Mathematical Berlin: Science, Sights, and Stories

CrossMark

by Iris and Martin Grötschel

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REVIEWED BY OSMO PEKONEN

Berlin Story Verlag is a publishing house specializing in affordable Berlin guidebooks, which it offers for a large variety of target audiences. Delightfully, there also exists a city guide customized to meet the needs of mathematicians visiting the capital of Germany. Of the two authors, Martin Grötschel is the president of the Berlin-Brandenburg Academy of Science, whereas his wife Iris, a mathematician as well, is licensed as a tourist guide to lead mathematical (and physical) walks in the city.

The guidebook opens with a historical overview. There is general agreement that scientific mathematics in Berlin was initiated by Gottfried Wilhelm Leibniz with the establishment of the Berlin Academy of Science in 1700. The Frenchman Pierre Louis Moreau de Maupertuis reorganized the institution under the reign of Frederick the Great, an age of Prussian glory that, on the mathematical front, coincided with the 25-year-long stay of Leonhard Euler in Berlin. Dissension with the King drove Euler to accept the invitation of Catherine the Great to move to Saint Petersburg, but he was worthily succeeded by Joseph Louis Lagrange who stayed for 21 years. After Lagrange's departure, however, Berlin slumbered for almost a century whereas Göttingen developed into the new hub of German science. A new mathematical golden age in Berlin dawned with the advent of Karl Theodor Wilhelm Weierstrass who had started his career as a secondary school teacher in Eastern Prussia. The

complicated political history of Germany in the 20th century and its effects on Berlin mathematics are duly explained. Today Berlin boasts three universities—the Humboldt University (founded in 1810), the Technical University (1946), and the Free University (1948)—and numerous other institutions where mathematics is being taught, studied, or applied.

Besides the aforementioned luminaries, the guidebook offers a minibiography of the following mathematicians related to Berlin: Niels Henrik Abel, Ludwig Bieberbach, Johann Peter Gustav Lejeune Dirichlet, Ferdinand Georg Frobenius, Immanuel Lazarus Fuchs, Hilda Geiringer, Wolfgang Haack, Carl Gustav Jacob Jacobi, Sofja Kovalevskaja, Leopold Kronecker, Ernst Eduard Kummer, Johann Heinrich Lambert, Richard von Mises, Erhard Schmidt, Issai Schur, Hermann Amandus Schwarz, and Jakob Steiner.

Surprisingly, no mathematician seems to have a statue in Berlin but the following ones have a street named after them: Cantor, Crelle, Euler, Gauss, Kronecker, Lambert, Leibniz, and Newton. The commemorative plates—many of which have been placed quite recently—are too numerous to be listed here. The guidebook also helps to locate museum objects and works of art of mathematical interest. For more than twenty years, a mysterious street artist keeps painting the perfect number “6” everywhere. There exists an earlier German version of the book [1] and also a companion volume about physics in Berlin [2].

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