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Gessen, Masha
Perfect rigor. A genius and the mathematical breakthrough of the century.
Boston, MA: Houghton Mifflin Harcourt (ISBN 978-0-15-101406-4/hbk). xi, 242 p. (2009).

This account of Grigori Perelman (b. 1966) and his solution of the Poincaré conjecture is similar in broad intent to Sylvia Nasar's groundbreaking work on another prominent living mathematician, John Nash [*S. Nasar*, A beautiful mind. New York, NY: Simon & Schuster.(1998; Zbl 0907.01038)]. It delves into the life of someone who clearly was in a world of his own while, at the same time, the author exposes the background of institutional inner workings and professional politics. Though some forays into psychological analysis are made, the story relies mainly on such factors as a close description of Perelman's upbringing and especially his schooling. There is, for example, an account of the specialized mathematics school attended by Perelman in Leningrad and how in general such schools were influenced by Andrei Kolmogorov's education reform efforts. Another important part of the background is the Russian Academy of Sciences and its Steklov Mathematics Institute. These and other organizations were in some turmoil in the aftermath of reforms of the 1980s and since. The powerful personal influences are included of such figures as A. D. Alexandrov, Sergei Rukshin ("who played God" in Perelman's life), and Mikhail Gromov. The main point of interest justifying this book is the solution of the famous conjecture of which the author gives a history and a blow-by-blow account of the sometimes contentious and complicated way in which its proof evolved and became accepted. Not surprisingly Perelman gave no help to the author. He refused the Fields medal in 2006. As essentially predicted in this book, he also declined the Clay Millennium Prize in 2010 in recognition of his solving of the conjecture, one of the Millennium Problems for whose solution the Clay Mathematics Institute was offering a million dollar award.

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Classification: A30 H70
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