

BOOK REVIEW

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Capra, Fritjof. *The Science of Leonardo: Inside the Mind of the Great Genius of the Renaissance*. New York: Doubleday, 2007 (352 pp., ISBN: 978-1400078837)

Fritjof Capra, physicist and systems theorist of Berkeley, California, is the author of five international bestsellers: *The Tao of Physics* (1975), *The Turning Point* (1982), *Uncommon Wisdom* (1988), *The Web of Life* (1996), and *The Hidden Connections* (2002). His most recent book—*The Science of Leonardo: Inside the Mind of the Great Genius of the Renaissance*—was published by Doubleday in October 2007.

Capra's earlier works included popular introductions to complexity theory, ecology, and general systems theory. In them, he occasionally referred to Leonardo da Vinci (1452–1519) as the first modern scientist. While viewing an exhibition of his drawings in the mid-1990s, Capra decided to make a detailed study of his writings. As a scientist having acquired Italian language in childhood, he was able to study the recently transcribed and dated *Notebooks* of Leonardo (2005, 2006, 2008), paying special attention to their scientific content. *The Science of Leonardo* is the outcome of that process.

In his Introduction, Capra gives us a portrait of Leonardo as a systems thinker, the first modern scientist, pioneer of the experimental method—a century before Galileo and Bacon. In “Part One, Leonardo the Man,” Capra reviews Leonardo's life in Florence in the 1470s, in Milan from the 1480s, and in Rome from 1513 until his death. In “Part Two, Leonardo the Scientist,” Capra builds a case for his claim:

Galileo Galilei, who was born 112 years after Leonardo, is usually credited with being the first to develop this kind of rigorous empirical approach and is often hailed as the “father of modern science.” There can be no doubt that this honor would have been bestowed on Leonardo da Vinci had he published his scientific writings during his lifetime, or had his *Notebooks* been studied soon after his death.

Capra outlines the key ideas of science from the *Notebooks*—a science of living forms, the movements of water, the forms of the living earth, macrocosm and microcosm, nature's machines, and the mystery of human life. In addition he presents Leonardo's highly original and little-known contributions to mathematics—the

geometry of proportions, the geometry of nature, the geometry of functions and curves, and the theory of continuous motions of curves, anticipating Leibniz. In the final two chapters of “Part Two,” Capra details Leonardo’s theory of knowledge, and his genius as a systems thinker. In the Epilogue, Capra sums up in six pages his view of Leonardo, and contrasts it with the various specialized scientific biographies published previously.

This book is a thrilling read for fans of the history of science, and a must for contemporary systems thinkers.

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