1099-22-23   **Michael P Cohen*** (`michael.cohen@ndsu.edu`), P.O. Box 6050, Fargo, ND 58108, and **Robert R Kallman**, 1155 Union Circle #311430, Denton, TX 76203. *A conjecture of Gleason on the foundations of geometry.*

In a 1957 paper, Gleason made a very general conjecture that if an abstract (un-topologized) group G acts on a Polish space M by homeomorphisms, and the action satisfies a few weak geometrically motivated assumptions, then G may always be assigned a Polish topology in which G acts continuously on M. Gleason proved his conjecture in a special case. Using some automatic-continuity-type theorems, we show that the conjecture is false in general, and that its conclusion may only be achieved under very strong hypotheses. Along the way we observe an automatic "almost everywhere" continuity result for a class of functions that behave like but are distinct from functions of Baire class 1. (Received December 02, 2013)