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Sommario/riassunto	These lecture notes are based on a series of lectures given at the Nankai Institute of Mathematics in the fall of 1998. They provide an overview of the work of the author and the late Chih-Han Sah on various aspects of Hilbert's Third Problem: Are two Euclidean polyhedra with the same volume "scissors-congruent", i.e. can they be subdivided

into finitely many pairwise congruent pieces? The book starts from the classical solution of this problem by M Dehn. But generalization to higher dimensions and other geometries quickly leads to a great variety of mathematical topics, such as homology of gr