

TABLE OF CONTENTS:

GLOSSARY	xv
----------------	----

VOLUME I

Chapter 1

INTRODUCTION

1.1. General:.....	1
1.2. Aim of this book:	1
1.3. Scope of this book:	3
1.4. Interaction:	5

Chapter 2

UNIVERSAL MEDIUM

2.1. Assumptions in physics:	9
2.2. Entities:	13
2.2.1. Substance:	14
2.2.2. Matter:	15
2.2.3. Macro bodies:	18
2.3. Space:	19
2.3.1. Fundamental dimensions:	22
2.3.2. Space as a reference:	23
2.3.3. Dimensional spatial systems:	27
2.3.4. Necessity of universal medium:	28
2.3.5. Ideal universal medium:	29
2.4. Postulation:	33
2.4.1. Structure-less matter:	34
2.4.2. States of existence of matter:	37
2.4.3. Postulated matter-particle:	38
2.4.4. Quantum of matter:	39
2.4.5. Properties of quantum of matter:	43
2.5. Nature of quanta of matter:	46
2.5.1. Actions within quantum of matter:	47
Integrity of matter-content:	48
Change in dimensional status:	50
Displacement in space:	55
2.5.2. Co-existence of matter-bodies:	59
2.5.3. Co-existence of quanta of matter:	60
2.5.4. Preservation of individuality:	64

TABLE OF CONTENTS

2.5.5. Interaction between quanta of matter:	68
2.6. Universal medium:	73
2.6.1. Junction points:	75
2.6.2. 2D energy-field:	78
2.6.3. Equilibrium of 2D energy-field:.....	81
2.6.4. Properties of 2D energy-fields:	84
2.6.5. Homogeneity of universal medium:	87
2.6.6. Anisotropy of universal medium:	88
2.6.7. Relative motion in universal medium:	89
2.7. Distortions:	90
2.7.1. Reactive effort:	91
2.7.2. Field-effort:	93
2.7.3. Work and effort:	95
2.8. Distortion-field:	97
2.8.1. Transmission of distortion-fields:	100
2.8.2. Range of distortion-field:	105
2.8.3. Time and inertia:	106
2.9. Disturbance:	109
2.9.1. Breakdown of 2D energy-field:	110
2.9.2. Creation of disturbance:	110
2.9.3. Magnitude of a disturbance:	112

Chapter 3

GRAVITATION

3.1. Gravitation:	115
3.1.1. Range of gravitation:	116
3.1.2. Nature of gravitation:	116
3.1.3. Strength of gravitation:	117
3.2. Application of gravitation:	119
3.2.1. Action of gravitation:	121
3.2.2. Motion by gravitation:	124
3.2.3. Pressure energy of disturbance:	124
3.2.4. Gravitation on a straight perimeter:	125
3.2.5. Gravitation on curved perimeter:	128
3.3. Gravitation on a disturbance:.....	131
3.3.1. Shaping a disturbance:	131
3.3.2. Size reduction of disturbance:	133
3.3.3. Contraction of small disturbance:	134
3.4. Apparent attraction:	136
3.4.1. Gravitational attraction in 2D space:	139
3.4.2. Effect of angle subtended:	142

Chapter 4

PHOTON

4.1. Contraction of larger disturbance: 145

 4.1.1. Internal pressure of disturbance: 145

 4.1.2. Very large disturbance: 147

 4.1.3. Disturbance of optimum size: 148

 4.1.4. Creation of 3D matter:..... 149

 4.1.5. Creation of higher-dimensional matter: 151

 4.1.6. Critical radial size: 152

 4.1.7. Molding a 3D disturbance: 153

4.2. Ejection effort: 153

4.3. Spin effort: 156

4.4. Photon: 156

 4.4.1. Centrifugal action in 3D disturbance: 157

 4.4.2. Creation of photon: 158

 Shape of photon: 160

 Concepts of photon: 162

 Polarity of photon: 163

4.5. Motion of photon: 164

 4.5.1. Linear motion of photon: 166

 Stabilizing mechanism: 172

 4.5.2. Spin motion of photon: 176

 Stabilizing mechanism: 179

4.6. Stable photon: 183

 4.6.1. Stability of straight-line path: 185

4.7. Stability of photon’s linear speed: 189

 4.7.1. Higher than critical speed: 191

 4.7.2. Lesser than critical speed: 196

4.8. Stability of photon’s spin speed: 200

 4.8.1. Frequency shift of light: 200

4.9. Resultant speed of photon: 205

4.10. Extent of Universe: 206

4.11. Background radiation: 206

4.12. Matter and energy-content of photon: 207

 4.12.1. Work and energy about photon: 210

 4.12.2. Kinetic energy and rest mass: 216

Chapter 5

INERTIA

5.1. Physical body: 219

 5.1.1. State of motion: 221

TABLE OF CONTENTS

5.1.2. Interactions between 3D matter-bodies:	224
5.2. Inertial -efforts:	226
5.2.1. Nature of effort:	228
5.2.2. Action of inertial -effort:	235
5.2.3. Inertia:	244
5.2.4. Efficiency of effort:	246
5.3. Mechanism of inertial motion:	247
5.3.1. Effort on macro body:	254
5.3.2. Addition of co-linear motions:	258
5.3.3. Resultant of concurrent motions:	262
5.3.4. Linear momentum:	266
5.4. Torque:	267
5.4.1. Mechanism of rotary motion:	270
5.4.2. Inertia of rotary motion:	274
5.4.3. Angular momentum:	275
5.5. 'Centrifugal force':	278
5.5.1. Bucket argument revisited:	282
5.6. Motion in circular path:	290
5.6.1. Momentum in circular motion:	293
5.7. 'Centripetal force':	298
5.7.1. Reduction in 'centri petal force':	300
5.7.2. Increase in 'centripetal force':	301
5.7.3. Termination of 'centripetal force':	302
5.7.4. Tangential motion:	304
5.8. Linear motion of rotating body:	306
5.8.1. Rotation by linear effort:	314
5.9. Gyroscopic inertia:	316
5.9.1. Gyroscopic precession:	317
5.10. Effect of very large explosion:	320

Chapter 6

RADIATION

6.1. Matter-field:	325
6.1.1. Distortions in matter-fields:	327
6.1.2. Directional classification of distortions:	333
Normal-distortion:	334
Parallel-distortion:	335
6.2. Radiation:	336
6.2.1. Radiation of matter:	337
6.2.2. Radiation of energy:	341
6.3. Velocity of radiation:	343

6.4. Light:	345
6.4.1. Speed of light:	346
6.4.2. Velocity of electromagnetic wave:	349
6.5. Relative velocity of radiation:	351
6.5.1. Velocity of radiation in medium:	358
6.6. Properties of radiation:	360
6.7. Reflection of light:	362
6.7.1. Angle of reflection:	370
Difference in rest masses:	372
Differences in angle of incidence:	373
Selective reflection:	376
6.8. Doppler Effect:	380
6.8.1. Reflection from regressing surface:	382
6.8.2. Reflection from approaching surface:	383
6.8.3. Radiation from moving source:	384
6.8.4. Radiation received by moving body:	385
6.9. Radiation near very large macro body:	387
6.10. Refraction of light:	389
6.10.1. Magnitude of refraction:	393
6.10.2. Dispersion of composite light:	394
6.10.3. Refraction during reflection:	395
6.11. Selective refraction:	396
6.11.1. Total internal reflection:	398
6.11.2. Double refraction:	399
6.11.3. Double reflection:	399
6.12. Diffraction of light:	400
6.12.1. Wave nature of fundamental particles:	403
6.13. Interference of light:	404
6.14. Polarization of light:	407

Chapter 7

GRAVITATIONAL ATTRACTION

7.1. Push gravity:	411
7.2. Gravitation in 3D space:	413
7.3. Gravitational attraction:	414
7.3.1. Attraction in 3D space:	416
7.3.2. Attraction between photons:	418
7.3.3. Attraction between coplanar photons:	421
7.3.4. Attraction between macro bodies:	426
7.3.5. Magnitude of attraction:	432
7.4. Inverse square law:	435

TABLE OF CONTENTS

7.4.1. Breakdown of inverse square law: 436
7.5. Gravitational constant in 2D space:..... 440
7.5.1. Practical gravitational constant: 443
7.6. Action at a distance: 445
7.7. Screening gravitation: 446
7.8. Levitation: 448
7.9. Anomaly in gravitational attraction: 449

Chapter 8

DISTORTION-FIELDS

8.1. Unstable photon: 453
8.2. Distortions due to unstable photon: 457
8.3. Distortion-field: 461
8.3.1. Interaction between distortion-fields: 468
8.3.2. Mechanism of field-efforts: 470
8.3.3. Lines of force: 471
8.4. Superposition of distortion-fields: 472
8.4.1. Unidirectional linear distortion-fields: 474
8.4.2. Linear distortion-fields in opposite directions: 475
8.4.3. Angular distortion-fields: 476
8.5. Field-efforts between photons: 477
8.6. Interaction between photons: 481
8.6.1. Linearly moving photons: 484
Motion in same direction: 485
Motion in opposite directions: 487
8.6.2. Angularly moving photons:..... 490
Motion in dissimilar directions: 493
Motion in similar direction: 498
8.7. Interaction between distortion-fields: 509
8.7.1. Linear distortion-fields: 512
8.7.2. Angular distortion-fields: 514
Dissimilar angular distortion-fields: 516
Similar angular distortion-fields: 519
8.7.3. Assorted distortion-fields: 522

Chapter 9

BITON

9.1. Formation of biton: 531
9.2. Binding effort of biton: 535
9.3. Stable biton: 538
9.3.1. Change in matter-content of one photon: 541
9.4. Distortion-field about biton: 543

9.5. Stabilization of biton: 550
 9.5.1. Higher matter-content of biton: 553
 9.5.2. Lower matter-content of biton:..... 554
 9.5.3. Ground state of matter: 555
 9.6. Stable biton in free space: 556
 9.7. External pressure on biton: 558
 9.7.1. Expansion of macro body: 560
 9.8. Internal pressure of macro body: 561
 9.8.1. Radiation from macro body: 563
 9.9. Life of biton: 564
 9.9.1. Entropy of universe: 565
 9.9.2. Room temperature: 566
 9.9.3. Magnitude of radiation: 567
 9.10. Linear motion of biton: 568
 9.11. Heat rays: 577
 9.11.1. Direct method of heating: 579
 9.11.2. Indirect method of heating: 581
 9.11.3. Energy transfer during heating: 581
 9.11.4. Radiation during heating: 582
 9.12. Heat and coldness: 584
 9.12.1. Transfer of heat: 589
 9.12.2. Temperature in high pressure regions:..... 590
 9.12.3. Matter-content level and physical state:..... 591
 9.12.4. Brownian motion: 593
 9.12.5. Floating macro bodies: 598
 9.12.6. Thermodynamic laws: 598
 9.13. Temperature and acceleration due to gravity: 599
 9.14. Energy content of biton: 601
 9.15. Classification of bitons: 602

VOLUME II

Chapter 10

TETRON

10.1. Interaction between bitons: 605
 10.2. Combination of two bitons:..... 608
 10.3. Bonds in tetron: 612
 10.3.1. Stabilization of tetron: 614
 10.3.2. Change in matter-content: 620
 10.3.3. Deflection of a biton: 620
 10.3.4. Sustenance of stability: 624

TABLE OF CONTENTS

10.4. Mass and weight of tetron: 626
10.5. Interaction between tetrons: 627
10.6. Group formation by tetrons: 638
 10.6.1. Layer formation by tetrons: 641
10.7. Formation of neutron: 643
 10.7.1. Bonds in neutron: 645
10.8. Properties of neutrons: 648
 10.8.1. Splitting a neutron: 649
 10.8.2. Energy content of neutron: 649

Chapter 11

FIELD-EFFORT

11.1. Classification of efforts: 651
 11.1.1. Mechanism of field-effort: 652
 11.1.2. 3D nature of field-efforts:..... 660
 11.1.3. Components of field-effort: 661
 11.1.4. Nature of resolved components: 662
11.2. Primary electric field: 665
11.3. Magnetic field: 668
 11.3.1. Magnet: 669
11.4. Electric field: 670
 11.4.1. Axes of electric and magnetic fields: 671
 11.4.2. Electric charge: 673
11.5. Interaction between magnetic fields: 674
11.6. Interaction between electric fields: 677
 11.6.1. Zilch-effort distance: 686
11.7. Split distortion-fields: 691
11.8. Static distortion-fields: 701
11.9. Range of distortion-fields: 702
11.10. Strength of field-effort: 704

Chapter 12

HEXTON

12.1. Formation of hexton: 715
12.2. Hexton: 717
 12.2.1. Changes in matter-content:..... 725
 12.2.2. Deflection of a biton: 726
 12.2.3. Classification of hextons: 729
 12.2.4. Distortion-fields of hexton: 730
12.3. Distortion-field of positron: 732
 12.3.1. Positron: 738
12.4. Distortion-field of electron:..... 739

12.4.1. Electron:	744
12.5. Nuclear field:	745
12.5.1. Interaction between nuclear fields:.....	747
12.5.2. Strength of nuclear fields:	752
12.6. Energy content of hexton:	753
12.7. Interaction between 3D matter-particles:	755
12.7.1. Interaction between two electrons:	755
12.7.2. Interaction between electron and tetron:	757
12.7.3. Interaction between electron and positron:.....	757
Annihilation of matter:	759
12.7.4. Interaction between two positrons:	761
12.7.5. Interaction between positron and tetron:	762
12.8. Proton:	765
12.9. Deuteron:	769
12.9.1. Interaction between two deuterons:.....	772

Chapter 13

ATOM

13.1. Induced distortion-fields:	775
13.2. Atoms of elements:	777
13.3. Nucleus of atom:	780
13.4. Grouping of deuterons:	781
13.4.1. Axial arrangement:	782
13.4.2. Circular arrangement:.....	784
13.4.3. Mixed-arrangement:	786
13.5. Development of nucleus:	787
13.6. Formation of atom:	790
13.7. Nuclear spin:	796
13.7.1. Positron on electron's path:	798
13.7.2. Positron outside electron's path:	801
13.7.3. Direction of spin:	803
13.8. Alignment of orbital electron:	804
13.8.1. Secondary electric field:	815
13.9. Stable atom:	816
13.9.1. Electronic orbital paths:	819
13.10. Energy content of atom:	825
13.11. Grouping by atoms:	827
13.11.1. Formation of molecule:	828
13.11.2. Characteristic properties of elements:	830
13.11.3. Chemical interactions:	831
13.11.4. Disintegration of atoms:	833

TABLE OF CONTENTS

13.11.5. Pair production: 835

Chapter 14

ELECTRICITY

14.1. Application of this concept:..... 837

14.2. Electric motoring: 841

 14.2.1. Strength of motoring effort: 843

 14.2.2. Electric field in non-uniform magnetic field: 844

14.3. Electric generation: 847

 14.3.1. Nature of electric current: 850

14.4. Atomic section in a magnetic field: 852

 14.4.1. Electric field about atomic section: 858

 14.4.2. Moving atomic section in magnetic field: 861

14.5. Atom in a magnetic field: 865

 14.5.1. Electric induction: 867

14.6. Electric potential: 874

 14.6.1. Field-effort on atom: 877

 14.6.2. Electric potential in conductor-body: 882

 14.6.3. Electric potential due to generation: 884

 14.6.4. Electric potential due to induction: 885

 14.6.5. Direction of electric potential: 886

 14.6.6. Spread of electric potential: 894

14.7. Electric current: 899

 14.7.1. Production of electric current: 901

 14.7.2. Electric current in conductor-body: 904

14.8. Static electricity: 908

 14.8.1. Methods to develop electric potential: 908

14.9. Electric resistance: 910

 14.9.1. Effect of heat on resistance: 913

 14.9.2. Thermal effect of electric current:..... 915

14.10. Contact potential: 918

14.11. Electromagnetic waves: 919

 14.11.1. Photon and electromagnetic wave: 923

Chapter 15

CAPACITANCE

15.1. Electric capacitance: 927

15.2. Electrostatic field: 932

 15.2.1. Dielectrics: 937

 15.2.2. Electrostatic and electric fields: 938

 15.2.3. Effect of distance between plates: 939

 15.2.4. Magnitude of electrostatic field: 943

15.3. Foreign body between capacitor plates:	949
15.3.1. Electric field in electrostatic field:	951
15.3.2. Electron in electrostatic field:	952
15.3.3. Macro body in electrostatic field:	954
15.4. Electrostatic generator:	956
15.5. Electrolysis:	961
Chapter 16	
COSMOLOGY	
16.1. Evolution of universe:	967
16.1.1. Gravitational collapse of macro body:	969
16.1.2. Inter-galactic cloud:	970
16.1.3. Satellites:	971
16.1.4. Planets:	972
16.1.5. Stars:	973
16.1.6. Black hole:	974
Invisibility of black hole:	977
Background radiation:	979
Death of black hole:	980
Quasars and Pulsars:	982
Novae:	983
Binary system:	984
16.1.7. Galaxy:	985
Stability of galaxy:	987
Repulsion between Galaxies:	990
16.2. Relative motion in cosmology:	997
16.2.1. Path of a moving object:	1000
16.3. Planetary orbit:	1001
16.3.1. Circular orbit:	1008
16.3.2. Elliptical Orbit:	1011
Limits of angular speed of entry:	1016
Orbits about moving central body:	1021
16.3.3. Anomalies in planetary orbits:	1025
Apparent loss of orbital motion:	1027
Precession due to eccentricity:	1027
Assorted perturbations:	1029
16.3.4. Electronic orbits:	1029
16.4. 'Central force':	1031
16.4.1. Magnitude of 'central force':	1037
16.4.2. Magnitude of radial velocity:	1044
16.5. Planetary spin:	1047

TABLE OF CONTENTS

16.5.1. Magnitude of planetary spin: 1048
16.5.2. Apparent spin motion: 1054
16.5.3. Anomalies: 1056
16.5.4. Variations of solar day: 1057
16.6. Tides: 1058
16.6.1. Terrestrial tides: 1067
16.6.2. Direction of tides: 1069
 Direction of angular shift from local meridian: 1072
 Apparent direction of Solar tides: 1079
 Apparent direction of Lunar tides: 1081
 Effect of orbital motion on deflections of tides: 1083

Chapter 17

GENERAL

17.1. Time: 1085
17.2. Physical states of matter: 1090
 17.2.1. Latent stages: 1092
 17.2.2. Solid state of matter: 1097
 17.2.3. Liquid state of matter: 1099
 17.2.4. Gaseous state of matter: 1102
 17.2.5. Plasma state of matter: 1106
 17.2.6. Mpemba effect: 1108
17.3. Evaporation: 1112
 17.3.1. External pressure on macro body: 1112
 17.3.2. Vaporization: 1113
 17.3.3. Condensation: 1116
 17.3.4. Boiling:..... 1117
17.4. Photo-electricity: 1119
 17.4.1. Photoelectric materials: 1119
 17.4.2. Photoelectric effect: 1121
17.5. Electric discharge: 1127
 17.5.1. Electric arc: 1128
 17.5.2. Dielectric constant:..... 1130
 17.5.3. Glow discharge: 1130
17.6. Emission spectra: 1133
17.7. Fluorescence: 1136
17.8. Friction: 1139
17.9. Elements of Matter: 1141
 17.9.1. Hydrogen: 1142
 Ions: 1148
 Deuterium: 1149

TABLE OF CONTENTS

Tritium:	1150
Formation of hydrogen molecule:	1152
Splitting hydrogen molecule:	1157
17.9.2. Helium:	1158
17.9.3. Lithium:	1161
17.10. Permanent magnet:	1163
17.11. Magnetic field about a moving macro body:	1165
17.11.1. Terrestrial magnetism:	1170
INDEX	i

* * * * *

