

CONTENTS

CHAP.	PAGE
I. INTRODUCTORY CHAPTER	1
MATHEMATICAL THEORY OF A GAS IN A STEADY STATE	
THE LAW OF DISTRIBUTION OF VELOCITIES :	
II. THE METHOD OF COLLISIONS	14
III. THE METHOD OF STATISTICAL MECHANICS	39
IV. COMPARISON BETWEEN THE METHODS OF THE TWO PRECEDING CHAPTERS .	58
V. GENERAL STATISTICAL MECHANICS AND THERMODYNAMICS	66
PHYSICAL PROPERTIES OF A GAS IN A STEADY STATE	
VI. TEMPERATURE, PRESSURE, ETC.	111
VII. MASS MOTION, THERMODYNAMICS, CALORIMETRY AND DISSOCIATION .	165
MATHEMATICAL THEORY OF A GAS NOT IN A STEADY STATE	
VIII. BOLTZMANN'S EQUATION, ETC.	206
IX. MAXWELL'S THEORY	231
X. THE FREE PATH	250
PHYSICAL PHENOMENA OF A GAS NOT IN A STEADY STATE	
XI. VISCOSITY	268
XII. CONDUCTION OF HEAT	290
XIII. DIFFUSION	307
XIV. THE EVIDENCE OF THE KINETIC THEORY AS TO THE SIZE OF MOLECULES .	326
XV. AEROSTATICS AND PLANETARY ATMOSPHERES	334
RADIATION AND THE QUANTUM THEORY	
XVI. STATISTICAL MECHANICS AND THE PARTITION OF ENERGY IN CONTINUOUS MEDIA	349
XVII. RADIATION AND THE QUANTUM THEORY	366
XVIII. QUANTUM DYNAMICS	406
APPENDICES	
A. INTEGRALS INVOLVING EXPONENTIALS	437
B. TABLES FOR NUMERICAL CALCULATIONS	438
INDEX OF SUBJECTS	439
INDEX OF NAMES	442