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Autism's False Prophets: Bad Science, Risky Medicine, and the Search for a Cure
Dr. Paul A. Offit MD. Columbia University Press, New York. (2008) ISBN:
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reviewed by Bertram Chiang — June 23, 2009

As the director of the Vaccine Education Center at the Children's Hospital of Philadelphia, and a co-inventor of the rotavirus vaccine, Dr. Paul Offit is uniquely qualified in *Autism's False Prophets* to present the scientific side of the heated vaccine-autism debate. In Chapter 1 (The Tinderbox), Offit summarizes the false hope and debunking of facilitated communication and the secretin therapy as treatments for children with autism in the 1990s. In Chapter 2 (Lighting the Fuse), Offit focuses on chronicling and critiquing the connection between MMR vaccine and autism stemming from a study by Dr. Andrew Wakefield published in a well-respected British medical journal, *Lancet*, in 1998. As Offit writes:

Despite their professed good intentions, Douglas Biklen (facilitated communication), Karoly Horvath (secretin), and Andrew Wakefield (MMR vaccine) had proven to be false prophets in the quest to find a cause and a cure for autism. (p. 52)

In Chapter 3 (The Implosion), Offit reviews the Wakefield saga, raising serious questions about conflict of interests and approval of human subjects use. The author emphasizes that no other researchers were able to replicate Wakefield's findings while "rates of immunization with MMR declined and measles outbreaks swept across the United Kingdom and Ireland; hundreds of children were hospitalized and four children died from a disease that could easily have been prevented" (p. 55).

After covering in Chapter 4 (A Precautionary Tale) how the precautionary principle was hastily exercised to suspend thimerosal-containing hepatitis B vaccine to newborns in the United States in July 1999, Offit traces the chronology of the thimerosal-autism controversy in the next two chapters. In Chapter 5 (Mercury Rising), Offit details the upswing momentum of the thimerosal-autism connection, culminating in the 2008 publication of David Kirby's book entitled *Evidence of Harm: Mercury in Vaccines and the Autism Epidemic*. In Chapter 6 (Mercury Falling), Offit provides an account of how the thimerosal-autism connection lost its steam because one epidemiological study after another consistently exonerated mercury as a cause of autism and "removal of thimerosal from vaccines [in 2001] hadn't even slowed the number of children being diagnosed with autism" (p. 126).

In Chapter 7 (Behind the Mercury Curtain), Offit describes how Kathleen Seidel, parent of a child diagnosed with Asperger's Syndrome and a proponent of a relatively new neurodiversity discourse, challenges unproven mercury chelators or Lupron as treatments

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for autism. In Chapter 8 (Science in Court), Offit summarizes the Omnibus Autism Proceedings in Federal Claims Court in summer 2007, in which, similar to a class-action lawsuit, “more than 5,000 parents filed claims that vaccines had caused their children’s autism” (p. 158). In Chapter 9 (Science and Media), Offit analyzes how “the motivation of scientists who perform studies [is] different from those in the media who describe them: one wants to inform, and the other to entertain” (p. 176).

In Chapter 10 (Science and Society), Offit identifies a dozen different aspects of our culture to account for the persistence of mercury-in-vaccine controversies in the face of overwhelming evidence exonerating vaccines as a cause for autism. One of these noteworthy cultural aspects is related to the wide spread of anecdotal experience as scientific truth in the cyber world. Offit observes that:

Scientific information is shaped by the scientists, lawyers, and politicians who influence the media, as well as by the media themselves. But there is another influence, one that is arguably even more powerful: the culture in which scientific information is offered. (p. 195)

Offit then concludes his book in Chapter 11 (A Place for Autism) by presenting the views of a handful of parents of children with autism who “instinctively understand that there is no immediate cure for autism and that vaccines are not the cause” (p. 221).

Throughout the book, Offit reminds readers of the various degrees of the medical risk of bad science, ranging from the less consequential alternative diets free of casein and gluten to the more serious suspension of the birth dose of thimerosal-containing hepatitis B vaccine. Among the many revealing things that one can learn from Offit’s book about good science are the self-correcting mechanism of scientific inquiry that eliminates unproven self-serving biases over time, the importance of replications in experimental methods and findings, the fallacy of over-interpreting data, and perhaps most importantly, the critical need to maintain integrity as scientists.

With the use of a bare minimum of medical jargons and not citing references in APA style to avoid appearing pedantic, Offit succeeds in capturing readers’ attention to follow his seamless portrayal of a whole series of events, characters, behind-the-scenes motives and maneuvers, and historical perspectives. In order to tell his tales with authenticity and credibility, Offit uses loads of quoted remarks, whether he’s describing the false promise of facilitated communication, the secretin therapy, the claim that MMR vaccine caused autism, or the connection between thimerosal and autism.

Whether one supports or opposes the vaccine-autism connection, one will find Offit’s book informative, intriguing and thought-provoking. Autism has been a magnet for controversy ever since it was first reported on by Kanner in 1943. The number of 6 to 21-

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year-old students with educationally diagnosed autism in U.S. schools soared from a total of 5,415 in 1991-92 to 224,594 in 2006-07. With many of these children served in inclusive school settings, it is critical for both prospective and in-service educators to receive ongoing professional development about current issues relating to autism and evidence-based strategies in order to work effectively with these children and their families. Until the current search for a cure of autism delivers a breakthrough similar to what happened with polio at the turn of last century, we need to strive for balancing the sometimes competing interests of science and advocacy (Brigham, Gustashaw III, Wiley, & Brigham, 2004) and ensuring that children with autism benefit from the best practices in quality special education interventions such as applied behavior analysis (ABA), social stories, and picture exchange communication system (PECS), to name just a few. In the meantime, regardless of whatever number of epidemiological studies may report statistically significant findings with less than 5 percent of chances, it will remain difficult to convince parents their child's regression into autism does not happen to reflect an exception, or in hypothesis testing vernacular, a Type I error.

Reference

Brigham, F. F., Gustashaw III, W. E., Wiley, A. L., & Brigham, M.S. P. (2004). Research in the wake of the No Child Left Behind Act: Why the controversies will continue and some suggestions for controversial research. *Behavioral Disorders*, 29(3), 300-310.

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