6) Of course, the author has the right to define a manifold to be connected (page 275). But a student will discover to his dismay in other courses that many classical Lie groups are not connected and are still called manifolds. Cf. also the frame bundle of a (connected) manifold.

7) Submanifolds are required (page 277) to carry the relative topology. A great many investigations owe their existence solely to the fact that this is too restrictive a condition in very natural circumstances (cf. Helgason, Chapter II).

8) The bibliography mentions a disproportionate amount of obscure authors from the 18th and 19th centuries, but I found practically no reference to any modern textbook on the medium level. The omission of some of the outstanding modern treatises strikes me also as curious (Bishop/Crittenden; Favard; Helgason; Sternberg; Wolf).

I feel that the shortcomings of this text are so numerous as to outweigh its advantages, but I must mention in fairness some of the latter: it contains introductions to the subjects of Bergman's metric, modular surfaces of analytic functions, the mappings used in cartography, a wealth of (mostly traditional) exercises, and many good pictures.

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Singularities of smooth maps, by James Eells, Jr. Gordon and Breach, 150 Fifth Avenue, New York 10011, 1967. ix + 104 pages. Hardcover - U.S. $5.50, prepaid - U.S. $4.40; paperback - U.S. $3.00, prepaid - U.S. $2.40.

This book is an excellent introduction to the study of singularities of smooth maps; this branch of differential topology is rapidly developing and unfortunately there is no easy introduction to a first year graduate student (except for some original papers of Morse, Whitney, Pontrjagin and Thom, to mention a few). The author has done an excellent job. Here is a chapter-wise summary:

Chapter I is the standard introduction to calculus in E_n and definition of manifolds and their tangent spaces.

Chapter II is devoted to the study of singularities of smooth maps: Whitney's imbedding theorem is proved. He then studies generic maps, i.e. maps which have only non-generate singular points.

Chapter III studies the relation between the topology of a smooth manifold and of singularities of a smooth real valued function on it. The author discusses the theorem of Morse (Morse inequalities) and the homology properties of critical points (for example, the Index theorem). Finally, he gives some applications to Differential Geometry and Algebraic Geometry (Lefschetz's theorem).

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