship and the inspired ingenuity of individual men and women." It is the serendipity in scientific investigation — improbable connections, fertile hybrids, "hopeful monsters" spawned in fresh encounters with old problems — that is her particular interest. Her science is entangled with the world, and the scientific character she emphasizes is the gifted and imaginative tinkerer. The closeted, genteel theoretician compassing the world in cerebral exile gets little stage time in her book.

Both these types — hands-on eccentric and luminous savant — are convenient fictions, of course, and good historians of science have never wholly ignored the significance of the engineer, the explorer, the entrepreneurial inventor. But there probably has been a distinct bias in favor of the brooding masterminds of scientific discovery — Descartes, Newton, Kepler.

Think, then, of Jardine's account of the scientific revolution as something like "Rosencrantz and Guildenstern Are Dead," Tom Stoppard's version of "Hamlet": our main characters are the walk-ons of the original; our action takes place off-stage from the better-known drama; Hamlet wanders by from time to time, but we mostly stay with the walk-ons of 17th-century science, taking trips to distant lands, playing with coins, creatively crossing up messages and ultimately having a pretty significant role in things, if you choose to notice.

So, while we never precisely grasp why Newton was so important, we do discover a set of surprising connections: between salvage diving and the history of physiology; between geodesy and the slave trade; between a harbor survey in Tangier and the comet of 1680; between early surgery for bladder stones (don't ask) and protocystallography. Who knew that commerce in spices stimulated one of the most striking discoveries of the 1600's: microscopic organisms? It turns out that, with pepper prices sky high, an enterprising investigator wanted to see what gave the spice its delightful kick; the "little eels" he saw galvanized Europe.

Jardine, however, wants "Ingenious Pursuits" to be more than a sideshow performance. Her tracing of the origins of science into webs of commerce, calamity and curiosity evokes the blooming, buzzing profusion of science in its spring. By using this diversity to fragment the more staid account of science walled in its citadel, Jardine aims to leave the reader with a sense of science as a human communion of ingenuity: hers is a democratic science, a science among us, a science that is our ponderings and tinkering writ large. She offers this hopeful vision as a corrective to what she takes to be broad popular alienation from science. She probably exaggerates in this diagnosis of contemporary attitudes; but her tonic, if it stimulates more readers to think about the history of science, is most welcome. □

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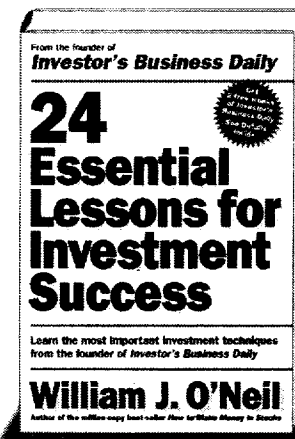
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