

Table of contents

Geleitwort	vii
Foreword by the author.....	xi
Cassirer and the Reformulation of Physical Object.....	1
Abstract.....	1
1. The state of a physical system	2
2. The substantialism of the mechanistic point of view and the reformulation of the physical concept of object	5
2.1. The substantialism of the mechanistic point of view	5
2.2. The concept of field.	10
2.3. The reformulation of the physical concept of object	14
2.3.1. Cassirer's approach is not Kantian	14
2.3.2. The relative determination of physical knowledge and the epistemological primacy of law over object	18
2.3.2.1. About the theory of general relativity	19
2.3.2.2. About quantum theory.....	23
3. Conclusion.....	27
Cassirer's conception of space and time as structural dynamical categories.....	29
Abstract.....	29
1. Kant and Cassirer follow two different approaches.....	30
2. What are space and time?	33
2.1. Space-time: ideal concepts of relation and of order.....	33
2.2. Space and time: <i>a priori</i> elements.....	35
2.3. Space-time: categories of plasticity and flexibility	37

Table of contents

3. The function of space-time.....	40
3.1. The space-time of Einstein’s Special Relativity.....	41
3.2. The space-time of Einstein’s General Relativity.....	46
4. Conclusion: Cassirer’s conception of the space-time of physics is not at all Kantian.....	53
Cassirer’s Conception of <i>Scientific Experiment</i>.....	55
Abstract	55
1. Relationship between geometry, experience and physics	56
2. Cassirer’s conception of experiment	61
2.1. Experiment as theory of invariants.....	61
2.2. Michelson-Morley Experiment and Cassirer’s conception of <i>a priori</i> or the logical meaning of scientific experiment.....	68
2.2.1 The logical meaning of physical experiment	68
2.2.2. Michelson-Morley Experiment	73
3. Conclusion.....	81
Cassirer’s interpretation of Causality and Objectivity.....	83
Abstract	83
1. The meaning of the concept of objectivity in relation to the truth concept	84
2. Cassirer’s interpretation of the principle of the causality of physics	88
2.1. The principle of causality as a statement of a fourth level: a transcendental statement, a constitutive but also regulative principle	88
2.2. Causality as ‘conformity to laws’	96
3. Conclusion.....	106
Bibliography.....	109