Book review


Within the first few weeks of a standard microeconomic theory sequence, every graduate student encounters the concept of Nash equilibrium and sees it applied to various problems in industrial organization, political science, or international trade. Later, the student again encounters applications of Nash equilibrium to the positive theory of macroeconomic policy, international finance, public choice, law and economics, labor economics, and so on. But few students or professional economists know of the life of its creator, John Forbes Nash, Jr., or how the idea of the Nash equilibrium came about. Now Sylvia Nasar, science correspondent for the *New York Times*, tells the story of Nash’s personal and professional life in her book *A Beautiful Mind*.

In the early part of the book, Nasar provides an excellent account of the Princeton environment and shows how Nash developed his equilibrium concept. The basic idea of the Nash equilibrium is simple and elegant, but its implications for economic thought are almost never insignificant. Yet in 1949, when the young Princeton math graduate student John F. Nash explained his idea to the great mathematician and physicist John Von Neumann, he received a less than flattering response. Von Neumann had just co-authored the classic *Theory of Games and Economic Behavior*, and after patiently listening to Nash explain his idea, he gave a blunt assessment: “That’s trivial you know. That’s just a fixed point theorem.” In a sense Von Neumann was right, but not because the idea was worthless. Nash had already shown the capacity to work on more complex mathematical problems, and the simplicity of his proposed equilibrium concept betrayed this ability.

Nasar achieves an exceptional balance between the details Nash’s personal life and his scientific discoveries, which many modern biographies fail to do. The book delves deeply into Nash’s personality and those of his closest friends, relatives, and colleagues. From these accounts we learn of Nash’s life of extremes. He was a tortured soul, but also tortured those around him.

After graduating from Princeton, Nash achieved professional recognition early in life, first working at the RAND Corporation in Santa Monica, California, and then as a professor at MIT, where he eventually solved the famous “imbedding problem.” On the surface, all seemed normal with Nash, but some incidents suggested that something was wrong. Nash publicly humiliated colleagues and students. He suppressed homosexual tendencies. He fathered a child out of wedlock. We are left exasperated by some of Nash’s personal failings, but captivated by his intellectual brilliance.

These tragedies are only a prelude to the main catastrophe of Nash’s life: slowly,
but surely, he developed the characteristics of schizophrenia. He believed that aliens were communicating with him in a secret language and became increasingly detached from the outside world. But the saddest part is not how the disease affects Nash and others, but rather the frustrating inability of the best medical scientists of the era to accurately diagnose the condition and prescribe treatment. At that time, most sufferers were left homeless and destitute, never to recover; many committed suicide. We cannot help but feel deep sympathy for Nash and those around him.

Thus, for thirty years, much of Nash’s talent was simply lost in the deep abyss of mental illness. The final part of the book deals with his gradual recovery and then brilliantly describes the volatile internal political dynamics of the Swedish Nobel Prize Committee and its decision to award Nash the 1994 Memorial Prize in Economics (jointly with John Harsanyi and Reinhard Selten). In these chapters we find wonderful anecdotes about the economics profession, littered with comments from the giants of pure and applied game theory: Aumann, Dixit, Schelling, and others.

*A Beautiful Mind* is well written and very readable. Its style and content compare favorably to recent science-oriented biographies and autobiographies—for example, I rate it above *Two Lucky People* by Milton and Rose Friedman (1998) or *The Man Who Knew Infinity* by Robert Kanigel (1991). I recommend the book to professional economists and mathematicians, students in those fields, and to those who appreciate clear story writing, vivid portrayals of historical events and personalities, and thoughtful descriptions of the process of scientific discovery.

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References