

About the Cover

Felix Klein in Göttingen

This month's cover accompanies the article by Eugene Chislenko and Yuri Tschinkel. Their article describes the archive of notes from Klein's seminar over several years, but Göttingen possesses other legacies of Klein (not to speak of Gauss, Dirichlet, Minkowski, Hilbert, or Siegel). Among them is a portfolio of drawings discovered by S. J. Patterson on his arrival there many years ago, stored in the cupboards underneath the glass cabinets containing the famous collection of mathematical models. Among several drawings, the cover illustration is distinguished by its use of color in cross-hatching. It depicts the geometry of a Schottky group with two generators. A note written in the margin, possibly by Klein, specifies the generators S and T of the group as Möbius transformations. The transformation S has attracting fixed point $2.5 + 6.5i$, repelling $-2.5 + 6.5i$, and multiplier $4/9$, while T has conjugate fixed points and the same multiplier.

It is not at all clear who produced the diagram, or for what it was used. The cover drawing is similar to illustrations in the classic text by Fricke and Klein on automorphic functions, but I am not aware that it was in fact published anywhere. Taking color as well as the amount of hard work involved into account, one would have to look at Chapter 4 of the recent book *Indra's Pearls* by Mumford, Series, and Wright to see something quite so impressive.

Patterson speculates that it was Otto Neugebauer who was responsible for preserving the portfolio when the Mathematical Institute moved into its present building in 1929. He writes, "Neugebauer seems to have been the one who recognized that what was merely old in 1929 would eventually be of historical interest"—something for us all to keep in mind.

Our thanks to David Wright, who went to some trouble to interpret the diagram and verify its correctness by reproducing it with modern software.

—Bill Casselman, Graphics Editor
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