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Considered with Reference to Natural Theology

William Prout

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Chemistry, Meteorology, and the Function of Digestion Considered with Reference to Natural Theology

This book was the last of eight treatises from the 1830s that were commissioned by the Royal Society with advice from leading churchmen under the terms of a legacy from the Earl of Bridgewater. They aimed to support the idea that the natural world was made by a divine designer. William Prout, a respected physician and biochemist who specialised in nutrition and urology, argues in the introduction to this book that the biological adaptation seen in nature is divinely planned as a means to an end. His text covers chemistry, geology, the ocean, the planets, and processes of the human body. Remembered today for his discovery of hydrochloric acid in the gastric juices of animals, here Prout is on the front line in the early battles between scientific method and religious belief, a debate which continues to this day.

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William Prout

Frontmatter

[More information](#)

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William Prout

Frontmatter

[More information](#)

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Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

THE BRIDGEWATER TREATISES
ON THE POWER WISDOM AND GOODNESS OF GOD
AS MANIFESTED IN THE CREATION

TREATISE VIII

CHEMISTRY METEOROLOGY AND THE FUNCTION
OF DIGESTION

BY WILLIAM PROUT M.D. F.R.S.

[SECOND EDITION]

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Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

*Μὴ ὑπαρχούσας γὰρ ἀρμονίας, καὶ ἘΠΟΨΙΟΣ ΘΕΙΏΣ
περὶ τὸν κόσμον, οὐκ ἂν ἐδύνατο συνείμεν ἔτι καλῶς ἔχοντα τὰ
ἐγκεκοσμημένα.*

HIPPODAMUS DE FELICITATI.

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William Prout

Frontmatter

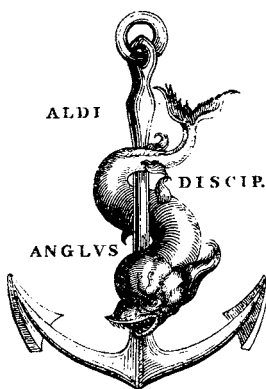
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CHEMISTRY METEOROLOGY
AND THE FUNCTION OF DIGESTION
CONSIDERED WITH REFERENCE TO
NATURAL THEOLOGY

BY

WILLIAM PROUT M.D. F.R.S.

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS



LONDON

WILLIAM PICKERING

1834

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Frontmatter

[More information](#)

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William Prout

Frontmatter

[More information](#)

NOTICE.

THE series of Treatises, of which the present is one, is published under the following circumstances :

THE RIGHT HONOURABLE and REVEREND FRANCIS HENRY, EARL of BRIDGEWATER, died in the month of February, 1829; and by his last Will and Testament, bearing date the 25th of February, 1825, he directed certain Trustees therein named to invest in the public funds the sum of Eight thousand pounds sterling; this sum, with the accruing dividends thereon, to be held at the disposal of the President, for the time being, of the Royal Society of London, to be paid to the person or persons nominated by him. The Testator further directed, that the person or persons selected by the said President should be appointed to write, print, and publish one thousand copies of a work *On the Power, Wisdom, and Goodness of God, as manifested in the Creation; illustrating such work by all reasonable arguments, as for instance the variety and formation of God's creatures in the animal, vegetable, and mineral kingdoms; the effect of digestion, and thereby of conversion; the construction of the hand of man, and an infinite variety of other arguments; as also by discoveries ancient and modern, in arts, sciences, and the whole extent of literature.* He desired, moreover, that the profits arising from the sale of the works so published should be paid to the authors of the works.

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

viii

The late President of the Royal Society, Davies Gilbert, Esq. requested the assistance of his Grace the Archbishop of Canterbury and of the Bishop of London, in determining upon the best mode of carrying into effect the intentions of the Testator. Acting with their advice, and with the concurrence of a nobleman immediately connected with the deceased, Mr. Davies Gilbert appointed the following eight gentlemen to write separate Treatises on the different branches of the subject as here stated :

THE REV. THOMAS CHALMERS, D. D.

PROFESSOR OF DIVINITY IN THE UNIVERSITY OF EDINBURGH.

ON THE POWER, WISDOM, AND GOODNESS OF GOD
AS MANIFESTED IN THE ADAPTATION
OF EXTERNAL NATURE TO THE MORAL AND
INTELLECTUAL CONSTITUTION OF MAN.

JOHN KIDD, M. D. F. R. S.

REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF OXFORD.

ON THE ADAPTATION OF EXTERNAL NATURE TO THE
PHYSICAL CONDITION OF MAN.

THE REV. WILLIAM WHEWELL, M. A. F. R. S.

FELLOW OF TRINITY COLLEGE, CAMBRIDGE.

ASTRONOMY AND GENERAL PHYSICS CONSIDERED WITH
REFERENCE TO NATURAL THEOLOGY.

SIR CHARLES BELL, K. G. H. F. R. S. L. & E.

THE HAND: ITS MECHANISM AND VITAL ENDOWMENTS
AS EVINCING DESIGN.

PETER MARK ROGET, M. D.

FELLOW OF AND SECRETARY TO THE ROYAL SOCIETY.

ON ANIMAL AND VEGETABLE PHYSIOLOGY.

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Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

ix

THE REV. WILLIAM BUCKLAND, D. D. F. R. S.

CANON OF CHRIST CHURCH, AND PROFESSOR OF GEOLOGY IN THE
UNIVERSITY OF OXFORD.

ON GEOLOGY AND MINERALOGY.

—
THE REV. WILLIAM KIRBY, M. A. F. R. S.

ON THE HISTORY, HABITS, AND INSTINCTS OF ANIMALS.

—
WILLIAM PROUT, M. D. F. R. S.

**CHEMISTRY, METEOROLOGY, AND THE FUNCTION OF
DIGESTION, CONSIDERED WITH REFERENCE TO
NATURAL THEOLOGY.**

—
His ROYAL HIGHNESS THE DUKE OF SUSSEX, President of the Royal Society, having desired that no unnecessary delay should take place in the publication of the above mentioned treatises, they will appear at short intervals, as they are ready for publication.

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

TO THE READER.

[FIRST EDITION.]

CHEMISTRY has not hitherto been considered in detail with reference to Natural Theology; the difficulties, therefore, incidental to a first attempt, added to those arising from the nature of Chemistry itself as a science, must be the apology of the author for numerous imperfections in this treatise.

The peculiar chemical opinions advanced, would never have appeared in their present form; had not the author been strongly impressed with the belief that they are calculated, sooner or later, to bring chemical action under the dominion of the laws of quantity; and had he not despaired, under his professional engagements, of being himself able to submit them to experimental

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

xii

proof. These opinions, however, have been always introduced as mere illustrations.

The argument of design is necessarily cumulative ; that is to say, is made up of many similar arguments. To avoid repetitions therefore, the illustration of principles rather than of details, has been studied ; and the application of particular facts to the argument, has been often left to the Reader.

London,
February 3, 1834.

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978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

TO THE READER.

[SECOND EDITION.]

THE Author in certain parts of this treatise having been misunderstood, is anxious to state more prominently than in the first edition, *that no argument illustrative of design has been founded on the supposed molecular arrangements which he has given*; and that the reality of design in the phenomena of chemistry is no more affected by the truth or falsehood of his theory, than the moral of a fable is affected by the truth or falsehood of its imaginary incidents.

The phenomena of chemistry can neither be represented by figures, nor adequately described to the inexperienced by words. The consideration of chemistry, therefore, with reference to the argument of design, presents peculiar difficulties. After much

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978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

xiv

reflection the author has omitted details which every treatise on the subject will furnish, and has endeavoured to convey some notion of the wonders of molecular action. As the best suited to his purpose, a sketch of his own views is given : and if the un-informed reader learn from this sketch, that the *invisible* operations of chemistry, are at least as wonderful as the *visible* operations of mechanism, the author will attain one of his objects. He will attain another object, if what has been stated, in any way contribute to the advancement of knowledge.

In this edition the introductory observations have been enlarged ; a few errors have been rectified ; and the arrangement of some parts altered : but with the exception of these changes, the work remains essentially the same as in the first edition.

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June 7, 1834.

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

CONTENTS.

INTRODUCTION.

	Page
OF THE LEADING ARGUMENT OF NATURAL THEOLOGY; THAT DESIGN, OR THE ADAPTATION OF MEANS TO AN END EXISTS IN NATURE.....	1

BOOK I.

OF CHEMISTRY.

PRELIMINARY OBSERVATIONS ON THE RANK OF CHEMISTRY AS A SCIENCE; AND ON THE APPLICATION OF CHEMISTRY TO THE ARGUMENT OF DESIGN	10
CHAPTER I.—OF THE MUTUAL OPERATION OF PHYSICAL AGENTS AND OF MATTER, AND OF THE LAWS WHICH THEY OBEY	24
CHAPTER II.—OF THE INERTIA AND ACTIVITY OF MATTER	27
CHAPTER III.—OF MOLECULAR OR POLARIZING FORCES, ETC.	31
SECTION I. <i>Of the Divisibility of Matter</i>	32
SECTION II. <i>Of the Forms of Aggregation of the ultimate Molecules of Matter</i>	36

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

xvi

CONTENTS.

	Page
SECTION III. <i>Of the solid Form of Bodies. Crystallization</i>	38
<i>Of Electricity</i>	45
<i>Of Galvanism</i>	47
<i>Of Magnetism</i>	48
<i>Of Polarity</i>	53
SECTION IV. <i>Of the Liquid Form of Bodies. Of Heat</i>	57
<i>Of the Effects of Heat</i>	60
<i>Of the Latency of Heat</i>	61
SECTION V. <i>Of the Gaseous Form of Bodies</i>	67
<i>Of the Diffusion of Gaseous Bodies</i>	72
<i>Of the Equal Expansion of Gaseous Bodies; and of their similar Capacity for Heat</i>	74
SECTION VI. <i>Of the other Properties of Heat. Of Heat in Motion. Of the Radiation, Conduction, and Convection of Heat</i>	77
SECTION VII. <i>Of Light</i>	82
<i>Of the Radiation of Light</i>	82
<i>Of the Reflection and Refraction of Light</i>	84
<i>Of the Polarization of Light</i>	85
<i>Of the Decomposition of Light</i>	9
SECTION VIII. <i>Of the Sources of Heat and Light</i>	92
SECTION IX. <i>Recapitulation and General Observations on the Subjects treated of in the preceding Chapters Arguments in Proof of Design, deducible from the Divisibility and Molecular Constitution of Matter</i>	95
CHAPTER IV.—OF CHEMICAL ELEMENTARY PRINCIPLES, AND OF THE LAWS OF THEIR COMBINATION	105
SECTION I. <i>Of Chemical Elementary Principles</i>	106
<i>Of the Supporters of Combustion; Oxygen, Chlorine, Bromine, Iodine, and Fluorine</i>	109
<i>Of the Acidifiable Bases; Hydrogen, Carbon, Azote, Boron, Silicon, Phosphorus, Sulfur, Selenium, Arsenic, Antimony, Tellurium, Chromium,</i>	

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

CONTENTS.

xvii

	Page
<i>Uranium, Vanadium, Molybdænum, Tungsten, Titanium, and Columbium</i>	114
<i>Of the Alkalifiable Bases</i>	124
<i>Of the Alkaline Bases; Potassium, Sodium, Lithium, Calcium, Magnesium, Strontium, and Baryum</i>	124
<i>Of the Earthy Bases; Aluminum, Glucinum, Yttrium, Zirconium, Thorinum, and Cerium</i>	129
<i>Of the Difficultly Fusible Bases; Iron, Manganese, Nickel, and Cobalt</i>	130
<i>Of the Easily Fusible Bases; Zinc, Cadmium, Lead, Tin, Bismuth, Copper, and Mercury</i>	132
<i>Of the Noble Metals; Silver, Gold, Platinum, Palladium, Rhodium, Iridium, and Osmium</i>	135
SECTION II. <i>General Remarks upon Chemical Compounds</i>	136
<i>Of PRIMARY COMPOUNDS</i>	137
<i>Of Acids</i>	137
<i>Of Alkalies and Bases</i>	140
<i>Of Neutral Compounds</i>	141
<i>Of SECONDARY COMPOUNDS; SALTS</i>	142
SECTION III. <i>Of the Laws of Chemical Combination</i> ..	144
<i>Of the ATOMIC THEORY</i>	156
<i>Of the Representation of the Combining Molecules of Bodies by Numerical Series</i>	161
SECTION IV. <i>Recapitulation. General Reflections on the Subjects treated of in the last Section of the preceding Chapter</i>	163
<i>Statement of the Facts on which the Atomic Theory is Founded</i>	163
<i>Of the Adaptation of Subordinate to Primordial Agents and Elements, and of the Means by which these Adaptations have been effected</i>	165
<i>Of Adaptations produced by Adjustments of Quality and Quantity</i>	170
<i>Of the Tendency in Nature to a State of Repose or Equilibrium</i>	176

P.

b

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

xviii

CONTENTS.

Page

<i>Of the Creation of the Elements with the Properties essential to produce perfect Compounds . . .</i>	182
<i>Of the Wonderful Nature of the most Simple Chemical Processes. Conclusion</i>	185

BOOK II.

OF METEOROLOGY :

COMPREHENDING A GENERAL SKETCH OF THE CONSTITUTION OF THE GLOBE; AND OF THE DISTRIBUTION AND MUTUAL INFLUENCE OF THE AGENTS AND ELEMENTS OF CHEMISTRY IN THE ECONOMY OF NATURE.	
PRELIMINARY OBSERVATIONS	188
CHAPTER I.—OF THE GENERAL STRUCTURE OF THE EARTH; PARTICULARLY WITH REFERENCE TO THE DISTRIBUTION OF ITS SURFACE INTO LAND AND WATER; AND WITH RESPECT TO ITS ATMOSPHERE .	191
SECTION I. <i>Of the General Relations of the Sea and Land to each other</i>	191
SECTION II. <i>Of the Ocean</i>	193
SECTION III. <i>Of the Atmosphere</i>	197
CHAPTER II.—OF HEAT AND LIGHT: THE MODES OF ESTIMATING THEIR DEGREE, AND THE WAYS IN WHICH THEY ARE PROPAGATED. OF THE GENERAL TEMPERATURE OF THE CELESTIAL REGIONS, AND OF THE EARTH INDEPENDENTLY OF THE SUN	205
SECTION I. <i>Of Heat and Light, and the Modes of estimating their Degree</i>	205
SECTION II. <i>Of the Propagation of Heat and Light . .</i>	207

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

CONTENTS.	xi
	Page
SECTION III. <i>of the Temperature of the Celestial Regions</i>	209
SECTION IV. <i>Of the Temperature of the Interior of the Earth</i>	210
CHAPTER III.—OF THE TEMPERATURE OF THE EARTH AT ITS SURFACE, AS DEPENDENT ON THE SUN.....	215
SECTION I. <i>Of Mean Temperature</i>	217
SECTION II. <i>Of the actual Distribution of Temperature over the Globe. Of Isothermal Lines, &c.</i> CLIMATE	219
<i>Of the Temperature of the Poles and of the Polar Regions</i>	219
<i>Of the mean annual Temperature of the Equator</i>	221
<i>Of the Temperature of the intermediate Regions of the Globe. Of Isothermal Lines, &c.</i>	222
CLIMATE	229
CHAPTER IV.—OF THE PRIMARY CONSTITUENTS OF CLIMATE: OR OF THE TEMPERATURE OF THE EARTH, AS DEPENDENT ON ITS GLOBULAR FORM; AND ON ITS ANNUAL AND DIURNAL MOTIONS.....	230
CHAPTER V.—OF THE SECONDARY OR SUBSIDIARY CONSTITUENTS OF CLIMATE; COMPREHENDING A SKETCH OF THOSE CIRCUMSTANCES CAPABLE OF INFLUENCING CLIMATE, WHICH ARE MORE IMMEDIATELY CONNECTED WITH THE SURFACE OF THE EARTH, AS CONSISTING OF LAND OR WATER; OR WHICH ARE CONNECTED WITH THE ATMOSPHERE. . .	234
SECTION I. <i>Of the secondary Constituents of Climate, immediately connected with the Surface of the Earth; and depending on the Nature of that Surface as composed of Land or Water</i>	236
1. <i>Of the Proportion of Solar Heat and Light that actually arrives at the Surface of the Earth</i> .	236
2. <i>Of the Distribution of Heat and Light over the Earth's Surface in the latent Form</i>	238

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

xx

CONTENTS.

	Page
3. <i>Of the General Distribution of Electricity and Magnetism over the Earth</i>	239
4. <i>Of the Distribution of Light in the decomposed Form over the Earth</i>	243
5. <i>Of the Laws of Absorption, Radiation, and Reflection of Heat and Light</i>	246
6. <i>Of the Conduction of Heat below the Earth's Surface on Land</i>	252
7. <i>Of the Propagation of Heat and Light below the Earth's Surface in Water</i>	255
<i>Of the Temperature of the Waters of the Ocean at great Depths</i>	261
<i>Of the under Currents of the Ocean existing between the Equatorial and the Polar Regions</i>	263
8. <i>Of the Differences of Temperature as depending upon whether the Surface be Land or Sea.</i>	264
<i>Temperature of Natural Springs</i>	266
 SECTION II. <i>Of the secondary Constituents of Climate immediately connected with the Atmosphere</i>	
1. <i>Of the Distribution of Heat and of Light through the Atmosphere, and of the Consequences.</i>	268
<i>Of the Limits of Perpetual Snow</i>	272
<i>Of the Distribution of Heat and Light through the Atmosphere in their Latent Forms</i>	275
<i>Of the Propagation of Sensible Heat through the Atmosphere</i>	275
<i>Of Atmospheric Currents. The Trade Winds</i>	276
2. <i>Of the Presence of Water in the Atmosphere</i>	283
<i>Of the Phenomena of Evaporation and Condensation; and of the General Dependence of Vapour on Temperature</i>	284
<i>Of the Conditions of an Atmosphere of Vapour alone; and of a Mixed Atmosphere of Vapour and Air</i>	288
<i>Of the General Relations of Evaporation and Condensation as they exist in our Atmosphere; and of the Circumstances by which these Relations are Influenced</i>	299

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

CONTENTS.

xxi

	Page
<i>Of the Accidental Circumstances affecting</i> <i>Evaporation</i>	305
<i>Of the Accidental Circumstances affecting</i> <i>Condensation</i>	309
<i>Of Dew and Hoar Frost</i>	309
<i>Of Mists and Fogs</i>	312
<i>Of Clouds</i>	315
<i>Of Snow and Sleet</i>	322
<i>Of Rain</i>	324
<i>Of Hail</i>	331
<i>Of the actual Quantity of Water that is</i> <i>evaporated and condensed over the Globe</i>	333
<i>Of the Distribution of Heat and Light in</i> <i>their latent and decomposed forms through</i> <i>the Vapour of the Atmosphere; and of the</i> <i>Effects of that Distribution</i>	339
<i>Of the Relations of Electricity to the Va-</i> <i>pour of the Atmosphere</i>	339
<i>Of the Aurora Borealis</i>	343
<i>Of the Phenomena depending upon the De-</i> <i>composition, Refraction, and Reflection of</i> <i>Light by the Vapour of the Atmosphere. The</i> <i>Mirage. The Fata Morgana. Halos. The</i> <i>Rainbow</i>	343
 3. <i>Of the Occasional Presence of Foreign Bo-</i> <i>dies in the Atmosphere; and of their Effects</i>	 347
<i>Of Matter suspended in the Atmosphere in</i> <i>a state of Mixture. Coloured Rain and Snow.</i> <i>Aerolites. Dry Fogs</i>	347
<i>Of Matters which pervade the Atmosphere</i> <i>in a state of Solution. Malaria</i>	353
<i>Recapitulation. The Arrangements of Cli-</i> <i>mate demonstrative of Design</i>	356

CHAPTER VI.—OF THE ADAPTATION OF ORGANIZED
BEINGS TO CLIMATE; COMPREHENDING A GENERAL
SKETCH OF THE DISTRIBUTION OF PLANTS AND

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

xxii

CONTENTS.

	Page
ANIMALS OVER THE EARTH, AND OF THE PRESENT POSITION AND FUTURE PROSPECTS OF MAN	365
<i>Of the Formation and Ingredients of the SOIL</i> ..	366
SECTION I. <i>Of the Distribution of Plants over the Earth</i>	368
1. <i>Of the Differences of Vegetation, as liable to be influenced by Soil, and by other minor Local Cir- cumstances, in the same Climate</i>	368
2. <i>Of the Influence of Climate on Vegetation. Distribution of Plants</i>	372
<i>Profusion of Vegetable Productions</i>	379
SECTION II. <i>Of the Distribution of Animals over the Earth</i>	383
1. <i>Of the Differences existing among Animals in similar Climates</i>	386
2. <i>Of the Effects of Diversity of Climate on the Distribution of Animals</i>	391
<i>Migration and Hibernation</i>	400
<i>Coverings of Animals</i>	401
SECTION III. <i>Of the present Position and future Pros- pects of Man</i>	406

BOOK III.

OF THE CHEMISTRY OF ORGANIZATION:

COMPREHENDING A SKETCH OF THE CHEMICAL PROCESS OF DIGESTION: AND OF THE SUBSEQUENT PROCESSES, BY WHICH VARIOUS ALIMENTARY SUBSTANCES ARE ASSIMILATED TO, AND BECOME COMPONENT PARTS OF A LIVING BODY	416
--	-----

CHAPTER I.—OF THE NATURE AND COMPOSITION OF OR- GANIZED BODIES IN GENERAL, AS COMPARED WITH INORGANIC MATTER	417
--	-----

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

CONTENTS.

xxiii

	Page
1. <i>Of Organic Bodies considered as Chemical Compounds</i>	418
<i>Of the Chemical Composition of Sugar, Vinegar, Starch, and Wood</i>	425
2. <i>Of the Cause of the Differences in the Sensible Properties of Substances nearly allied in their Chemical Composition</i>	426
<i>Of the Peculiarity of the Composition of Organic Substances</i>	427
<i>Of the Nature of the Agents by which Organic Substances are Produced</i>	432
3. <i>Of the Modes of Operation of Organic Agents</i>	434
<i>Reflections on the Mutual Adaptation of the Elements and the Agents of Organic Nature</i> ..	442
CHAPTER II.—OF THE MODES OF NUTRITION; COMPREHENDING A SKETCH OF THE ALIMENTARY APPARATUS; AND OF ALIMENTARY SUBSTANCES IN PLANTS AND IN ANIMALS	447
SECTION I. <i>Of the Modes of the Nutrition of Plants; and of the Nature of those Matters by which their Nutrition is effected</i>	447
SECTION II. <i>Of the Modes of Nutrition in Animals; and of the Alimentary Substances by which they are nourished</i>	454
1. <i>Of the Organs of Digestion in Animals</i>	455
<i>Of the Mouth and its Appendages</i>	456
<i>Of the Œsophagus, the Stomach, and the Intestinal Canal</i>	461
<i>Of the Liver, the Pancreas, and the Spleen</i> ..	468
<i>Of the Circulation of the Blood, and of the Distribution of the Nerves in the Organs of Digestion</i>	470
2. <i>Of Alimentary Substances composed of the Saccharine, the Oily, and the Albuminous Principles</i>	473

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

xxiv

CONTENTS.

	Page
CHAPTER III.—OF THE DIGESTIVE PROCESS; AND OF THE GENERAL ACTION OF THE STOMACH AND THE DUODENUM	484
<i>Of the Influence of Water as an Essential, and as an Accidental Ingredient of Alimentary Substances..</i>	484
<i>Of the Powers exerted by the Stomach in the Di- gestion of the Food</i>	492
1. <i>Of the Reducing Powers of the Stomach ...</i>	494
2. <i>Of the Powers of Conversion possessed by the Stomach</i>	502
3. <i>Of the Organizing and Vitalizing Powers of the Stomach.....</i>	505
<i>Of the Changes the Food undergoes in the Duodenum</i>	506
4. <i>Of the Functions of the Alimentary Canal, beyond the Duodenum.....</i>	510
<i>Observations on the Choice and the Prepara- tion of Aliment</i>	511
<i>Observations on the General Character of the Assimilating Agency.....</i>	515
CHAPTER IV.—OF THE PROCESSES OF ASSIMILATION SUBSEQUENT TO THOSE IN THE STOMACH AND ALI- MENTARY CANAL; PARTICULARLY OF THE CONVER- SION OF THE CHYLE INTO BLOOD. OF RESPIRA- TION AND ITS USES. OF SECRETION. OF THE FINAL DECOMPOSITION OF ORGANIZED BODIES. GENERAL REFLECTIONS AND CONCLUSION	519
1. <i>Of the Passage of the Chyle from the Ali- mentary Canal into the Sanguiferous System; and of the Function of Absorption generally</i>	519
<i>Process similar to Digestion carried on in all Parts of the Body.....</i>	520
2. <i>Of the Blood</i>	523
<i>Of the Constituents of the Blood</i>	523
<i>Of the Organization of the Blood.....</i>	525
3. <i>Of Respiration</i>	526

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

CONTENTS.

XXV

	Page
<i>Of the different Colours of Arterial and of Venous Blood</i>	528
<i>Of the Source of the Carbonic Acid in Venous Blood, and of the Gaseous Vapour that is expelled from the Lungs</i>	529
<i>Of the Uses of the continual Extrication of Carbonic Acid from Living Animals</i>	530
4. <i>Of Secretion</i>	532
5. <i>Of the Spontaneous Decay of Organized Bodies</i>	533
<i>Recapitulation of the Mechanical Arrangements of the Digestive Organs, and of the Chemical Changes by which the Food is adapted for Assimilation</i>	536
<i>Reflections on the Mutual Dependence of Plants and Animals. On the Subserviency of their Mechanism to the Chemical Properties of Matter; and on the beneficial Effects of their Renovation and Decay</i>	542
<i>Conclusion. Of the Future Progress of Chemistry; of the Application of Chemistry to Physiological Research; and of the Tendency of Physical Knowledge to elevate the Mind by Displaying the Attributes of the Deity, and the Immensity of His Works</i>	549
APPENDIX	559

Cambridge University Press

978-1-108-00066-6 - Chemistry, Meteorology, and the Function of Digestion
Considered with Reference to Natural Theology

William Prout

Frontmatter

[More information](#)

DIRECTION TO THE BINDER.



The Binder is desired to place the Map opposite to page 568,
in the Appendix.