

1945 *The Psychology of
Invention in the
Mathematical Field*

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Jacques Hadamard

When the eminent French mathematician Jacques Hadamard set out to explore how mathematicians invent new ideas, he considered the creative experiences of some of the greatest thinkers of his generation, such as George Pólya, Claude Lévi-Strauss, and Albert Einstein. It appeared that inspiration could strike anytime, particularly after an individual had worked hard on a problem for days and then turned attention to another activity. In exploring this phenomenon, Hadamard produced one of the most famous and cogent cases for the existence of unconscious mental processes not only in mathematical invention but also in other forms of creativity. Written before the explosion of research in computers and cognitive science, *The Psychology of Invention* remains an important tool for exploring the increasingly complex problem of mental life. The Press retitled the book *The Mathematician's Mind* in 1996.

Hadamard was himself a great mathematical innovator. He proved the prime number theorem in 1896 and continued for decades to make major contributions to geometry, dynamics, and many other areas of mathematics. Yet his life encompassed much more than his mathematical work. Hadamard, himself Jewish, was very active in the Dreyfus affair in France, fighting tirelessly in defense of Dreyfus's innocence. He fled Nazi-occupied France for the United States and later England, returning to France after the war. Having lost two of his three sons in World War I, and then the third in World War II, he became active in leftist peace movements.

