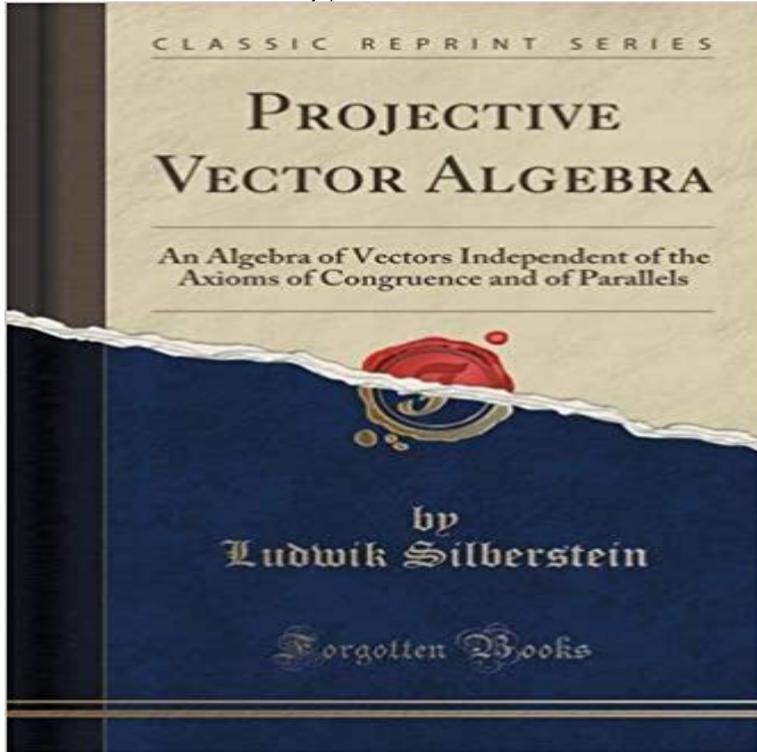


Projective Vector Algebra: An Algebra of Vectors Independent of the Axioms of Congruence and of Parallels (Classic Reprint)



Excerpt from Projective Vector Algebra: An Algebra of Vectors Independent of the Axioms of Congruence and of Parallels. The reader will find in the widely known memoir of Hilbert on the Foundations of Geometry* various algebras of segments, independent of one or of another group of axioms, the purpose of these algebras being, in Hilbert's case, to show the mutual independence of his set of axioms. More recently, in an excellent book, Schur has taken up von Staudt's calculus of projective segments (Wurfrechnung) in order to develop it analytically and to build upon it a complete system of metrical, euclidean and non-euclidean, geometry. This is admirably done in 4 and 5 of his work. Schur bases his definitions of equality, of addition and multiplication of projective segments, upon the correspondence known as prospectivity, and, at first, avails himself only of the axioms of connection and of order [Schur's postulates I. to 8.]; for the further development of the subject, however, he has recourse [5] to the axioms of congruence or of motion, postulates 9. to 13., and completes his investigation by adding an independent, 14th postulate concerning the use of compasses. The result is a most charming and lucid structure of the complete system of non-euclidean geometry (of an isotropic three-dimensional space of any constant curvature), the last touch to this true masterpiece being given in Schur's closing section by adding the archimedean postulate. About the Publisher Forgotten Books publishes hundreds of thousands of rare and classic books. Find more at www.forgottenbooks.com This book is a reproduction of an important historical work. Forgotten Books uses state-of-the-art technology to digitally reconstruct the work, preserving the original format whilst repairing imperfections present in the aged copy. In rare cases, an imperfection in the original, such as a blemish or missing page,

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