

**PHILOSOPHIÆ NATURALIS
PRINCIPIA MATHEMATICA**

Revision IV



By

Isaac Newton

And

Keith Dixon-Roche

Keith Dixon-Roche © 2017 to 2019

*All concepts and formulas in this book not previously
attributed to 'The Heroes' identified in Appendix A8,
are the sole property of Keith Dixon-Roche
and protected by copyright.*

*Their use, publication, broadcasting,
distribution, copying or any form of recording
without Keith Dixon-Roche's written consent
shall be a breach of international copyright law
and subject to legal action.*

**PHILOSOPHIÆ NATURALIS
PRINCIPIA MATHEMATICA**

Revision IV



Published by CalQlata
info@CalQlata.com

First published November 2018
Second publication February 2019
Third publication June 2019
Fourth publication December 2019
Copyright © Keith Dixon-Roche 2018

This book is sold subject to condition
that it shall not by way of trade or otherwise,
be lent, re-sold, hired out or otherwise circulated
without the publisher's prior consent and in such
circumstances it shall not be circulated in any form of
binding or cover other than that in which it is published

Contents

Preface	11
1 Introduction	13
1.1 What Went Wrong	14
1.1.1 The Photon?	16
1.2 And Now?	17
1.3 Where Do We Go From Here?	19
1.4 How This Book Is Organised	21
2 Narrative	23
2.1 Energy	25
2.1.1 Electricity	28
2.1.2 Magnetism	31
2.1.3 Electro-Magnetic Energy	34
2.1.4 Potential	39
2.1.5 Kinetic	40
2.1.6 Heat & Temperature	41
2.2 Orbits	43
2.2.1 The Laws	49
2.2.2 Elliptical	50
2.2.3 Circular	52
2.2.4 Force-Centre Mass	53
2.2.5 Planetary Mass	54
2.2.6 External Influences	56
2.2.7 Centrifugal Force	57
2.2.8 Station-Keeping	58
2.2.9 Orbital Planes	59
2.2.10 The Importance of Orbits	60
2.3 Spin	61
2.3.1 Polar Moment of Inertia	64
2.3.2 Earth's Core	65
2.3.3 Earth's Magnetic Field	66
2.3.4 Magnetic Reversal	67
2.3.5 No Moon!	68
2.3.6 Goodricke & Algol	69
2.3.7 Chicken & Egg	70

2.4	Core-Pressure	71
2.4.1	The Structure of Celestial Bodies	72
2.5	The Atom	73
2.5.1	Atomic Particles	74
2.5.2	Proton-Electron Pair	78
2.5.3	Electron Shells	80
2.5.4	Nucleus	81
2.5.5	Electron & Proton Spin	82
2.5.6	Isotope	83
2.5.7	Ion	84
2.5.8	Radioactivity	85
2.5.9	How They Work	87
2.5.10	The State of Matter	90
2.5.11	Fission & Fusion	91
2.5.12	The Early Atom	93
2.6	The Universe	95
2.6.1	Life, the universe & everything	97
2.6.2	The Milky Way	99
2.6.3	Our Solar System	101
2.7	Fact & Fiction	117
2.7.1	Sub-Atomic Particles	118
2.7.2	Black Holes	119
2.7.3	Big-Bang	121
2.7.4	Dark Matter	123
2.7.5	The Birth of Our Solar System	124
3	Calculation Procedures	127
3.1	Energy	129
3.1.1	Electrical	130
3.1.2	Magnetic	131
3.1.3	Electro-Magnetic	132
3.1.4	Potential	133
3.1.5	Kinetic	134
3.2	Orbits	135
3.2.1	Laws	136
3.2.2	Elliptical Orbits	137
3.2.3	Circular	145
3.2.4	Force-Centre Mass	157

3.2.5	Planetary Mass	158
3.2.6	External Influences	159
3.2.7	Centrifugal Force	160
3.2.8	Station-Keeping	161
3.3	Spin	163
3.3.1	Polar Moment of Inertia	167
3.3.2	Earth's Core	168
3.3.3	Earth's Magnetic Field	169
3.3.4	Magnetic Reversal	170
3.3.5	No Moon!	171
3.3.6	Hades	172
3.4	Core-Pressure	175
3.5	The Atom	179
3.5.1	Atomic Particles	181
3.5.2	Electron Shells	186
3.5.3	Nucleus	187
3.5.4	How They Work	189

4 Calculation Results 193

4.1	Energy	195
4.1.1	Electricity	196
4.1.2	Magnetism	197
4.1.3	Electro-Magnetic Energy	198
4.2	Orbits	199
4.2.1	Galactic	200
4.2.2	Solar	202
4.2.3	Lunar	204
4.2.4	Atomic	206
4.3	Spin	209
4.3.1	Polar Moment of Inertia	210
4.3.2	The Earth's Core	211
4.3.3	The Earth's Magnetic Field	212
4.3.4	Our Sun	213
4.3.5	Our Planets	214
4.3.6	Hades	215
4.4	Core Pressure	217
4.5	The atom	219

4.5.1	Cold (T_c)	220
4.5.2	Planck Minimum (T_0)	221
4.5.3	Planck Mean (T_m)	222
4.5.4	Neutronic (T_n)	223
5	The Physical Constants	225
5.1	Introduction	227
5.2	Symbols	229
5.3	Physical Constants	233
5.4	General Physical Constants	235
5.5	Universal Heat & Charge Capacities	237
5.5.1	Microstates	238
5.6	Specific Heat Capacities (particles)	239
5.7	Specific Charge Capacities (particles)	241
5.8	Electricity	243
6	Support	245
6.1	Proof of the Orbital Model	247
6.1.1	Nicolaus Copernicus	247
6.1.2	Johannes Kepler	247
6.1.3	Galilei Galileo	247
6.1.4	Isaac Newton	250
6.2	The Problem with Relativity	267
6.2.1	Light Deflection	268
6.2.2	The Speed of Light	271
6.2.3	Neutronic Radius (R_n)	272
6.2.4	Elliptical Orbits	273
6.2.5	$E=mc^2$	275
6.2.6	Hades	278
6.3	The Problem with Quantum Theory	279
6.4	The Error	281
6.4.1	Measured Vacuum	282
6.5	Model Verification	283
6.5.1	Density vs Temperature	284
6.5.2	Specific Heat Capacity	285
6.5.3	Gas-Point	286

6.5.4	Our Sun	287
6.5.5	PVRT	288
6.6	Heat	289
6.7	Mass	291
6.8	Gravity	293
6.9	Electricity	299
6.10	Newton vs Planck	303
6.10.1	Newton's Atom	305
6.10.2	Planck's Atom	306
6.11	Important Constants (explained)	307
6.11.1	Σ	308
6.11.2	G	319
6.11.3	ϕ	312
6.11.4	k, k', μ_0, ϵ_0	313
6.11.5	h, h'	314
6.11.6	e, e'	317
6.11.7	R_∞, R_γ, a_0	318
6.11.8	ρ_u	319
6.11.9	R_s	320
6.11.10	R_n	321
6.11.11	RAC & RAM	322
6.11.12	N_A	323
6.11.13	k_B, k_B'	324
6.11.14	K	325
6.11.15	v_C & v_E	326
6.12	The Laws of Thermodynamics	327

7 Things You Can Do 329

Appendices	331
A1 General	333
A2 References	335
A3 Glossary	337
A4 Symbols	339
A5 Useful Formulas	341
A6 Corollaries	343
A7 Hypotheses	347
A8 The Heroes	349

Preface

I have always believed that if a mathematical law applies to one feature of nature it must apply to all of it: i.e. a law must by definition, be universal. I also feel that science took a wrong turning in the first quarter of the twentieth century owing to the dissemination of highly speculative theories that were accepted simply because of the prominence of their proposers. However, I was not sufficiently familiar with the subject to dispute it. After two and a half years of detailed study, that situation has changed and it appears to me that a hundred years may have been wasted in the search for impossible solutions. Isaac Newton's laws should have prevailed.

Newton apparently devised his theories to settle a bet, and like everything he tackled he took this work seriously. Despite having only Kepler's elliptical orbits and Galileo's laws of motion at his disposal, Newton managed to develop an all-encompassing theory that remains universally valid today. It was published in three revisions between 1687 and posthumously. He published only because of the persistence of one of his few friends: Edmund Halley. It is for this, rather than for his comet, that we owe Edmund Halley our deepest gratitude.

Newton's gravitational theory is complete and totally accurate. It covers all the bases. His model relies on a concept he called his 'constant of motion' to keep things moving. However, even he didn't realise that his theory also applies to circular orbits in which a satellite (e.g. an electron) provides its own kinetic energy, or that his gravitational constant (G) may be used to calculate the deflection of electro-magnetic radiation (light).

His laws of gravitation and motion together describe the behaviour of everything in the universe from atomic particles to the Big Bang, and they do so with absolute simplicity and accuracy, except for one small omission; he did not explain spin theory, without which it is difficult to explain all motion. However, it would have been very difficult for him to have developed this theory with the limited information and facilities available to him.

A couple of years ago, my daughter gave me a copy of Colin Pask's *Magnificent Principia* (Pask; 2013). After reading it, I was left with the suspicion that there were many unanswered questions about Newton's

discoveries and I wondered how much had been done to continue Newton's work during the subsequent 300 years. Very little it seems.

I therefore set out on my quest to prove every aspect of Newton's theory of orbital motion, and see if I could determine the source of planetary spin. Having completed these objectives, I continued with core pressure, the earth's magnetic field, the definition of his gravitational constant 'G' and finally the atom, all using his theories.

After completing my model of the atom and having discovered how it really works, I was stunned by its simplicity and brilliance. Its existence must surely be due to providence, not chance. If there is one thing that could prove the existence of a being of supreme intelligence, and I am not referring to anybody's particular god; it is the atom. In the immortal words of a great contemporary philosopher; I was that "*girl sitting on her own in a small café in Rickmansworth*" (Adams; 1980), and I couldn't understand why none of this had been done before.

I am an engineer, not a scientist. Whilst I have always had an interest in science, I never had the opportunity to study it in detail. As a non-scientist, I have been able to tackle the subject free from the dogma that the scientific community has acquired since it displaced the religious community's hegemony over its own flawed natural laws.

Whilst my theories and models may not be perfect, everything in them can be supported with known scientific theories evolved well before the twentieth century.

I realise of course, that just as with Copernicus, Kepler, Galileo, Newton and Wegener before, none of these findings will be appreciated whilst the current scientific community exists. That august body is hardly likely to accept theories that disprove those for which they have been awarding themselves so many prestigious prizes. My hope is that maybe, one day, a new generation of free-thinking scientists will discover this work, correct, complete and advance it, and in so doing get science back on track.

Because it is now possible to define the Milky-Way's force-centre, I have given it the name 'Hades' for easier reference.

Keith Dixon-Roche 2018

1 Introduction

Science got itself into a bit of a mess during the 20th century owing to a couple of obscure theories, neither of which can be reconciled with concepts that we *know* work, but which stubbornly refuse to go away. Together these theories have inspired countless myths that simply multiply with the passing years. Nobody appears to be questioning them and nobody is able to verify them.

It has now become standard practice within the scientific community to justify any irreconcilable theory simply by claiming that “*the laws of physics do not apply*”.

So, I decided to have a go myself, by starting all over again; going back to basics (the year 1900).

Apart from Max Planck’s assistance, I have managed to sort out this mess and compile a complete working theory for the universe using principles that were available well before 1900.

I have also managed to describe all the universal constants (including electrical) in the same basic units of energy (mass, length, time, charge & temperature; refer to Chapter 5)

Anything in this book that has not been fully resolved (and there isn’t much) is referred to as *hypothesis*.

Whilst my hypotheses are perfectly robust, they remain as such because a couple of details need confirming/correcting. The contentious aspects mostly involve the nature of neutrons, but this has not been addressed here because it has nothing to do with Newton’s laws of orbital motion.

Unresolved issues are highlighted in the text with the superscript [?] in which ‘?’ will be replaced with a number that can be found in Chapter 7

1.1 What Went Wrong

Unfortunately, about a hundred years ago, a prominent scientist stated of his own theoretical model: *“if you aren't profoundly shocked by quantum physics, then you haven't understood it”*

Another did not appear to understand the basis for Henri Poincaré's formula $E=mc^2$ and actually declared to Georges Lemaître that his (Lemaître's) *“science was not very good”*

Such comments should be treated with extreme caution ...

... if there is one thing certain about nature, it does not need to rely on complexity for an elegant solution, and scientific laws *never* rely on statistics because statistics are subject to change; *laws are not*.

Statistics are akin to chaos theory: they are a means of guesswork used in situations where insufficient information is available to explain events accurately. They apply to the consequences of laws, not the laws themselves.

Quantum theory is inelegant, over complicated, reliant on statistics, cannot be reconciled with Newton's laws of orbital motion, cannot emit energy and remains unresolved after a hundred years. It is highly likely therefore, that it is nothing more than an obscure theoretical exercise.

Relativism can be disproved using Newton's gravitational constant and dark matter remains undiscovered. Poincaré's formula has nothing to do with kinetics. Classical atomic theory appears to be incorrect. Black-holes are wrongly said to be singularities that spin at the speed of light. Nobody has tried to determine the source of planetary (and therefore atomic) spin or core-pressure.

Isaac Newton pointed us in the right direction 300 years ago, but since the early 20th century the entire scientific community seems to have discounted the suitability of his theories for the evaluation of atoms (quantum theory) and galaxies (dark matter) simply because a couple of well-known scientists took this view. For example:

Relativism appears to have been partly based upon the supposition that $E=mc^2$ applies to kinematics, whereas it is a limiting case for potential energy based upon Newton's and Coulomb's laws and the creation of neutrons. Moreover, it incorrectly assumes that light possesses mass.

It is incorrectly currently believed that mass converts to energy with speed.

Dark matter in the form of sub-atomic particles was postulated because Newton's laws were said to predict a great deal more matter in the Milky Way than appears through observation. This has been easily disproved.

It was long ago assumed that we need sub-atomic particles (e.g. quarks, leptons, fermions, bosons, gluons, etc.) to hold atomic particles together and make the atom work. It now appears that none of these are necessary.

We have been taught that atomic shells are elliptically flat, can hold more than two electrons, and that each electron within a shell is in some way different from all others. It now appears that this level of complexity is unnecessary.

As Newton's gravitational constant (G) is based upon Quanta why shouldn't his theories also apply to atoms?

We have been advised by the world's most eminent astrophysicists that it is impossible to calculate spin in satellites and force-centres. Yet Newton's laws provide us with all the information needed to solve this problem.

Nobody appears to have grasped the fact that Newton's formula directly (with no reinterpretation) allows us to calculate the pressure inside a solid body, such as a planet or star, so why are we still guessing internal pressures?

In fact, guesswork appears to be prevalent throughout science today.

Together with the help of a number of early heroes (refer to Appendix A8), Newton provided everything we need to understand our universe ...

- ... how it was created,
- ... the age of everything in it,
- ... how it works,
- ... what everything in it is made of,
- ... how it generates its energy and
- ... where it stores this energy;

The end of the 18th century saw the start of the industrial revolution, which continues today, only now; it is called a technological revolution. The start of the 20th century should have kicked off a scientific revolution. It never happened. Why?

1.1.1 The Photon

The problem was the photon.

I need to deal with this issue now in order that it doesn't interfere with your understanding of the universal model discussed in this book.

It is about time we all dropped the concept of photons, i.e. the belief that electrons travelling at the speed of light emit light; *they don't*.

We have been taught this for a hundred years, forcing us to create weird and wonderful theories to explain how *mass* moves in waves; *it doesn't*.

The photon exists in our minds because of a very simple mistake made a long time ago related to Crooke's tube (refer to Chapter 6.4).

Once this is understood, the whole problem of energy, magnetism, gravity, electricity, etc. vanishes. You can ignore quantum theory and the theory of relativity, both of which were invented to explain this misunderstood behaviour of electrons.

The deflection of light can *only* be explained using Newton's gravitational constant (G), and the behaviour of electrons within atoms can *only* be resolved using Newton's laws of orbital motion and Coulomb's laws of electrical force (refer to Chapters 6.2.1 & 6.11.2). We should not, however, forget William Gilbert's contribution, which predates and forms the basis of all the theories related to force and energy fields (both atomic and astronomic).

It appears to me that if everybody had realised that Crooke could not possibly have created a perfect vacuum in his tube, we would not have been confused by quantum theory and the theories of relativity, and we would now be 100 years into a '*scientific revolution*'.

1.2 And Now?

Whilst the theories proposed in this book concerning Newton's Laws of Orbital Motion, Orbital Systems, Planetary Spin, Core Pressure, the Atom and Earth's Magnetic Field are a matter of scientific fact, those on Energy and the universe are hypotheses.

However, they ...

- ... are based on and obey well-known universal laws of nature that work
- ... have no need for statistics, unification theories or obscure concepts
- ... reflect what we sense in the universe
- ... have no need for intimidation

It cannot have escaped everyone's notice that Newton's, Coulomb's, Gilbert's, Maxwell's and others' force formulas all have the same configuration:

$$F = K.v_1.v_2 / R^2 \text{ (which is actually: } F = K.v_1.v_2 / A \text{)}$$

where: 'K' is a constant, 'v' a variable and 'A' the spherical surface area at radius (R).

My own calculations have revealed a similar relationship for the conversion of electro-magnetic energy to velocity in electrons:

$$\underline{T} = X.v^2 / e^2$$

where 'X' is a constant, 'v' the velocity of an electron and 'e' its electrical charge.

If all these formulas *look* the same, they probably *are* the same, i.e. they are simply variations based upon our current misunderstanding of gravity, mass, heat, etc. which are actually the same thing; *energy*. Thus, there are really only two formulas, one of which is for electrical force (Coulomb) and the other for magnetic force (Gilbert/Newton) that differ by a coupling ratio ($\varphi = 4.407E-40$). Given that gravity is magnetism, we need be in no doubt that Newton's formula represents magnetic force and can be explained as such (refer to Chapter 6.8).

The atomic model proposed here is elegant, eternal, predictable and brilliantly simple; anyone can understand it without the need for shock-tactics. It also complies with all of Newton's, Gilbert's, Coulomb's, Faraday's and Maxwell's laws, so there is no need for unification theories or statistics. In fact, it now looks highly likely that contrary to popular scientific opinion, these laws are sufficient to explain everything in our universe. Newton's laws are indeed universal, and via them, we can create

realistic solutions for virtually everything in our universe from atomic to astronomic physics, including: neutronic energy, '*Big-Bang*', Earth's magnetic field, 'G', ' $E=mc^2$ ', ultimate density and a great deal more.

Everything is energy: our universe is very much simpler than the one we have been taught, and exploited properly it can provide us with all the clean, free energy we need, simply from Newton's orbits.

If my model is correct (or even close), it then becomes a simple, albeit time-consuming enterprise to determine everything there is to know about our universe, from the very smallest (Quanta) to the very largest (*Big-Bang*) using theories that have been known since Poincaré first revealed his formula and Crooke discovered electro-magnetic energy in the 19th century.

1.3 Where Do We Go From Here?

Given what we now know about universal energy;

- 1) How it is created (orbits and spin-friction)
- 2) Where it is created (stars and planets)
- 3) How it is transmitted (electro-magnetic energy)
- 4) Where it is stored (neutrons)

We now have access to unlimited, clean, free energy sources;

- 1) Elliptical Orbits
- 2) Mantle heat
- 3) Neutrons

Moreover, these theories can give us the ability to *mathematically* predict chemical reactions in *all* matter irrespective of complexity; the *ultimate calculator*.

Such a calculator would preclude the need for material, chemical or pharmaceutical testing and experimentation. No more risk, material, time or money need be wasted on such activities and every country in the world would be able to design [100% accurate] new materials, chemicals and medicines in safety, from a computer terminal with trained but semi-skilled personnel. Furthermore, the creation of comprehensive organic and inorganic chemical databases will remove the need for duplicate effort together with the horrendous qualification periods for new medicines imposed by various national and international health authorities.

Because we now know where the universe stores its energy, we have access to an unlimited supply free from waste and pollution. We could do something useful with the world's nuclear waste; as the fuel for clean, controllable, efficient energy generators of any size. Much less mining!

Moreover, due to the discovery of the true meaning of $E=mc^2$ (refer to Chapter 6.2.5), there is no longer any reason to assume that light-speed is a limiting condition for matter. And if matter has no mass, imposing a limiting velocity owing to the conversion of mass to energy becomes unnecessary. The speed of light is simply a speed for electro-magnetic radiation, such as that for sound: there's no reason it cannot be exceeded.

Anti-gravity also becomes *theoretically* possible. All you need to do is repel the earth's *magnetism*, which is easier than opposing *gravity* with mass.

A few of the possibilities from the discoveries explained in this book are listed below?

- 1) Molecular calculator (and database) giving new (perfect) materials, medicines and chemicals in minutes
- 2) Clean, free efficient energy (by-product = hydrogen)
- 3) Propulsion-free satellites
- 4) The ability to safely recycle nuclear waste
- 5) Energy cells that can be fuelled with any matter (e.g. rocks!)
- 6) Alter elements into something else
- 7) Change the colour of matter electrically
- 8) Together with PERS#, the elimination of skin-friction offers virtually free travel
- 9) Perfect lubricants (machines with almost eternal life)
- 10) Free energy from the earth's mantle
- 11) Massive reductions in: pollution, material waste, energy, etc.

PERS = potential energy recovery system

In other words, we now have the ability to ...

- ... massively reduce energy and battery production;
- ... massively reduce mining requirements;
- ... massively reduce transport costs;
- ... massively reduce the number of chemical laboratories;
- ... eliminate; national power stations & transmission lines, wind-turbines & solar panels;
- ... eliminate pollution from energy generation;
- ... create vehicles with no engine or drivetrain that need no refuelling;
- ... create 100% recyclable packaging

All the energy we use today requires the generation of much more to harness and recycle it. Instead of generating energy at an efficiency of less than 10%, we now have access to energy generation that is 231,000,000% efficient.

Instead of swapping one pollutant for another and/or simply moving it around as we do today, we could now create a genuinely clean place for everyone in which to live; together with limitless cheap energy for all.

1.4 How This Book Is Organised

This book comprises 8 sections, the first four of which provide similar information but in a different form:

2 Narrative

A written description that gives a general overview of the various discoveries made in this book. It is devoid of formulas and mathematical complexity with a view to providing a '*light-read*'!

3 Calculation Procedures

A compilation of the mathematical formulas supporting the narrative, including how to use them. This section has been written to simplify their use.

4 Calculation Results

A collection of [mostly] tabulated calculation results for selected examples using the formulas provided in section 3 (above).

5 Physical Constants

All the physical constants (including electrical properties such as Volts, Amps, Henries, Farads, Ohms, etc.) are provided (to ≤ 15 decimal places) in terms of the same four basic units; length, time, mass and charge and two ratios: m_e , e , R_n , t_n & ξ_v , ξ_m

6 Support

A mathematical and descriptive explanation for all the physical constants and scientific discoveries along with the reasons why Relativity and Quantum Theory must now be discarded.

7 Things You Can Do!

A list of unresolved issues.

8 Appendices

References, symbols, glossary, etc. used throughout this book along with a summary list of corollaries and hypotheses.