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PART II. COMPLEX MANIFOLDS¹

The notion of a complex manifold is a natural outgrowth of that of a differentiable manifold. Its importance lies to a large extent in the fact that it includes as special cases the complex algebraic varieties and the Riemann surfaces and furnishes the geometrical basis for functions of several complex variables. Its development has led to clarifications of classical algebraic geometry and to new results and problems. Two notions from algebraic topology have so far played an essential rôle: sheaves (faisceaux) and fiber bundles. But the deeper problems on complex manifolds are not entirely topological.

1. **Topology of complex manifolds.** From the point of view of topology a fundamental problem would be to characterize the orientable manifolds of even dimension $2n$ which can be given a complex structure. But this is too difficult and, at least at the present moment, one

¹ Acknowledgement. §4 on Stein manifolds is based on material prepared by Baily, Bremermann, and Gunning for Part I, later transferred to this part for the sake of harmony. N. Hawley prepared a summary of Atiyah's work on projective bundles. The whole manuscript has been critically read by A. Borel, K. Kodaira, D. C. Spencer, H. C. Wang, A. Weil, and many others. While it is a pleasant duty of the writer to thank these mathematicians for their help and criticisms, it should be remarked that the report is prepared by the writer as an organized article, for whose shortcomings and inaccuracies these mathematicians are not responsible.