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Michael J. Hopkins* (mjh@math.harvard.edu), Department of Mathematics, Harvard University, 1 Oxford St., Cambridge, MA 02138. *Chern-Weil theory and abstract homotopy theory.*

As was so beautifully depicted by Hermann Weyl in "The Classical Groups", many of the fundamental structures of geometry can be discovered as the invariants of symmetries. This talk will explore one collection of these, the Chern-Weil invariants, and how carefully expressing the way in which they are "invariants" naturally leads to the framework of abstract homotopy theory. (Received September 16, 2014)