Meeting: 1003, Atlanta, Georgia, SS 3A, AMS-MAA Special Session on History of Mathematics, I

1003-01-189 **Frank S. Quinn*** (quinn@math.vt.edu), Mathematics, Va Tech, Blacksburg, VA 24061-0123.

History of manifolds.

We trace the evolution of "manifold" to illustrate ways mathematical objects are discovered and named. Stages include 1850–1900: "useful language" and vague unifying concept; 1900–1930: natural objects indicated by reference to examples, intuitions without precise proof; 1930–1955: precise definitions of main versions (smooth, PL, topological and homology), and enough technique to see definitions are right and make progress; 1955–1970: basic theory done and relations among versions established; 1970–present: "expert" view based on commonality of behavior beyond differences in technique for different versions: "high" and "low" dimensional rather than smooth, topological, etc. (Received August 22, 2004)