

# An Enlightening Conversation on Autism

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An hour before a program titled “The Spectrum” began, featured participant David Amaral, Ph.D., complained that in the weeks leading up to the event, he had had trouble getting his hands on *Snow Cake*, a 2007 film in which Sigourney Weaver plays a high-functioning autistic woman. “I tried Netflix, Amazon Prime, and Hulu, and couldn’t find it anywhere,” said Amaral. “But I was eventually able to find the DVD on Amazon—and liked it very much.”

That’s high praise coming from one of the nation’s foremost researchers on autism. Amaral, UC Davis Distinguished Professor of Psychiatry and Neuroscience and the Beneto Foundation chair, and founding research director of the M.I.N.D. Institute, and Weaver, an acclaimed actress, film producer, and noted environmentalist, discussed autism to a sold-out audience at the Rubin Museum of Art in Manhattan.



Lyn Hughes Photography, courtesy of the Rubin Museum of Art.

The program—the second in an annual Brainwave series that runs through April—opened with a clip from *Snow Cake* [here’s a short clip via YouTube]. Despite a review in the *New York Times* that called Weaver’s performance “convincingly precise,” few in the audience had seen or heard of the film. Brain-centric films, even when they are lauded for extraordinary performances (*Concussion* with Will Smith and *Still Alice* with Julianne Moore come to mind), rarely live up to box office expectations.

Autism is a broad, complex, and increasingly important topic. The audience reacted with surprise when Amaral said that new data from the Center for Disease Control reports that one in forty-five children are born with some degree of autism. Autism is also more common to males by a four to one ratio. Making it especially difficult to discuss in finite, conclusive terms, is the fact that there is no biological test for

autism; diagnosis is based on behavior, and the only verified treatment is intensive behavior therapy.

A Dana Alliance member, Amaral opened by talking about autism's defining characteristics: problems with social interaction and restricted and repetitive behavior that negatively affects quality of life. "About 50 percent of people with autism have developmental delays, or what used to be called mental retardation," he said. Less well known, he added, is that about 25 percent of people with autism have either gastrointestinal troubles, sleep problems, or epilepsy, and that between 35 percent and 85 percent also have severe anxiety disorder.

Weaver opened by saying she doesn't think in terms of "deficits." She talked about what she learned during the year she devoted to researching the role; she came away believing that people diagnosed with autism are more "different" than "disabled." "It was an opportunity to go on this exploration, not as a scientist, not as a teacher, and not as a parent," said Weaver. "I certainly saw the debilitating and challenging aspects, especially in terms of raising an autistic child, but I also saw all the cool things they get to do, or the places where they get to go to in their brains when they're not doing what we want them to do."

Weaver solicited advice from Temple Grandin, which led to changing certain aspects of *Snow Cake's* script. She also spent considerable time in England with 40-year-old Ros Blackburn, the daughter of two physicians who was diagnosed as severely autistic as an 18-month-old but has become a noted autism lecturer. In describing Blackburn's experience in what she called "the neuro-typical world," Weaver pointed out that "we don't know how to do half the things she does that make her happy. We don't even know that we're missing some of these things." Learning how Ros copes, she believes, can teach us a lot about the brain.

The discussion included speculation from Amaral about the causes of autism and what recent advances in brain imaging and genetics may mean for the disorder. Images taken of sleeping children with autism have revealed organizational differences in the brain, but not much else. Meanwhile, only half the people with autism are thought to have developed it via a genetic link; the other half probably have an environmental cause (60,000 chemicals in the environment remain untested, said Amaral). Later, in the Q&A portion of the program, a woman who teaches in Kenya wondered why it's rare to find an autistic child in Kenyan schools.

Amaral solicited oohs and ahhs from the audience when he said that two large studies have shown that taking prenatal vitamins in the three months prior to pregnancy dramatically decreases the likelihood of autism. It is among the new research over the past five years that is beginning to make a difference. Still, with 3,000 articles published a year on autism and research becoming increasingly collaborative, "autism is probably one of the most complicated disorders that our medical research has had to tackle," said Amaral. Added Weaver: "I think that's very true."

– Bill Glovin