

Friedrich Stadler
Editor

Ernst Mach – Life, Work, Influence

Contents

Part I Mach and Austrian Philosophy

- 1 Only a Philosophical “Holiday Sportsman”? – Ernst Mach as a Scientist Transgressing the Disciplinary Boundaries 3
Friedrich Stadler
- 2 The Specter of “Austrian Philosophy”: Ernst Mach and a Modern Tradition of Post-Philosophy 23
Katherine Arens
- 3 Brentano’s Lectures on Positivism (1893–1894) and His Relationship to Ernst Mach 39
Denis Fisette
- 4 From Brentano to Mach. Carving Austrian Philosophy at its Joints . 51
Guillaume Fréchette
- 5 Mach, Wittgenstein, Science and Logic 63
John Preston
- 6 Mach’s “Sensation”, Gomperz’s “Feeling”, and the Positivist Debate About the Nature of the Elementary Constituents of Experience. A Comparative Study in an Epistemological and Psychological Context 91
David Romand

Part II Mach, Methodology, and Philosophy of Science

- 7 Ernst Mach: Science and Buddhism. A Misunderstanding Under Globalization’s Signature 111
Ursula Baatz
- 8 Some Remarks on Mach’s Philosophical Doctrines 123
Sandy Berkovski

9	Mach's Post-Kantian Empiricism. For a New Concept of Givenness.	135
	Alexandre Couture-Mingheras	
10	The Transdisciplinary Legacy of Ernst Mach: From the Analysis of Sensations to the GPS Inside the Brain	145
	David Dahmen, Ronald Villa, René J. Campis, and Eduardo Bermúdez Barrera	
11	Mach's Criticism, or a Discourse on the Method	157
	Elena D'Amore	
12	Mach and Panqualityism	165
	Tomáš Hříbek	
13	Can Monism be Neutral?	177
	Germinal Ladmíral	
14	Intentionality vs. Psychophysical Identity	187
	Denis Seron	
15	Economical Unification in Philosophy of Science Before and After Ernst Mach	199
	Avril Styrmán	
16	Talking Past Each Other: Mach and Husserl on Thought Economy	213
	Iulian D. Toader	

Part III On Mach's Impact and Influence

17	Appraisal and Influence of Mach's Works in South America	225
	Eduardo Bermúdez Barrera, David Dahmen, René J. Campis, and Ronald Villa	
18	Ernst Mach in Prague and the Dawn of Gas Dynamics	235
	Rudolf Dvořák	
19	Ernst Mach and Johannes Kessel in Prague 1871–1874	245
	Rüdiger Hoffmann and Lutz-Peter Löbe	
20	The “Mach Argument” and its Use by Vladimir Fock to Criticize Einstein in the Soviet Union	259
	Jean-Philippe Martinez	
21	The Scientific World-Conception in the Making: Towards the Ideological Roots of Logical Empiricism in Berlin and in Vienna	271
	Günther Sandner	
22	Mach's Reception in Pre-revolutionary Russia	283
	Daniela Steila	

- 23 Ernst Mach as an Applicant and the Candidate *secundo loco*
for two Professorships of Physics in Prague in 1866–67 295
Emilie Těšínská
- Part IV Mach, Physics, and the Natural Sciences**
- 24 Mach’s Influence on Einstein’s “Biggest Blunder”
and the Consequences for Modern Cosmology 311
Peter C. Aichelburg
- 25 “Direct Observation”: A Controversy About Ernst Mach’s
and Peter Salcher’s Ballistic-Photographic Experiments 323
Christoph Hoffmann
- 26 New Water in Old Buckets: Hypothetical and Counterfactual
Reasoning in Mach’s Economy of Science 333
Lydia Patton
- 27 Revisiting Einstein’s Happiest Thought. From the Physiology
of Perception to Experimental Propositions and Principles
in the History of Relativity 349
Richard Staley
- 28 Mach and Relativity Theory: A Neverending Story in HOPOSia? ... 367
Gereon Wolters
- 29 Peter Salcher – Mach’s Corresponding Collaborator 387
Ana Alebic-Juretic
- 30 Light and Shadow – The Experimental Collaboration Between
Ernst Mach and Ludwig Mach, Father and Son 403
Johannes-Geert Hagmann
- 31 Experiment and Experience. On Ernst Mach’s Theory
of Scientific Experimentation 419
Eva-Maria Jung
- 32 Mach’s Views on Physical Space and Time and Their
Grounding in Perceptual Space and Time 431
Theodore L. Kneupper
- 33 The Discovery of the Mach Reflection Effect and Its
Demonstration in an Auditorium 443
Peter Krehl and Martin van der Geest
- 34 Ernst Mach’s Geometry of Solids 471
Klaus Robering

Part V Mach and Pragmatism

- 35 **Empiricism or Pragmatism? Ernst Mach's Ideas in America 1890–1910** 485
Erik C. Banks
- 36 **Mach, Jerusalem and Pragmatism** 501
Thomas Uebel
- 37 **What Does it Mean to Orient Oneself in Science? On Ernst Mach's Pragmatic Epistemology** 525
Pietro Gori
- 38 **"The Most Artistic Lesson I Ever Heard" – A Contribution to the Reflection on a Comment Made by William James Regarding a Lesson by Ernst Mach** 537
Mariana Valente

Part VI Mach, Didactics, and Pedagogy

- 39 **Mach's Educational Theory and Practice** 553
Michael R. Matthews
- 40 **Transforming Thinking: Can Mach's Pedagogy Be Replicated?** 571
Hayo Siemsen and Karl Hayo Siemsen
- 41 **On the Influence of Ernst Mach on Contemporary Physics Curriculum at Schools: The Concept of Weight** 601
Igal Galili
- 42 **Mach's and Salcher's Photographs Inspire a Multimedia Project** 615
Tobias Macke, Johannes Puschner, Wolfgang Schöner,
and Clemens Ulrich
- 43 **Ernst Mach's Didactics in the Context of Austrian History of Education** 625
Josef Pircher

Part VII Mach, Duhem, and Comte

- 44 **Mach, Duhem and the Historical Method in Philosophy of Science** 637
Anastasios Brenner
- 45 **Duhem on Thought Experiments. Or: Did Duhem Really Reject Mach's Thought Experiments?** 651
Marco Buzzoni
- 46 **Auguste Comte and the Monistic Positivism of Ernst Mach** 663
Laurent Clauzade

Part VIII Mach Research – New Sources and Perspectives

47 Proposal for a Complete Edition of Ernst Mach's Correspondence.....	675
Klaus Hentschel	
48 Otto Blüh and Ernst Mach's Legacy: Inheritance and Task	681
Chantal Ferrer-Roca	
49 Ernst Mach's „Bekehrung“ zum Atomismus/Ernst Mach's “Conversion” to Atomism – A Dialogue Between Mach and Popper-Lynkeus by Otto Blüh	695
Chantal Ferrer-Roca	
Correction to: Ernst Mach's “Bekehrung” zum Atomismus/Ernst Mach's “Conversion” to Atomism – A Dialogue Between Mach and Popper-Lynkeus by Otto Blüh	C1
General Part: Reviews	709
Index of Names	735