

## John and Alicia Nash: A Beautiful Love Story

Nancy C. Andreasen, M.D., Ph.D.

John Nash and his wife Alicia died unexpectedly in an auto accident on May 23, 2015. They were 86 and 82. While John was famous for many things, including his 1994 Nobel Prize in economics and his ability to slowly pull out of the cognitive fog of schizophrenia, to me they are best remembered together as one of the great love stories of all time. Alicia deserves fame and remembrance for her beautiful mind as well. Without her, there very likely would have been no recovery and no Nobel Prize.

John obtained his Ph.D. in mathematics from Princeton in 1950 and joined the faculty at MIT in 1951. For a time he had an affair with a nurse, Eleanor Stier, and together they had a child, John Stier, although they never married. Instead he became captivated by a beautiful and gifted young woman who was one of his graduate students, Alicia de Larde, who had recently graduated from MIT with a degree in physics. They were married in 1957. She soon became pregnant and gave birth to a son, who was also named John, and who would also obtain a Ph.D. in mathematics and develop schizophrenia.

Although he had always been somewhat eccentric, during the pregnancy John began to show signs of full-blown paranoia and cognitive disorganization. Alicia and his friends had to make a difficult decision to have him involuntarily hospitalized at McLean Hospital in 1959. He was treated for several months, and after his discharge he went to Europe with a plan to renounce his U.S. citizenship and avoid future commitments. Alicia retrieved him and sent him back to the United States. She and his sister had him admitted to hospitals in New Jersey, where he was treated with insulin coma and psychotropic medications. His illness continued after discharge as he led a confused and peripatetic life both in the United States and abroad. Although worn down by her concerns over his welfare and that of their son, Alicia did her best to cope with his illness and to help him. They were divorced in the early 1960s, but she took him back into her home in Princeton in 1970, and they continued to live there with their son Johnny until their recent death. They formally declared their commitment to one another by remarriage in 2001. By 1994 he had recovered enough to pass inspection by the Nobel Committee, which did not wish to cast dishonor on the Prize by choosing a recipient who had been psychotic and might manifest inappropriate behavior during the awards ceremony. Fortunately all went well, and John and Alicia's life began a new phase. They received some much-needed money from the Prize, and John's intellectual greatness received formal recognition of the highest type.

I first met John in print by reading Sylvia Nasar's biography of him, *A Beautiful Mind* (1), in 1998. As a person who had been interested in a possible relationship between schizophrenia and creativity, I found it fascinating. Shortly thereafter I was invited to join him as one of two introductory plenary speakers in the evening opening ceremony of a Cold Spring Harbor Laboratory (CSHL) conference on schizophrenia. Although I would have to give that talk with a jet-lagged brain that had just returned from Europe that very day, I would never have missed the opportunity to meet him and talk with him.

At that time the "digs" for CSHL conference speakers were quite simple—single rooms without private baths, no phones in the rooms, single uncomfortable beds, and a very small "common area" with a pay telephone. I ran into John in the common room and chat-

ted with him a bit. I also helped him call Alicia using the pay telephone. Although he was said to have

**The relationship between creativity and mental illness is not simple.**

"recovered," no psychiatrist familiar with schizophrenia could fail to miss his residual symptoms. He had facial tics and grimaces. He would laugh inappropriately. His talk that evening was to a fairly broad audience—a mixture of psychiatrists, psychologists, neuroscientists, and molecular scientists. He talked about what it is like to suffer from schizophrenia, the nature of his own recovery, and the need for more research and greater public understanding. He received rousing applause—far more than I received for my academic discussion of the neural mechanisms of the characteristic symptoms of schizophrenia. Deservedly so.

The next morning John sauntered into the breakfast room and sat down next to me, but he was at a loss as to what he should do next. He, a Nobel laureate in economics, had been living in poverty for nearly three decades. Apparently he had never seen a breakfast buffet. He had no idea that cereal came in individual boxes and that he was supposed to pick one up and take it to his seat. Nor once he had his box could he figure out how to open it or put milk on it. I walked him through the process, enjoying the fact that I was able to use my skills in psychosocial rehabilitation. His lack of social skills was interesting but not surprising once I thought about it. Knowing him more and more over the upcoming years, I realized that his psychosocial impairments were not illness symptoms but instead a consequence of living in economic deprivation for so long. These kinds of impairments in social skills fell away as

he was able to be sure that he and his family would have enough money to buy food.

What else was surprising about that first morning breakfast? None of my psychiatrist colleagues joined us. I thought we would be mobbed. Who wouldn't want to sit next to the great John Nash? But they sat with one another, while we two sat apart, a bit like a pair of junior high school kids who were slightly odd and who were left to sit alone together in the lunch room. Things moderated a bit over the course of the conference, but I was fortunate to be able to spend lots of time talking with John and building a relationship with him.

A year or so later I was asked to interview him and his family for a television documentary. It was an interesting replay of the CSHL breakfast room. The interview was to be done in their home. My husband, Terry, came along. Alicia proudly showed us the new furniture that they had just purchased. (I don't know what they did with the Nobel Prize money, but I am pretty sure that they managed it carefully.) The Ron Howard film was being planned, and John was worried about it. At that point he was not being allowed to give much input. He was not sure how he and his family would be portrayed. And quite naturally he was wondering if he and his family would receive any financial benefits. Tellingly, he was also still in need of psychosocial rehabilitation, and although the family had emerged from poverty, they still were living a very simple life. The film crew had brought in a buffet lunch—the usual thing to most of us: a coffee urn, hot water for tea, teabags, sugar and milk in packets, sandwiches, salads, paper plates and cups, plastic spoons, napkins. For part of the interview, John and Terry retreated to the kitchen to have some coffee while Alicia, Johnny, and I remained in the living room. John had filled a cup with coffee, taken some packets of sugar and milk, and also a plastic spoon. Once he had stirred his mixture in the kitchen, he threw out the packets. But he was completely bewildered by the plastic spoon, another example of the impact of his years of economic deprivation. Was it worth keeping? Did it belong in a drawer? The sink? Which part of the sink? After three or four experiments, he finally settled on a careful placement (using both hands) behind the faucets. The final determination of the value and location of the spoon was deferred to Alicia.

Encountering Johnny (John and Alicia's son, as he was called by everyone) was also an experience. John was relatively tall for his age cohort: 6'1". In his youth John was also strong and muscular. Johnny is also tall and well-built. That day he was also restless and angry. He had prominent religious delusions and hallucinations, was suicidal, and was hostile to both parents. In fact, it was as if he wore an aura of anger around his head toward all human beings. Just as Alicia deserves a heartfelt tribute for rescuing John from his illness, both parents deserve the same for working so hard on behalf of their son. And as so often happens, their only return was Johnny's resentment. It was a very sad experience. Schizophrenia takes a toll on those who suffer from it, but it also exacts one from family members. The more they love their child, the more they suffer.

John and I got together again off and on. John's social poise continued to improve as his social interactions continued to expand beyond a narrow group in Princeton. He had incorporated "a beautiful mind" into his self-image and was more confident and outgoing. Although he was apprehensive about the Ron Howard film, its success clearly made a big difference. While one may quibble about its historical or psychiatric inaccuracies (and there are many), it was a film, not a documentary. And judged as a film, it was beautiful. Russell Crowe portrayed John with powerful sensitivity, and Jennifer Connelly was a brilliant Alicia. It richly deserved its multiple Academy Awards. It conveyed a hopeful and positive message about the nature of mental illness in general and schizophrenia in particular. And it gave John and Alicia an opportunity to celebrate on another day, in another way.

And let's face it. People are more likely to watch a film than read a book. The film reached a LOT of people with its strong affirmative messages.

In 2001 I was invited to serve as the Director of a newly emerging nonprofit research organization, which is now known as the Mind Research Network, dedicated to the integration of imaging technologies (MR, MEG, EEG) and genomics to study mechanisms of major mental illnesses. This involved a national collaboration across sites such as New Mexico (where it was based), Harvard, Minnesota, and Iowa. One of my responsibilities was to build the organizational structure by creating a strong Board of Trustees and a strong Scientific Advisory Board. One of the responsibilities of the Board of Trustees was to advise us on strategies for economic development and sustainability. The new invitees for the Board of Trustees included distinguished national leaders such as David and Betty Hamburg...and John Nash. By 2001 we were approximately 40 years past his McLean admission, 30 years past the time that Alicia brought the homeless and hungry John Nash back into her home and nurtured him, and 7 years past the Nobel. The Ron Howard film was very recent. The current *Journal* Editor-in-Chief was on the Scientific Advisory Board and mingled with John at a joint Board dinner held in my home.

If someone were unfamiliar with the book or the film, during the Board meetings or social events no one (except the very most experienced schizophrenia expert) would have guessed his past history. He and Alicia had fought to get his life back, and they had achieved it. In social settings he held his own. At Board meetings he made perceptive comments about economic strategies.

What explains this amazing recovery? Apart from the very early phase of his illness, he received no somatic treatments. His psychosis drained away over time without the use of antipsychotic medications. Part of his recovery may reflect the natural history of the illness in some patients. He had all the good outcome predictors: late onset, reasonably good premorbid function, high intelligence, a supportive family...and most importantly, a wife who loved him deeply and patiently, never losing sight of the goal of full recovery. Although not a psychiatrist, she intuitively recognized that the best

rehabilitation for him would be a return to the place he had been happiest and most comfortable: the mathematics department at Princeton.

As “the Phantom of Fine Hall” for a number of years, John would work in the library and appear in front of blackboards in unused rooms, working out equations. Although his work with game theory won him his Nobel, he was more a mathematician than an economist. To his disappointment, he had narrowly missed winning the Fields Medal for his work on solving the 19th problem on Hilbert’s List (a famous list of unsolved mathematical problems). He worked on Riemannian manifolds (the geometric study of curved spaces) and nonlinear partial differential equations. The mathematical community at Princeton slowly embraced him and supported him, permitting him to recover connections with like-minded people.

How did Nash himself perceive his recovery? He discussed this topic in his Nobel Symposium speech in 1994. His illness came on during the Cold War, when conspiracy theories abounded and national security seemed to be at risk. He himself worked for a time at the RAND Corporation, and his delusional thinking was probably influenced by the anti-communist attitudes of the time. He described how he had dream-like hypotheses that were delusional in nature and political in content during the ’50s and ’60s. However, he eventually learned to keep them to himself and to avoid hospitalization and treatment. (This is, of course, a strategy that many psychiatrists teach to their paranoid patients—“talk about this only with me.” It can be very helpful.) Then over time he began to reject the ideas, seeing politically oriented thinking as a waste of time. In a sense, he “self-medicated” with self-designed cognitive-behavioral therapy.

While antipsychotic medications have provided great benefits to patients who suffer from schizophrenia, the story of Nash’s illness and recovery sends several very important messages. First, some patients do recover, and recover fully. When we make a diagnosis in a young person for the first time, it is important to point that out. John Nash can even be cited as an example. Not only did he recover fully, but he went on to lead a full and happy life. Second, and very importantly, psychosocial interventions can make an enormous difference to the outcome. In the case of John Nash, *they* are what led to the good outcome. We all need to remember that these therapies also treat brain diseases by well-established mechanisms of neuroplasticity. We all need to advocate for comprehensive care for our patients, which requires more than monthly “med checks.”

What does the mixture of Nash’s mental illness and his creativity tell us about the classic “genius and insanity” question? At a statistical level, using case-control designs, the link has been empirically established, although it appears to be strongest between artistic creativity and mood disorders. There are as yet no similar studies of scientists that have examined large samples. Links with schizophrenia are largely anecdotal. Bertrand Russell had four relatives with illnesses in the psychotic spectrum: his uncle William, his aunt Agatha, his son John, and his granddaughter Helen. Einstein had a son

with schizophrenia. Newton suffered from a psychotic episode and chronic paranoia. The list could go on, but the point has been made. Anecdotes suggest a possible relationship between creativity in the sciences and schizophrenia, but the true test is a well-designed empirical study, and none has as yet been done.

What has Nash himself told us? In his Nobel speech, he briefly discussed the gains and losses of “becoming sane.” He said that returning to “thinking rationally” is “not entirely a matter of joy as if someone returned from physical disability to good physical health.” He says that it “imposes a limit on a person’s concept of his relationship to the cosmos.” He illustrates his point using the example of Zarathustra, who created a religion involving fire worship (Zoroastrianism) in around the sixth century B.C.; to his millions of followers at the time he was an inspired genius, but to others he was a madman (2). By implication, Nash suggests that we will always have visionaries with ideas that seem unconventional, and therefore they will be attacked or dismissed.

As Nash suggests (and many creative people would agree), great ideas can seem insane, especially to those who are conventional. They do not necessarily arise from those compartments of the mind that proceed with measured reason. They swirl around in dreams and unconscious processes, rise to the conscious surface, and are kept or discarded, and not necessarily using the criteria of conventional wisdom.

One part of the link between creativity and psychosis is the ability to access and use those bubbles that float up from the unconscious. In Sylvia Nasar’s biography of Nash, she describes a question asked by an MIT colleague while Nash was hospitalized at McLean. “How could you...believe that extraterrestrials are sending you messages? How could you believe that you are being recruited by aliens from outer space to save the world?” To which Nash replied: “Because the ideas about supernatural beings came to me the same way that my mathematical ideas did. And so I had to take them seriously” (1). The relationship between creativity and mental illness is not simple. Some people see things that others cannot, and they are right, and we call them creative geniuses. Some people see things that others cannot, and they are wrong, and we call them mentally ill. And some people, like John Nash, are both. We would tend to rejoice that John “recovered.” But we must not forget that irrationality and unconscious processes may also contribute to the advancement of knowledge.

It is very fitting that the grand finale of his life was traveling to Norway with Alicia to receive the Abel Prize just days before his death. This is often considered to be the Nobel Prize for mathematics (as is the Fields Medal for younger mathematicians). Alicia was a warm, fun-loving, and outgoing woman with a lovely smile that appeared often. I can recall the look of pleasure that appeared on her face when I once told her that the Alicia and John story was one of the great love stories of all time. Their unexpected death is heart-breaking, but it also contains joy. The two of them had been fated. And they died together, just as they had lived their life together—for better or worse, for richer or poorer, in sickness

and in health. Neither had to live alone, mourning the loss of the other. Many older, long-married couples wish for such an outcome. John and Alicia will rest in peace.

Their son Johnny remains behind and alone, reminding us of how much work we have yet to do to improve the lot of the seriously mentally ill.

#### **AUTHOR AND ARTICLE INFORMATION**

Dr. Andreasen is a Professor and Andrew H. Woods Chair of Psychiatry, and Director, Iowa Neuroimaging Consortium, Carver College of Medicine,

University of Iowa, Iowa City, Iowa. Dr. Andreasen also is Editor-in-Chief Emerita, *The American Journal of Psychiatry*.

Address correspondence to Dr. Andreasen (nancy-andreasen@uiowa.edu).

*Am J Psychiatry* 2015; 172:710–713; doi: 10.1176/appi.ajp.2015.15060709

#### **REFERENCES**

1. Nasar S: *A Beautiful Mind*. New York, Simon & Schuster, 1998
2. Nash JF Jr: John F Nash Jr: biographical. Nobelprize.org, 1994. [http://www.nobelprize.org/nobel\\_prizes/economic-sciences/laureates/1994/nash-bio.html](http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/1994/nash-bio.html)