## Table of Contents

	INTRODUCTION TO THE NEW EDITION	XI
	PREFACE	xv
I.	THE RISE OF THE MECHANICAL VIEW	
	The great mystery story	3
	The first clew	5
	Vectors	11
	The riddle of motion	18
	One clew remains	31
	Is heat a substance?	35
	The roller-coaster	44
	The rate of exchange	47
	The philosophical background	51
	The kinetic theory of matter	55
<b>II.</b>	THE DECLINE OF THE MECHANICAL VIEW	
	The two electric fluids	69
	The magnetic fluids	80
	The first serious difficulty	84
	The velocity of light	90
	Light as substance	93
	The riddle of color	96
	What is a wave?	100
	The wave theory of light	105
	Longitudinal or transverse light waves?	116
	Ether and the mechanical wiew	110

V

**III. FIELD, RELATIVITY** 

The field as representation	125
The two pillars of the field theory	137
The reality of the field	142
Field and ether	150
The mechanical scaffold	153
Ether and motion	164
Time, distance, relativity	177
Relativity and mechanics	192
The time-space continuum	199
General relativity	209
Outside and inside the elevator	214
Geometry and experiment	222
General relativity and its verification	235
Field and matter	240

IV. QUANTA

Continuity-discontinuity	249
Elementary quanta of matter and electricity	251
The quanta of light	257
Light spectra	265
The waves of matter	270
Probability waves	280
Physics and reality	294

299

INDEX

vi