

1046-51-1534 **Roger Howe*** (howe@math.yale.edu), Yale University, New Haven, CT 06520, and **William Barker**. *Teaching the Erlanger Programm*.

The first topic of this presentation will be our recently published textbook, *Continuous Symmetry*, that tries to embody the spirit of Felix Klein's *Erlanger Programm* in a course on Euclidean plane geometry. The core of the book studies the geometry of the Euclidean transformations (isometries and similarities) of the plane. These are then applied in several ways: to understanding selected aspects of traditional geometry (e.g., the nine point circle); to understanding the possible symmetries of plane configurations (e.g., the wallpaper groups); and to understanding area. The transformational viewpoint can enrich all these topics of study.

This book is in fact about half of a course originally conceived as a journey of ideas from the discovery to non-Euclidean geometry (about 1830), through the insight of Klein (about 1870), to the formulation of the special theory of relativity by Einstein (1905). This presentation will discuss both the realized part, as presented in *Continuous Symmetry*, and the part still under construction. (Received September 15, 2008)