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Nota di contenuto	Weyl and Contemporary Inationary Cosmology: A Methodological and Philosophical Critique (Ryckman) -- From the problem of space to the epistemology of science. Hermann Weyl's reaction on the dimensionality of the world (Bianchi) -- The Argument of the Ball of Plasticine. A Pivot for Weyl's Philosophy of Space (Bernard) -- The changing faces of the Problem of Space (Scholz) -- Logic of gauge (Afriat) -- Hermann Weyl's reading of Gaston Bachelard (Alunni) -- Can I count myself a king of innitesimal space? (Atten) -- Space and manifold of possibilities according to Hermann Weyl (Timmermans) -- Internationalization of Scientic Activity in Spain in the interwar period (Rosell) -- The philosophical residue of the problem of space (Lobo) -- Neighbourhoods and Intersubjectivity Analogies between Weyl's Analyses of the Continuum and Transcendental Phenomenological

Theories of Subjectivity (Sieroka) -- Between Phenomenology and intuitionism: the problem of the continuum in Weyl (Pradelle) -- Intuition and conceptual construction in Weyl's analysis of the problem of space (Biagioli) -- Neo-Kantianism and post-Kantianism in Weyl and Poincaré's thought(Audurean) -- Les implications scientiques de l'épistémologie: Weyl et Husserl(Kerszberg) -- Husserl and Weyl on the constitution of space The case of physical space(José da Silva).

Sommario/riassunto

This book investigates Hermann Weyl’s work on the problem of space from the early 1920s onwards. It presents new material and opens the philosophical problem of space anew, crossing the disciplines of mathematics, history of science and philosophy. With a Kantian starting point Weyl asks: among all the infinitely many conceivable metrical spaces, which one applies to the physical world? In agreement with general relativity, Weyl acknowledges that the metric can quantitatively vary with the physical situation. Despite this freedom, Weyl “deduces”, with group-theoretical technicalities, that there is only one “kind” of legitimate metric. This construction was then decisive for the development of gauge theories. Nevertheless, the question of the foundations of the metric of physical theories is only a piece of a wider epistemological problem. Contributing authors mark out the double trajectory that goes through Weyl’s texts, from natural science to philosophy and conversely, always through the mediation of mathematics. Readers may trace the philosophical tradition to which Weyl refers and by which he is inspired (Kant, Husserl, Fichte, Leibniz, Becker etc.), and explore the mathematical tradition (Riemann, Helmholtz, Lie, Klein) that permitted Weyl to elaborate and solve his mathematical problem of space. Furthermore, this volume analyzes the role of the interlocutors with whom Weyl discussed the nature of physical space (Einstein, Cartan, De Sitter, Schrödinger, Eddington). This volume features the work of top specialists and will appeal to postgraduates and scholars in philosophy, the history of science, mathematics, or physics.