

Contents

I. Completeness, Finite Dimensionality, Differentiability	1
1. The Theorem of Hopf and Rinow	1
2. Geodesic Completeness. Local Homogeneity	6
3. The Topology of r -Spaces	10
4. Finite-Dimensional G -Spaces	14
5. Differentiability	20
II. Desarguesian Spaces	27
6. Similarities	27
7. Imbeddings of Desarguesian Spaces	32
8. A Characterization of Hilbert's and Minkowski's Geometries	36
III. Length Preserving Maps	41
9. Shrinkages, Equilong Maps, Local Isometries	42
10. Spaces without Proper Local Isometries	45
11. Proper Equilong Maps	50
IV. Geodesics	56
12. Closed Hyperbolic Space Forms	57
13. Axes of Motions and Closed Geodesics	64
14. Plane Inverse Problems. Higher Dimensional Collineation Groups.	69
15. One-Dimensional and Discrete Collineation Groups	73
16. Bonnet Angles. Quasi-Hyperbolic Geometry	80
17. Various Aspects of Conjugacy	84
V. Motions	91
18. Finite and One-Parameter Groups of Motions	91
19. Transitivity on Pairs of Points and on Geodesics.	95
VI. Observations on Method and Content	101
Literature	106