
THE FOUR UNIVERSAL MOTIONS IN PHYSICS

All Forces are Moving Bodies

Giving physicality to gravity, light, magnetism, and electricity

Second Edition

Robert de Hilster, David de Hilster

*The John Chappell
Natural Philosophy Society*



John Chappell
Natural Philosophy Society

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To Dr. Ricardo Carezani

and

Patricia Ann de Hilster

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To Newton whose work on gravity, light, and fluid dynamics was a great achievement. His principles of motion and equation for gravity stand as a testament to his scientific ability. When scientists today try to develop a better equation for gravity, they always show that in certain cases it is just like Newton. I should know because it is exactly what I have done.

To Georges-Luis Le Sage (1724-1803) model of gravity as a particle gave the first real model of what could be the cause of gravity. He succeeded in bringing his theory to the forefront, but it lost favor due to a number of perceived problems. Even today, you can read that his model is completely discredited.

But it is not dead. Many dissidents have picked up the gauntlet. Quirino Majorana, Dr. Ricardo Carezani, and David de Hilster have all decided that Le Sage's model is the best model for gravity.

To David de Hilster, my son and protagonist, who got me started in gravity. As I continued my work on gravity, he continued to see the bigger picture of what I was doing and where I was going. I was not worried about the big picture, I just kept working on the details of my equations and to all the situations to which it applied.

It was June 23, 2015, after a presentation on gravity, that I presented a particle model for light. To me, it was just another detail. Not for David. To David, the model solved the problem of wave-particle duality. He understood the impact of this model and could not hold back his enthusiasm. And he passed it right on to me. Without his vision and the new particle model for light, this book would not have been written.

R. J. d.

To Dr. Ricardo Carezani (1921-2016) without whom this book and model would not exist. It was his experiments for detecting gravitons that got my father and, much more recently, myself to come up with this model. Dr. Carezani's work on relativity and autodynamics is simply brilliant and yet, still unrecognized in today's scientific community.

To Dr. Glenn Borchardt's book "The Ten Assumptions of Science" [2] and Glenn Borchardt and Steven Puetz's book "The Universal Cycle Theory" [3] provided the foundation of assumptions used in this model. I always told Glenn that someday, someone would come up with a model of the universe based on his assumptions. I never imagined that would be my father, and much less, myself. My father for 10 years has been working on the neomechanical model, but now it is out in the open.

To Ionel Dinu, a brilliant experimental physicist whose underwater models inspired and pointed the way to much of this new particle model. [6]

To Jack Kuykendall who has worked on fixing our real number system to remove ambiguities that have caused our maths to create erroneous physics models, equations, and theories. [10]

To my friend and working computer buddy Robert Berger, who was a sounding board for my struggles during many hours of "hacking" the universe.

And finally to my father, Robert James de Hilster, who I have come to know as a scientist during the last 15 years. He has a brilliant mind and is capable of not only reading and understanding current physics theory, but sees its shortcomings and, in a true "engineering" attitude, has come up with a model that has great promise. And now he has inspired at least one other scientist, myself, his son to join in his work - something I continue to marvel at. Who would have ever thought that our scientific working partnership that produced a pipe organ from a vacuum cleaner and clothespins, and a time-lapse photography machine made with an old record player, would eventually lead to a new model of the entire universe!

D. S. d.

FOREWORD

Picture of Attendees at the Meet-Up

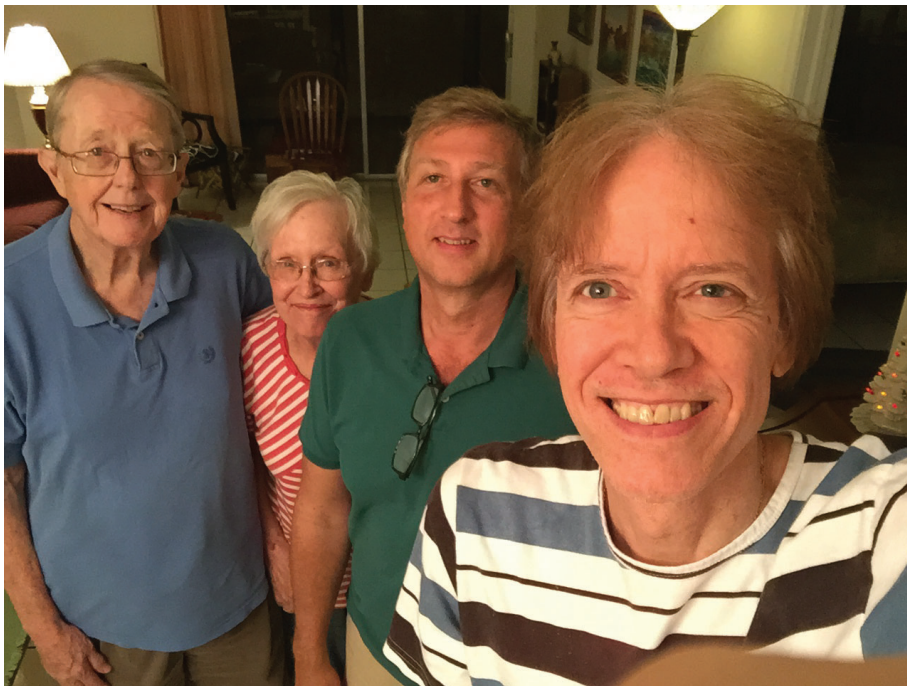


Figure 0.1 Actual photo on the day my father described his brilliant idea. From left to right: Robert de Hilster, Patricia de Hilster, Robert Berger, and David de Hilster.

Robert Berger

I met David at our workplace (LexisNexis in Boca Raton Florida), initially befriending him because of our mutual connection with Brazil.

When David realized I was interested in science, he presented me to a new world of dissident scientists. He first showed me his documentary “Einstein Wrong”, and my first reaction was of course skepticism. But I had some doubts about Einstein’s relativity theory, and after watching his movie I began to get more interested in the dissident science world. He then presented me with the expansion tectonics (or expanding earth) theory. I immediately embraced it, it makes so much sense, it answered questions I had for decades; for example, the Pangaea continent sitting on one side of the earth while all the water is on the other side makes no sense. These

two subjects, Einstein wrong and expansion tectonics, led us to have lunch every day to discuss our thoughts, and for me to learn more about David's ideas and understandings. He has been very patient with me, allowing me to come to my conclusions and embracing the free exchange of ideas, regardless of how ridiculous they might sound at first.

Discussing the expanding earth led us to question what is happening inside the planet. We naturally migrated to the world of subatomic particles. I don't know how much of the theory David already had in his mind, but we engaged in countless discussions about the particle world. This is a testament to David's kindness and deference, he allowed me to think that I was adding value and ideas to his theory. I guess the aha moment came to both of us when his father Robert presented us with evidence for gravity moving at the speed of light. I'll stop here to avoid spoilers to the book. What I can say is that this theory makes absolute sense. As a layman, I'm not biased with science "truths", I'm not afraid to embrace the theory, it will not damage my reputation. But I've seen people reacting to the theory with a ten-foot pole. On the other hand, current quantum physics theory seems so weird that to me it's not much different than believing in fairies and pixie dust. David and Robert de Hilster's particle theory is understandable, predictive, and amazingly simple – it just makes sense.

Probably the biggest threat to the theory is its simplicity. Intellectuals like to show off by claiming to understand the most bizarre and complex scientific theories, and when a theory can be understood by a regular educated guy, it threatens their status and even their academic and/or professional achievements. I hope the scientific community will embrace this theory and work to solve unanswered questions. As with any scientific breakthrough, there always are those who question it and present evidence to support their point of view. This is healthy, as long as the intention is to open, rather than close, the debate.

I hope you enjoy this book as much as I do. Whether you are a layman or scientist, open your mind, throw out your preconceived ideas, and this will be a journey that you'll not regret.

-Robert Berger, Coconut Grove Florida

David de Hilster

It was on June 23, 2015 where this book has its origins. I was at my father's home in Boca Raton for a "Meetup" on Gravity. The only people in attendance were my father, myself, and Robert Berger. When my father finished his presentation, we were having an open discussion when my father interrupted the conversation, held up his fingers, and described how he saw what a light wave was. When I got it, I went ballistic. I couldn't believe it. When I get excited, I stand up and start walking around, waving my hands in a nervous fury.

Luckily, I took a picture on that fateful day. On the way out I turned to my father and said: "Dad, did you know what you did?" He said no. I said, "you solved the wave-particle duality!".

Months later, I came up with another insight that, in my estimation, electron clouds are made up of the same particle as light. The same particles are responsible for light and the "Dinu Effect". Now we have a model that can describe the entire universe from micro to macro.

I went to my father, tapped on his shoulder and said: "you and I are writing a book!"

After living and thinking and working with this model for well over a year, I have concluded that this model will not fail. It will only suffer deficiencies in our ability to apply the model to the universe around us. There is nothing "magical" to discover. It is all made up of mass in motion.

-David de Hilster, Boca Raton Florida

Bob de Hilster

As I remember, I had finished my presentation of gravity and we were just sitting around talking. Somehow I decided to interject a comment about light. I had sent a white paper to David earlier that explained the idea, but he had never responded. I was waiting for a time to tell him. So, I butted into the conversation and, using my hands, explained this new idea about light. David's reaction surprised me. He was talking fast and loud. He jumped up and continued his tirade along with waving his hands.

So, I butted in again and said to Dave: "It's just a model!". Dave turned around and said "Just a model?" And he continued. It wasn't until later that Dave told me his problem. He had been struggling for a long time, trying to understand how a wave could propagate through aether over millions of light-years, with particles bumping into each other as they went, and finally arriving at the Earth. It didn't work for him. But this new theory of light solved the problem, and he was ecstatic.

As Robert Berger and Dave left, Dave said to me; "Dad, you do know that you solved the wave-particle duality problem?". I replied: "I did?" It took more than a week for me to understand that Dave was right. After one year Dave suggested we write a book. It was the most exciting and satisfying year I have ever spent.

-Robert de Hilster, Boca Raton Florida

PREFACE

More than a year after our first book was published, I decided to think seriously about what our work was truly about. The six whirlwind years of discoveries and "hacking" the universe with my father were some of the most intellectually satisfying times of our scientific lives. But now that time had passed, I decided to step back and ask the simple question: "what did we discover?"

On a long drive back home with my father in August of 2022, I told him that I wanted to imagine in my mind as if our work was "accepted" science. What would people teach? How would we teach it? And more importantly, what would they call what my father and I discovered? What follows, is a recounting of my conversation and the logic I went through with my father that lead to this second book.

Naming our Discovery

The first thing I wanted to solve was what name science would give to our discoveries. The first thing that popped up in my mind was "Newtonian" mechanics. The equivalent for our work would be something like "de Hilsteran". I was not thrilled with the name but since I was brainstorming, I continued with the train of the thought to see where it would lead.

I then asked: "what did we discover?" The answer at first was the de Hilsteran model or de Hilsteran mechanics. But that wasn't right. It wasn't that. We currently called our work the "particle model", but for some reason, after many years, that no longer seemed to fit. That was exciting but frightening at the same time. If we spent 6 years writing a book on what we called the "particle model", what did we really discover.

I went back to the cover of our book that showed the four particle movements for gravity, light, magnetism, and electricity. I then came to the conclusion that we discovered or gathered together these four movements and how they worked together to make up the universe. I then tried the phrase the "four de Hilsteran movements" and my gut told me that that wasn't quite right. One thing I'm good at is trusting my gut feelings.

I kept talking and finally decided to remove our names from the title all together. After all, I was giving myself the luxury of imagining our work was "universally" accepted. And there it was - the word I was looking for: "universal". Now I had "universal movements" but I didn't like the word "movements." There are too many other connotations with the word movement

as in a "cause", a musical part, or even bodily functions - not so good. I looked for a shorter word and found eventually my father and I found the word "motion". Amnon, my best friend and colleague who was a big supporter of our work always said that if one can say the same thing in less words, it is always better. Thus was born: "Universal Motions". I Just needed to add 'four' to the phrase and there it was: the "Four Universal Motions" of physics.

The title of our previous book, "Principia Mathematica 2, A Complete Toolkit for Hacking the Physical Universe", was an interesting way to look at our work but it lacked clarity; and people's eyes glazed over when we told them the title. Even though I believe the work to be groundbreaking, I noticed that our title didn't seem to instill interest in the general public. Now, with the title "**Four Universal Motions**" along with the four drawings, I was convinced that we may have real title for our work that would spark interest with the science-loving public.

Book Cover

I created a new concept book cover and started refocusing our work as it relates to the Four Universal Motions and sent it to those who truly supported and believed in our work. The reaction was almost instant. One person even said: "Yes, that is what you discovered. It's obvious!"

I then tested it on my community of fellow scientific critical thinkers in the Chappell Natural Philosophy Society. And they too started using the phrase instantly. They now had a handle of my father and I's work and I could see that this was working.

I was invited to talk on the podcast, Demystifying Science with Dr. Michael Shilo DeLay and Dr. Anastasia Bendebury, who are scientists critical thinkers and low an behold, our YouTube interview was titled: "The Fundamental Motions of the Universe". Maybe that was even a better title!

Goodbye Particle

During my interview with Michael and Anastasia, Michael suggested that the word "particle" was also problematic and that the word "body" was a better choice. He had actually struggled with that notion himself and I seemed to agree. The word "particle" was too associated with only the small and with particle physics which can be confusing.

Particles to us were always made up of smaller parts but the word "particle" carries more of a connotation of being very small and NOT being made up of smaller particles. The word "body" by its nature implies a collection of smaller things and that is much closer to what my father and I meant with the word particle. The particle model became the "body model" but of course, that was out of the question.

This logic lead me to understand that what we truly discovered was not a "particle model". Rather, it is a description of the Four Universal Motions in Physics, where each motion was made of the same particle. I then went back to our book cover and tried the new phrases. It

became more and more clear, that the new title and the changing of the word "particle" to "body", was the correct wording and description of our work.

It became obvious that during this exploration of our work that our first book was more about the interpretation of the physical universe using these fundamental motions than it was on a pure exposition of the four motions themselves. The use of the word "hacking the universe" was a manifestation of this fact. It made me realize that we had to restructure what we discovered in a new book whose prospective was through the point of view of the four universal motions and that all the "hacks" we had revealed in our first book, were our "interpretations" of physical phenomena using these four universal motions.

—David de Hilster, 2023

INTRODUCTION

Modern physics is dominated by equations. Equations for gravity, equations for light, equations for electricity, and equations for magnetism to name a few. These equations have made great contributions in helping create today's technologies. Despite their success, the equations themselves tell us nothing of the physical nature of these forces. We are very good at describing the resultant movements of objects in "fields" or the behavior of a physical phenomena, but we still have no agreed upon physical explanation for these fields or phenomena including those for gravity, light, electricity, and magnetism.

Because of the tremendous success of modern-day equations, the pursuit of physical models for the basic forces in the universe have been sorely neglected. Over the years, gravitons have been proposed for gravity, photons and aether have been proposed for light, and electrons have been proposed for electricity. Even though many of us are familiar with the concepts of photons, electrons, gravitons and the like, the way in which they move is a mystery. Light acts both as a particle and a wave, gravitons are hypothesized to be the carrier of the gravitational force, while electrons seem to travel too slowly to account for the near light-speed movement of current in electrical circuits. We still use arbitrary terms such as charge that magically cause attraction or repulsion without every saying how this magic happens.

The four universal motions try to answer the question of physicality for everything in the universe not by proposing equations or specific particles, but by describing all forces as one or more of four specific motions. Their discovery is the result of decades of work by the authors of this book and other critical thinkers around the world.

The four universal motions allow us to describe all physical systems of terms of movement of bodies. All the modern equations in physics should be able to be derived by the force created by these four motions. Once we authors discovered these four motions (the last being in 2015), we spent the next five years "hacking" the universe by proposing how these motions combined to describe the physicality of light, gravity, electricity, magnetism, and atomic structure. All of this can be found in our first book "Principia Mathematica II: A Complete Toolkit for Hacking the Universe"[8].

The first book came from those amazing five years of applying these four motions to many phenomena that did not have a physical explanation such as rainbows, electronic components, and the force that holds atoms together. Unfortunately, this excitement also produced a book that wandered and made it difficult for the reader to understand just what the authors were proposing.

It is our goal in this second book to present a clear picture of what we found: the four universal motions and how they combine to create the diversity of our universe.

It is our hope that readers of this second book can visualize and conceptualize what we authors think is an amazing new way to look at the physical world around us and perhaps even produce new and useful technologies.

PART I

MOTION CLASSIFICATIONS

There are four universal motions in physics. These motions and their combinations give physicality to all forces in the universe. These motions will be new for most everyone so it is important to understand them both visually and by definition since this model has no equations.

The names of the four motions are as follows:

FOUR MOTIONS

gravitic:	relating to gravity (<i>this is the foundational movement from which all other movements can occur</i>)
luminic:	relating to light (<i>this word is invented by the authors</i>)
magnetic:	relating to magnetism
electric:	relating to electricity

Visually, the four motions look like this:

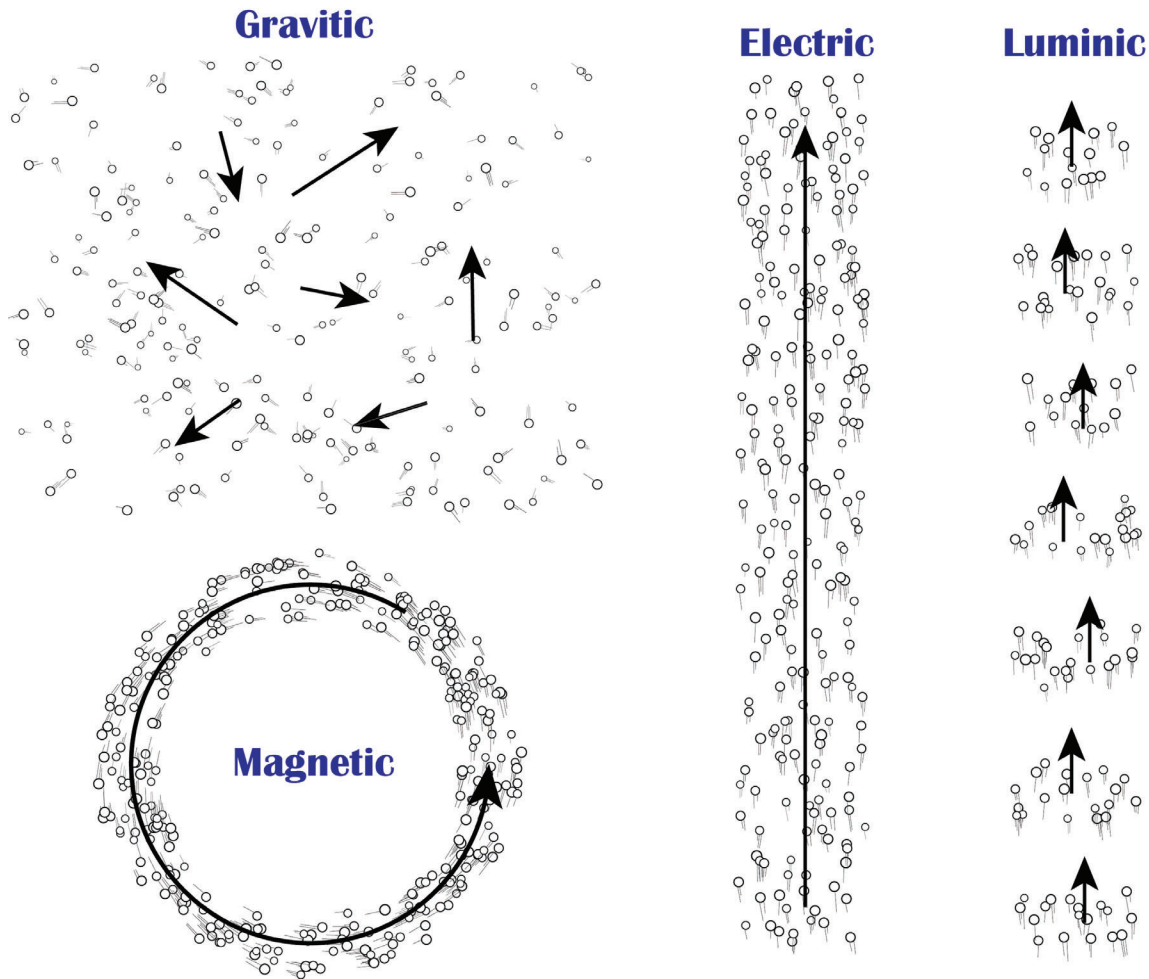


Figure 0.2 The four universal motions in physics.

Gravitic motion is random, magnetic motion is orbits, electric motion is flows, and luminic motion is waves. As shown in our first book[8], you can "hack" or visualize the universe by using and combining these four motions.

For historical reference, gravitic motion has been around hundreds of years in the form of gravitons. It is not known to the public because it is not considered to be an accepted model for gravity in modern science. Magnetic motion was described in 2006 by Ionel Dinu of Romania[6] and is known by perhaps at least hundreds or at most, thousands of people in the world. Luminic motion and electric motion was described in 2015 by we authors, Robert and David de Hilster respectively and currently is known by a fairly small number of people.[8].

For the most part, these motions are new to the world of science.

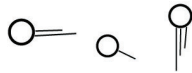
The four motions are very simplistic in nature. But it is the combination of these motions that allow for the creation of all the complexities of the universe from the infinitely small to the infinitely large. And it is the claim of we authors that all equations in physics can be derived from these motions in affect unifying the universe not by unifying forces, but by giving physicality to the the forces from which today's physics equations arise.

0.1 Graphics Key

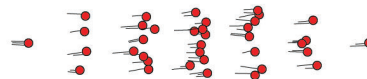
These are the graphic symbols used throughout this book. Note that particle waves and flows use both particle symbols and arrow symbols. The arrow symbols are used for electric motion when describing electric circuits.

G Particles

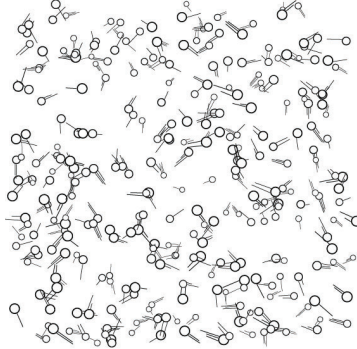
Single Particles with Direction Tails



Particle Waves



Particle Field



Particle Flows



Sun



Nucleon Atomic Nucleus



Atoms



Force Arrows

G1 Level Force (red)



G2 Level Force (blue)



Figure 0.3 Graphics key for this book.

The labels of G1 and G2 will be described later in this book.

CHAPTER 1

GRAVITIC MOTION

The foundational and simplest motion of the universe is gravitic. Gravitic motion is comprised of bodies traveling in random directions. Random motion of similar particles creates the organizing field we call gravity.

Gravitic motion is what causes other bodies to orbit, curve, or change direction. The three other universal motions of light, magnetism, and electricity cannot exist without gravitic motion.

1.1 Definition of Gravitic Motion

Gravitic fields are made up of moving bodies with the following characteristics:

1. travel in straight lines
2. travel in random directions
3. are similar in size and mass
4. have similar speed
5. are significantly faster than the bodies they are affecting
6. are significantly smaller than the bodies they are affecting
7. occur at all macro or micro levels of the universe

A gravitic field is shown in Figure 1.1 on page 6.

Gravitic Motion

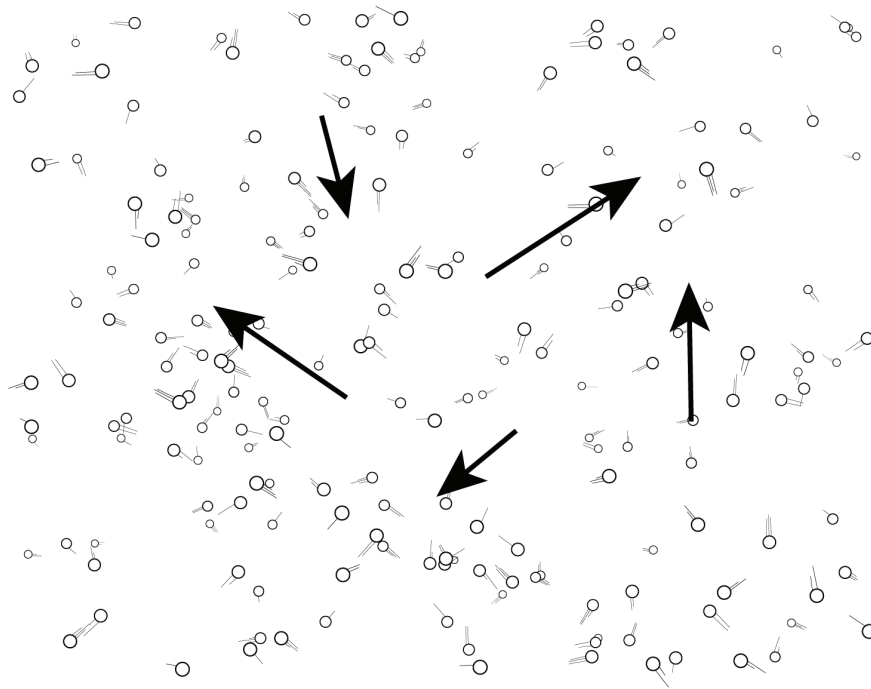


Figure 1.1 Gravitic motion of similar bodies flying in straight lines in random directions.

1.2 Examples of Gravitic Motion

As of today, we authors have found two examples of gravitic motion:

1. Newtonian gravity (the gravity described by Sir Isaac Newton)
2. A second gravity that keeps electrons orbiting a nucleus (the gravity as described by de Hilster and de Hilster)

The biggest clue for a second "gravity" comes from the obvious similarities in the equations for Newton's gravity and the equation for the force that keeps electrons in orbit around the nucleus inside atoms. Both equations are what are called "inverse-square law" equations and their similarities can be seen by anyone using simple inspection. Given that we have known for hundreds of years that a gravitic field of randomly moving particles can produce the force of gravity, we can say that the force that keeps electrons in orbit around atoms is also the result of a gravitic field, see Figure 1.2 on page 7.

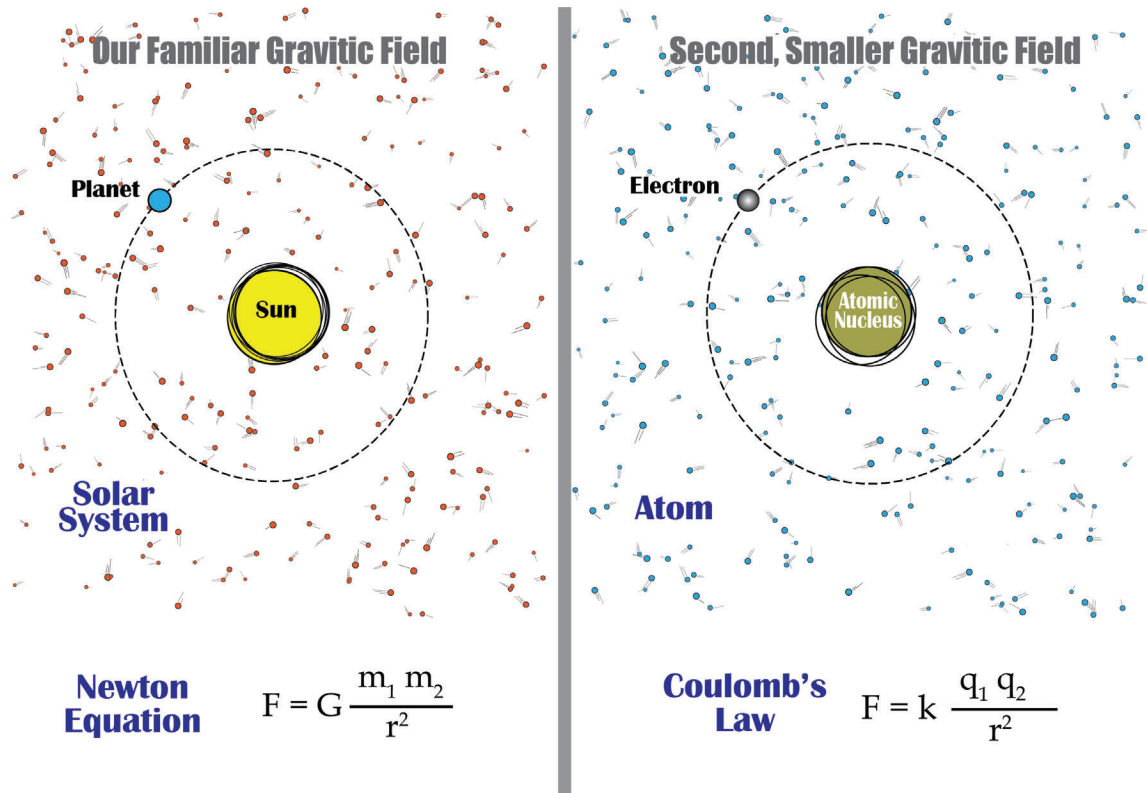


Figure 1.2 The two known examples of a gravitic field in our known universe.

Both equations are in the form of inverse square law equations which are in the form:

$$F = Constant \frac{Body_1 Body_2}{radius^2}$$

We will discuss this in more length in Part 2 of this book.

It is the proposition of we authors that both equations are similar because the physicality behind the force of gravity and the force that keeps electrons orbiting a nucleus must be the same. It is therefore conjectured that both equations rise from the fact that they are both describing the motion of bodies in a gravitic field.

It is important to understand several important things about the second gravity that keeps electrons orbiting an atomic nucleus:

1. it is a different particle than gravity
2. it is smaller and faster than gravity
3. the second gravity does not require positive or negative charge (we will discuss this in part two of this book)

1.3 History of Gravitic Motion

The idea of a particle for gravity has been around for 400 years. From Georges-Louis Le Sage's "ultra-mundane corpuscles"[11], to the graviton of modern-day physics, a gravity particle is nothing new.

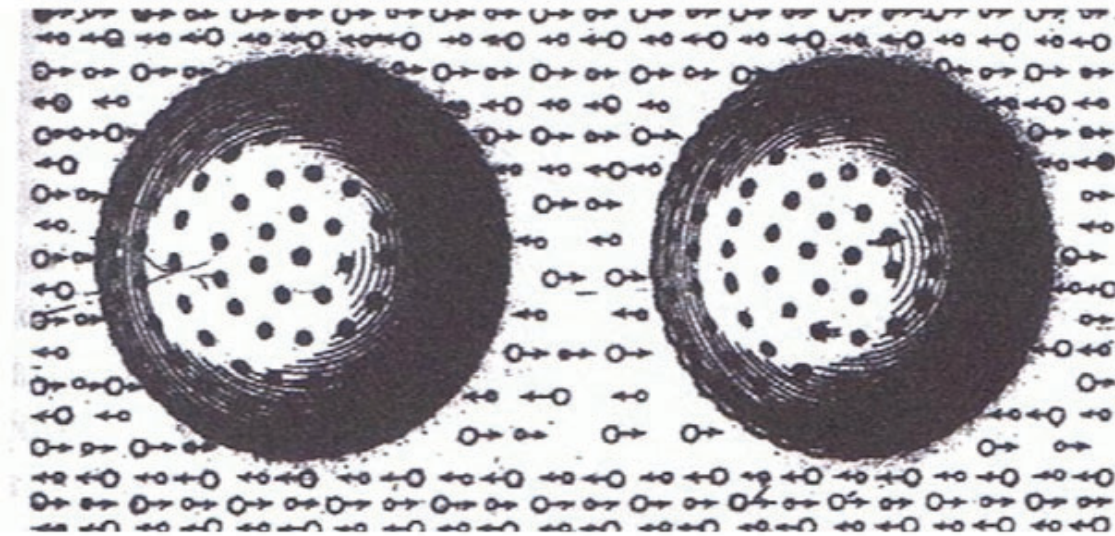


Figure 1.3 Le Sage's "ultra-mundane" corpuscles where one can see the gravity particles are less dense in between two bodies and therefore cause an attraction or the bodies to move towards each other.

The modern "graviton" is quite mysterious and is not normally found in modern elementary particle charts. When included, the graviton is listed as a hypothetical elementary particle but is almost never talked about given modern physics subscribes to Einstein's "space-time" as being the cause of gravity. Space-time does not have any physical representation and is purely mathematical.

"The graviton is a hypothetical elementary spin-2 particle proposed to mediate gravitation. While it remains undiscovered due to the difficulty inherent in its detection, it is sometimes included in tables of elementary particles.[1] The conventional graviton is massless, although some models containing massive Kaluza–Klein gravitons exist"

– Wikipedia: Elementary particle

1.4 How Gravitic Motion Functions

A gravitic field of random bodies creates what is known as the "shadow effect" when two bodies are in proximity to each other. Each body blocks gravitons from hitting the other body thus creating a gravitational force that is greater on the opposite sides of each object and therefore pushes the objects towards each other (see Figure 1.6 on page 11). This idea is centuries old.

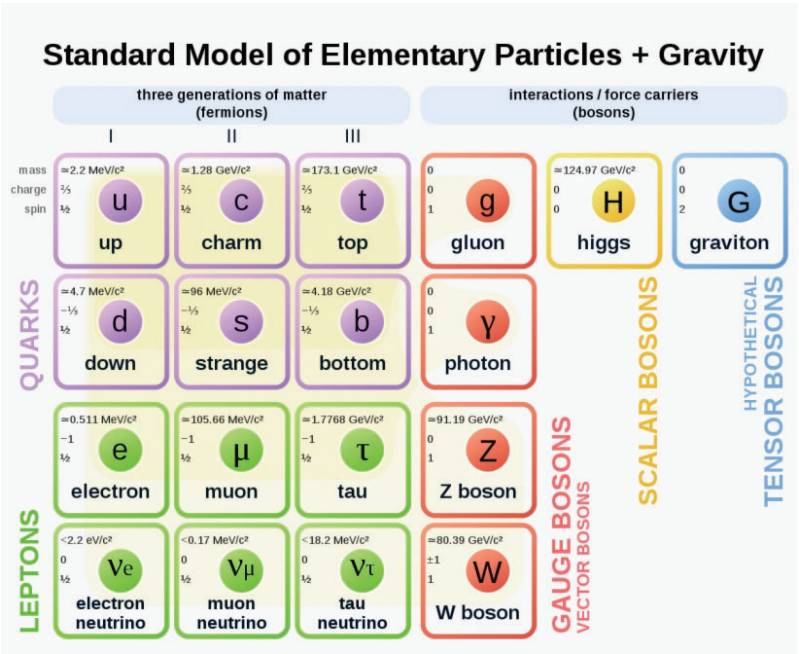


Figure 1.4 Some modern elementary particle charts include the graviton as a hypothetical, often massless particle.

Even though some gravitons hit the nucleus of the atoms in that body, a portion of those gravitons pass through the body given that atoms are mostly space and that is why gravity still exists in caves.

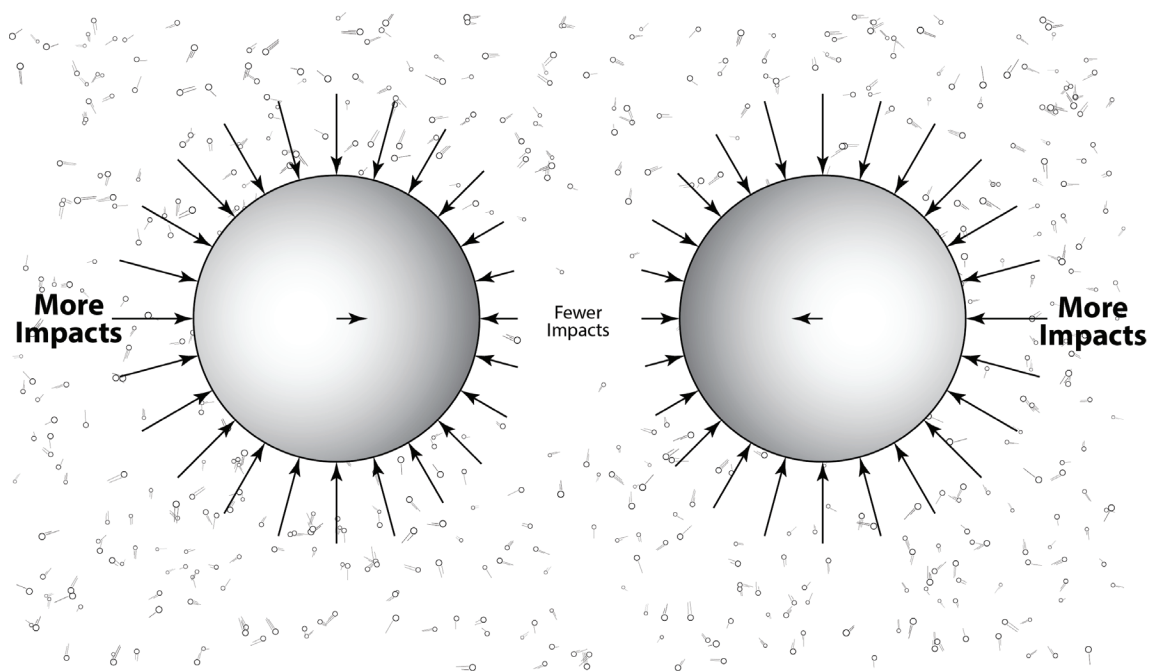


Figure 1.5 Bodies in a gravitic field block some of the particles and therefore create a pressure difference between the bodies causing gravity.

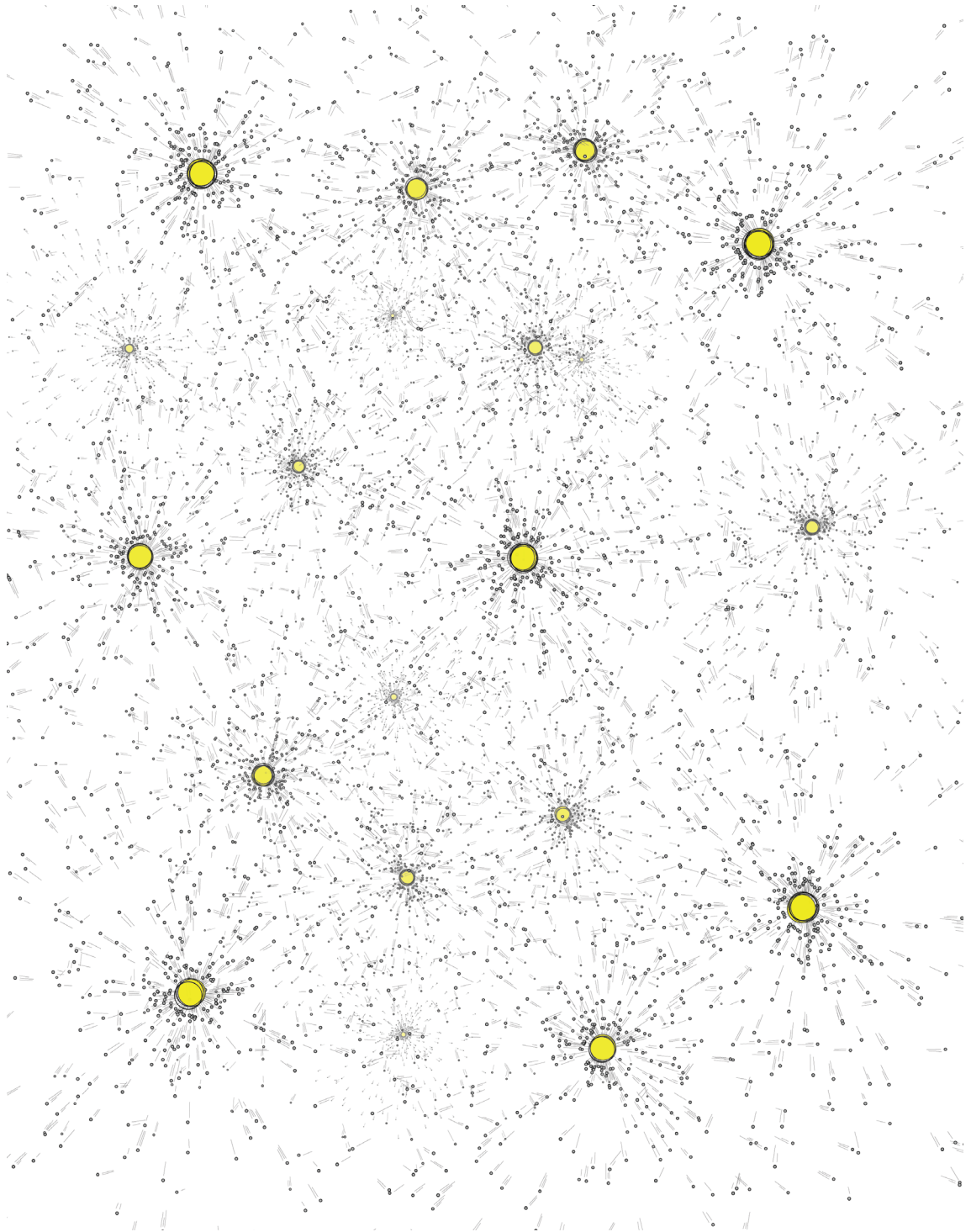


Figure 1.6 The origin of gravitons comes from the trillions of stars that are blowing apart atoms and sending the gravitons in all directions.

Gravitic motion is the simplest (random) but is also the organizing force of the other three motions. Gravitic fields can cause collisions, curved paths, and orbiting. And these motions are very important at all levels of the universe.

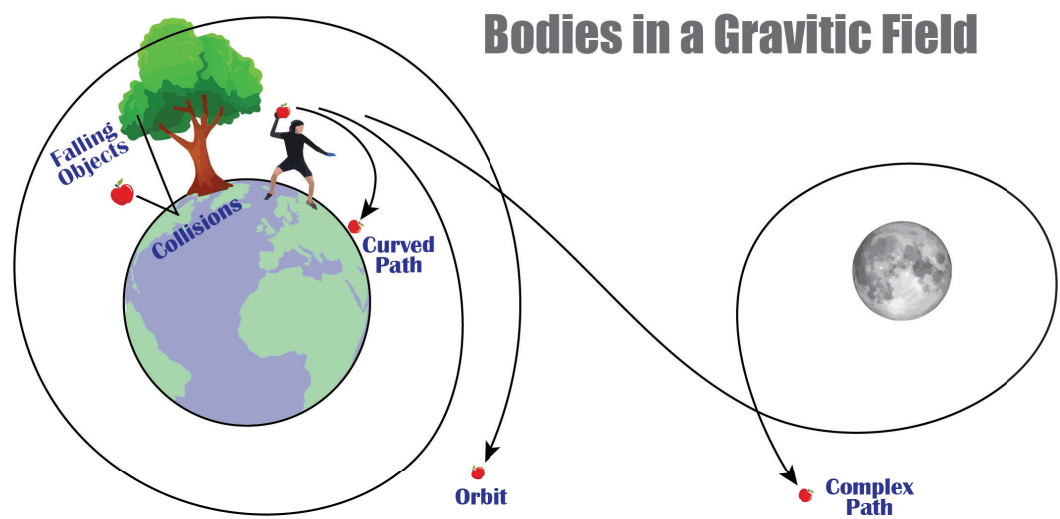


Figure 1.7 Our familiar gravitic field acting upon an apple.

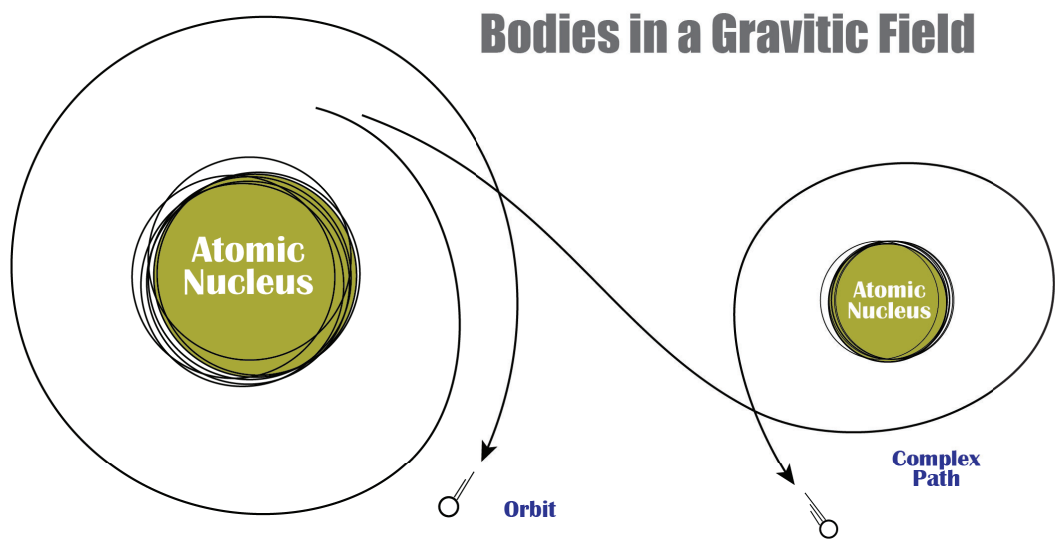


Figure 1.8 The second gravitic field acts upon the electron.

CHAPTER 2

MAGNETIC MOTION

Magnetic motion is a body or bodies in an orbit. This could be one or more bodies in orbit around one or more other bodies. Orbits can be very simple like the moon around the earth or very complex like electrons orbiting complex molecules. Orbiting bodies are held in that orbit by a gravitic field (the most fundamental motion in the universe).

An orbiting body is a magnetic motion and constitutes a magnetic field. Magnetic attraction, repulsion, and equilibrium occurs when distinct orbiting systems come close to one another.

Magnetic fields are made up of moving bodies with the following characteristics:

1. travel in orbits
2. are guided by a gravitic field around a central body or bodies
3. cause attraction when two opposite magnetic motions near each other
4. cause repulsion when two like magnetic motions near each other
5. are similar in size and mass
6. can vary in speed as bodies orbit
7. occur at all macro or micro levels of the universe

Magnetic motion can be any body in orbit around another. The Moon orbiting the Earth is a magnetic motion as is an electron orbiting a nucleus or around groups of atoms or molecules (see Figure 2.2 on page 14)

2.1 Examples of Magnetic Motion

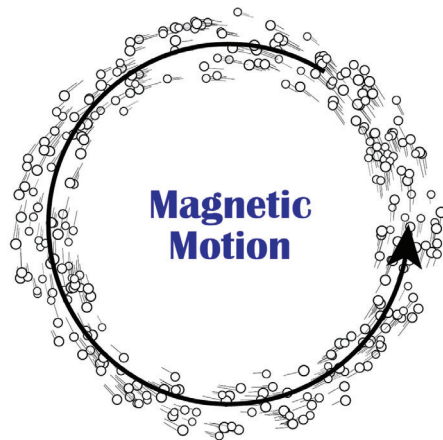


Figure 2.1 This is a diagram of an idealized "Magnetic Motion" with particle flowing in a circle.

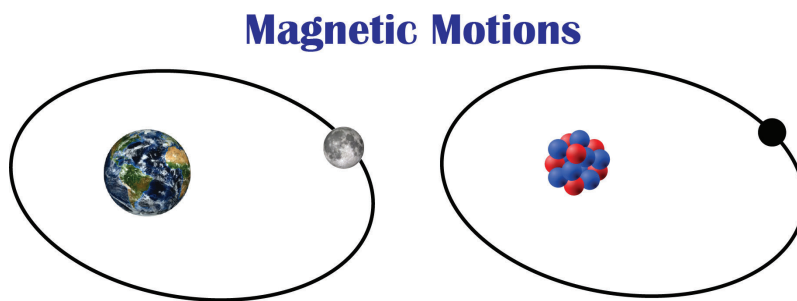


Figure 2.2 The Moon around the Earth and an electron around a nucleus constitute magnetic motion.

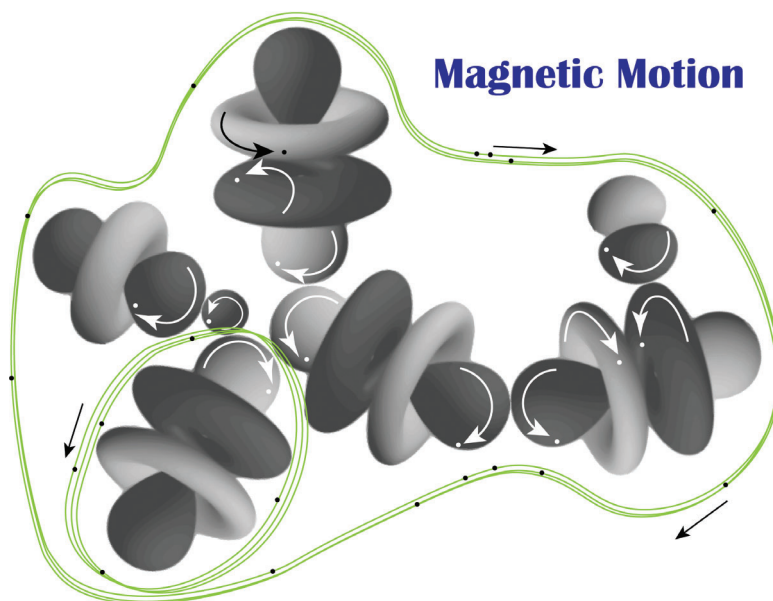


Figure 2.3 Magnetic motion around individual atoms and molecules cause them to attract, repulse, and remain stable.

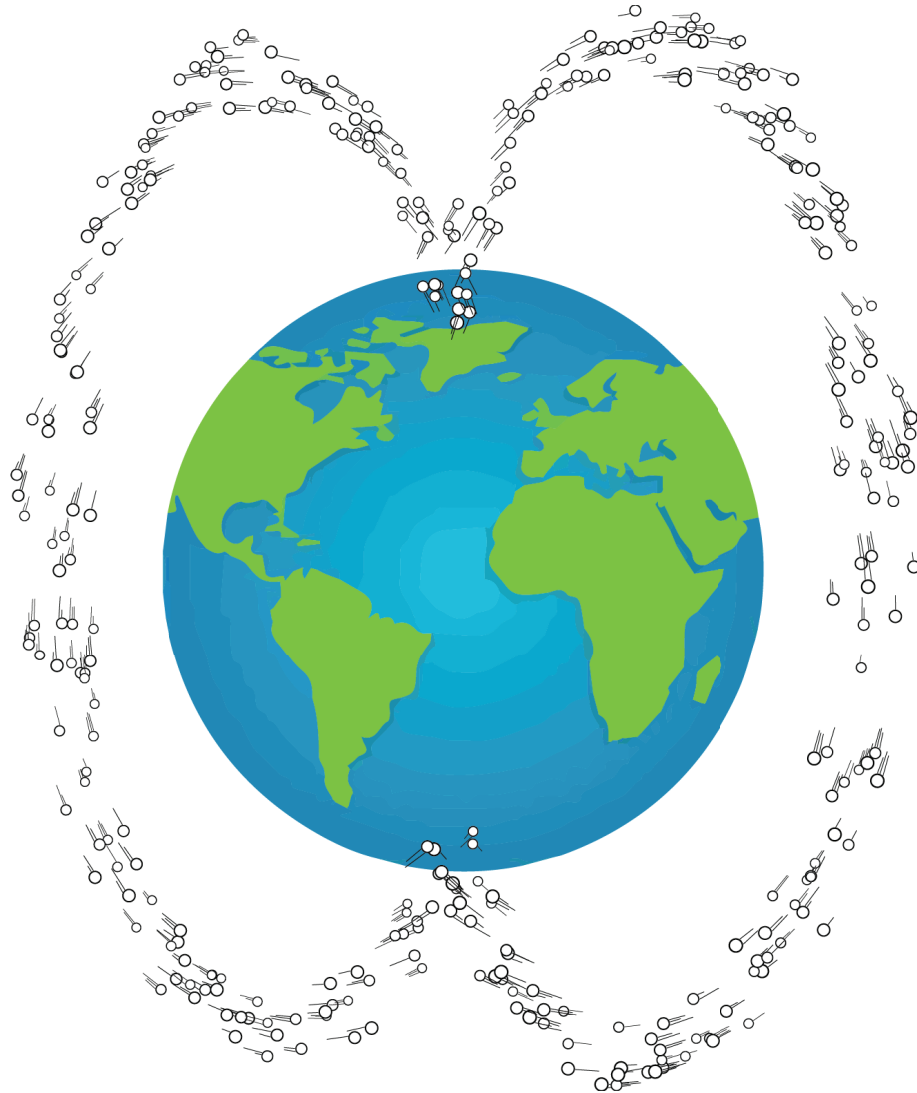


Figure 2.4 Magnetic motion around the earth.

2.2 History of Magnetic Motion

Magnetic motion was first described in Ionel Dinu's underwater experiments[6]. Dinu clearly shows how when magnetic motions come in contact with one another, attraction, repulsion, or stability occurs (See the YouTube video: <https://youtu.be/RNnXVKyk-kA>).

2.3 The Dinu Effect

In the early 2000s, Romanian physicist Ionel Dinu[6] conducted underwater experiments with rotating bodies in water. Dinu discovered that flowing water around two cylinders caused the cylinders to act like magnetics in a magnetic field. Dinu found that water flow in opposite directions caused repulsion while water flow in the same direction caused attraction. We call this phenomenon the "Dinu Effect".

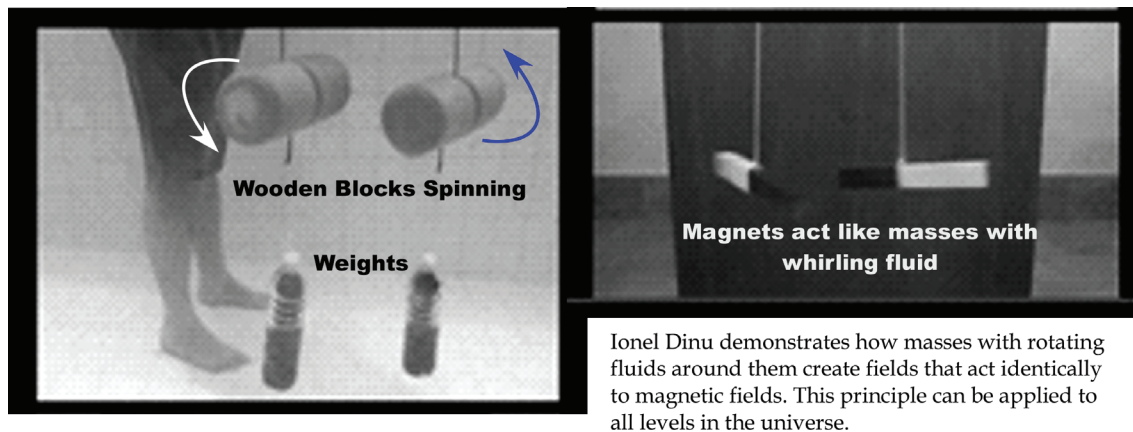


Figure 2.5 The "Dinu Effect" demonstrated, that under water spinning cylinders, perfectly mimics magnetism.

The experiment consists of two hanging motorized wooden cylinders that spin along their axis. The wooden cylinders create a spinning current around each cylinder and when the cylinders and their corresponding currents are brought close together, attraction and repulsion can be demonstrated.

When the cylinders are rotating in opposite directions, the water currents flow in the same direction causing the cylinders to attract since there is no repulsion. When the cylinders are rotating in the same direction, the water currents are flowing in opposite directions and their water currents fight each other, colliding, thus repelling the two cylinders. See Figure 2.6 on page 17.

It is important to note that Dinu's underwater experiments are physically different than magnetic motion as described in the four universal motions. Dinu's experiments involve water molecules that are not orbiting the cylinders on their own. The water molecules orbit the cylinder when the cylinder starts spinning.

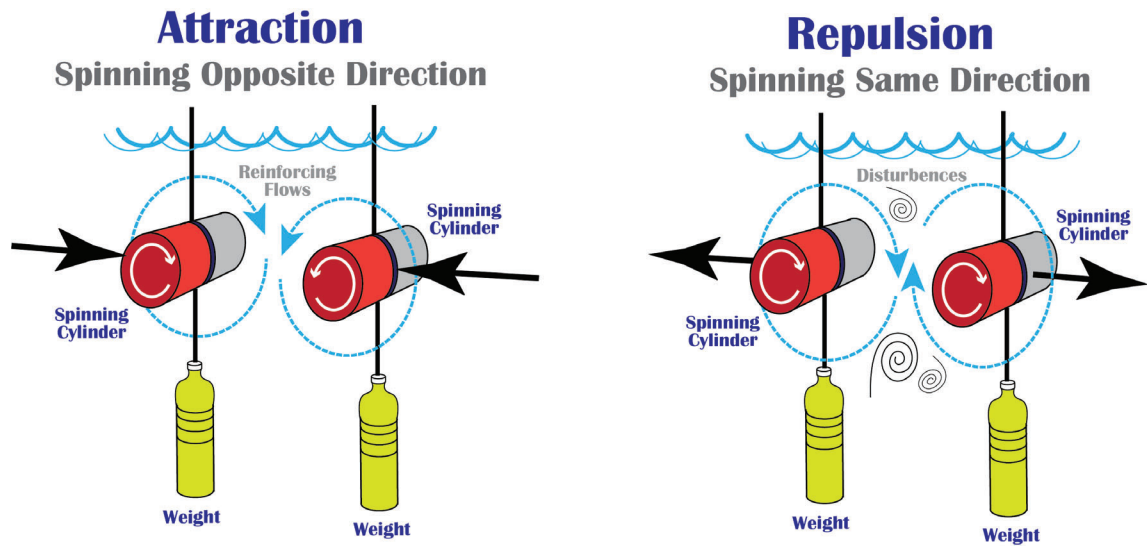


Figure 2.6 Ionel Dinu's Underwater Flow Experiment

In the case of the four universal motions, the concept of magnetism has been simplified to flows, their directions, and their approximation to other flows. And because magnetic fields are present over long period of times, it was natural to see that perpetual flows in natural occurred naturally as orbiting bodies. The Dinu Effect was the inspiration for magnetic motion in the four universal motions.

Attraction and repulsion in the four universal motions have to do with particle flows, not charge, nor north or south. This is a very important effect that is found throughout our model and the universe. The technical reason for this attraction and repulsion is described in Section ??, Page ??.

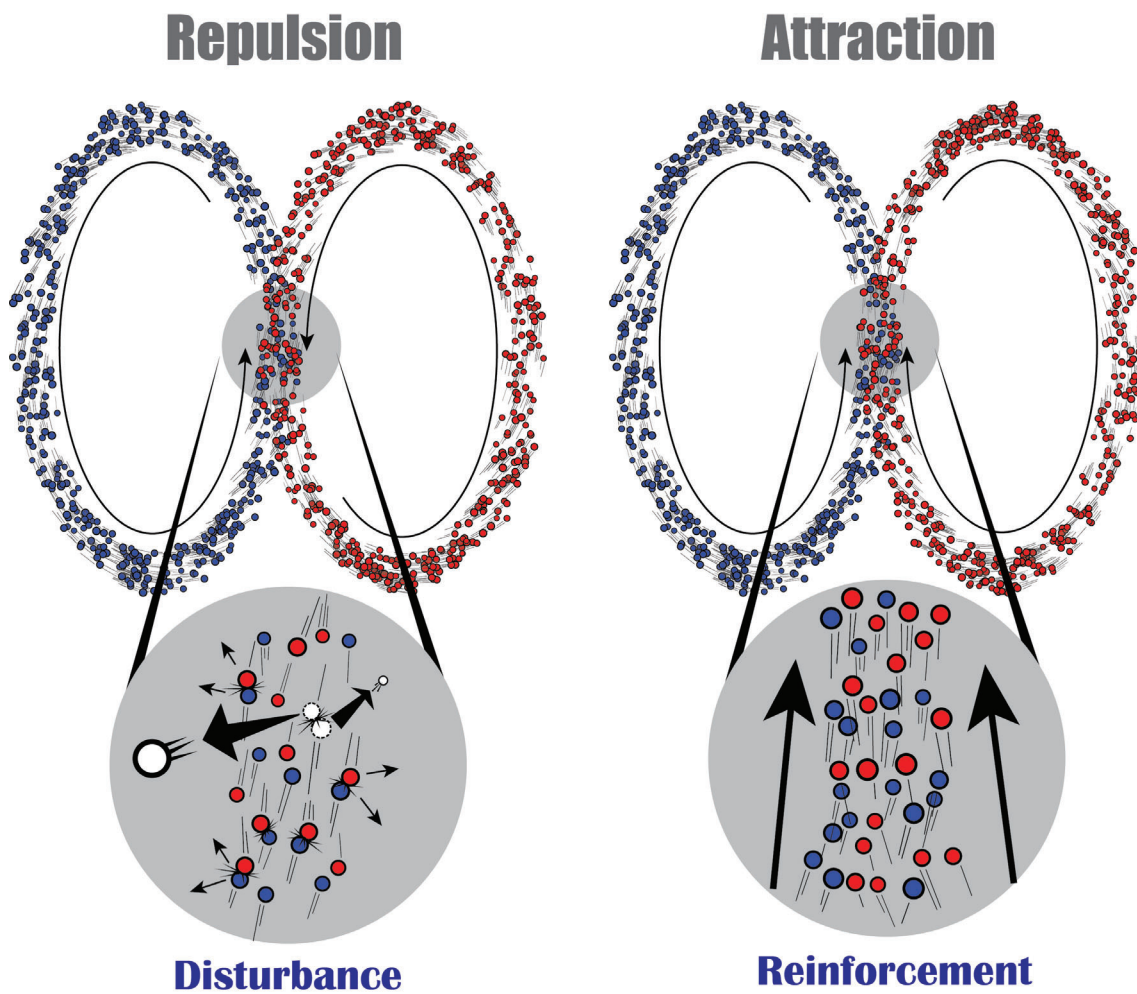


Figure 2.7 The "Dinu Effect" with particle flow in the same direction causes attraction.

CHAPTER 3

LUMINIC MOTION

Luminic motion is the movement of groups of bodies traveling in the same direction at the same speed. Luminic motion is what we commonly call light or electromagnetic waves.

Luminic waves have the following characteristics:

1. consist of groups of particles traveling together
2. have fairly regular spacing between groups
3. are similar in size and mass
4. have an overall similar speed
5. are significantly smaller than the bodies they from which they leave or affect
6. occur at all macro or micro levels of the universe
7. convey information across distances

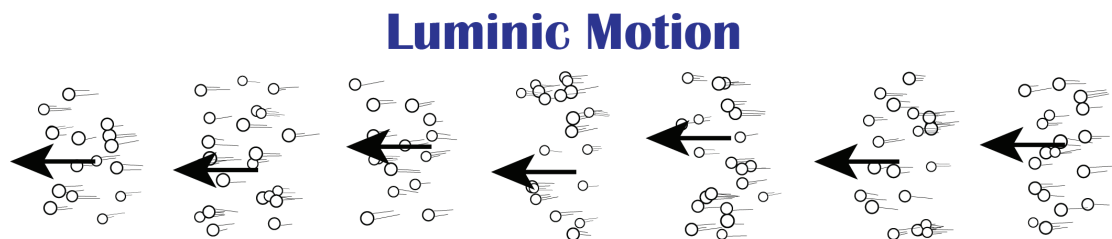


Figure 3.1 Luminic waves are waves of particles traveling in groups with a regular frequency.

3.1 Examples of Luminic Waves

Here are some examples of luminic waves (see Figure 3.3 on page 21 and Figure 3.4 on page 21). Waves can have any number of bodies and arrive at steady or varying frequencies.

It is important to note that waves in the ocean are not examples of luminic waves but are waves in a medium. This will be discussed in the history section below the examples.



Figure 3.2 A show massage emits luminic waves.

3.2 History of Luminic Motion

Luminic motion was first proposed in June of 2015 by one of the authors of this book, Robert de Hilster. Prior to this model, there was no clear answer to why light behaved both as a particle and a wave. This problem is known in science as the wave/particle duality[12].

3.2.1 Wave/Particle Duality

For hundreds of years, both particle and wave models for light were proposed and pursued. Newton first entertained light as being a particle of different sizes to account for the different

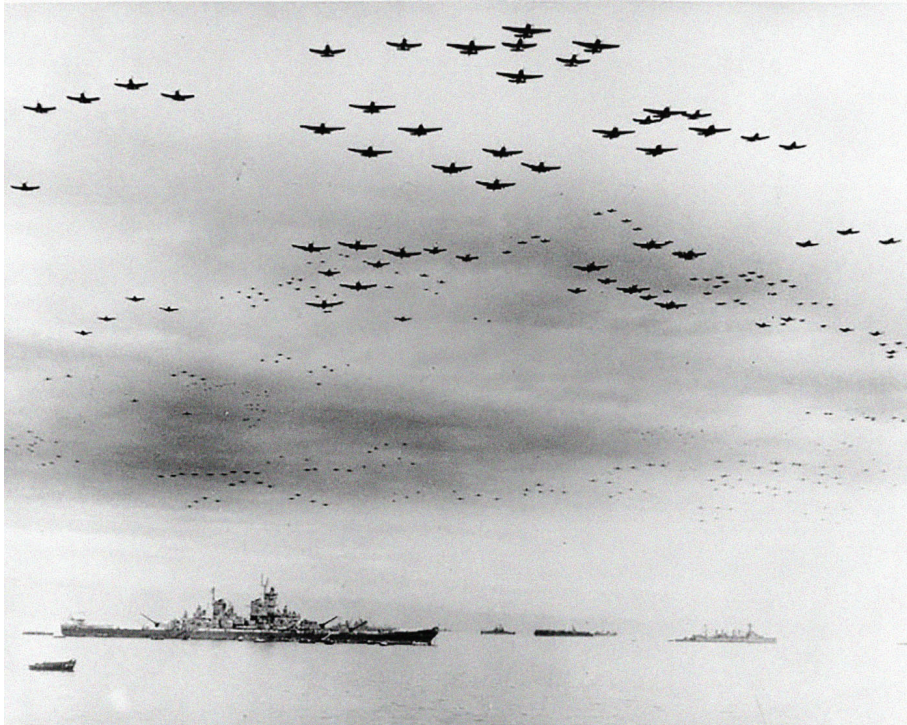


Figure 3.3 A wave of bombers comprise a luminic wave.



Figure 3.4 Luminic waves of birds during migration.

wavelengths of light. But this did not work given single particles could not produce a wavelength.

The next model which became very popular was the aether model for light. Light was assumed to be waves in an aether medium that fills space much like waves in water. The wave

motion traveled but the particles of the medium did not. It was assume that aether permeated space through which the earth and all other heavenly bodies traveled. There was a famous series of experiments that tried to measure the speed of light as the earth supposedly traveled through this medium but no evidence was found.

Albert Einstein then proposed that light was made up of photons and that therefore aether was not needed for light and in modern mainstream physics. Light is a considered to be a specific particle called the photon. The photon model however is not able to describe the obvious wave-like properties of light and thus the term wave/particle duality still exists today as an unsolved problem.

Those outside of mainstream science who are critical of many of the main theories and concepts have returned to aether models for light. The major reason for this is because of the wave characteristics of light and the failure of the photon to model these wave properties. Yet, these modern aether models fail to account for all the particle-like characteristics of light such as the laser beam. Lasers are beams of light that cannot be adequately described by a medium model of light and those models have also failed to address the wave/particle duality of light.

3.2.2 First Drawing of a Luminic Wave

In 2015, Robert de Hilster drew the first picture of a luminic wave (see Figure 3.5). The original drawing used numbers to represent how many particles would be in each part of the wave. The expanded version replaces the number with actual particles and includes arrows to show the direction and magnitude of the motion of each particle.

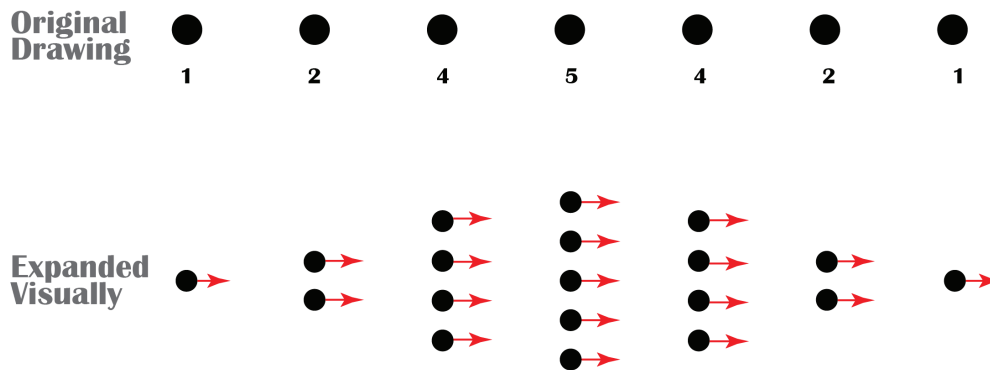


Figure 3.5 The original drawing of the luminic wave as first described by Robert de Hilster and the second being a more visual expansion of the original concept.

Robert was working with a small group of scientists who were working on a physical model for gravity when he decided he would try and model light with particles. Although he does not remember exactly what inspired him, his son David suggests that his father's electrical engineering work that included the transition of analog signals to digital bit streams (PCM: Pulse Code Modulation) may have been an unconscious influence on him coming up with what his son coined as a "luminic wave."

CHAPTER 4

ELECTRIC MOTION

Electric motion is the flow of bodies along a gravitic path that is not an orbit. This differs from an orbits in that the moving body is not circling a central mass but guided by many masses in a row. These masses create a gravitic tube through which bodies are guided. This could be the nucleus of atoms in a copper wire guiding electricity or molecules of water in the air that guide lightning.

Electric bodies have the following characteristics:

- travel in a non-orbital path
- are guided by a path of bodies that form a gravitic tube
- do not have charge
- are similar in size and mass
- can have an overall similar speed
- are significantly smaller than the bodies that are guiding them
- occurs at all macro or micro levels of the universe

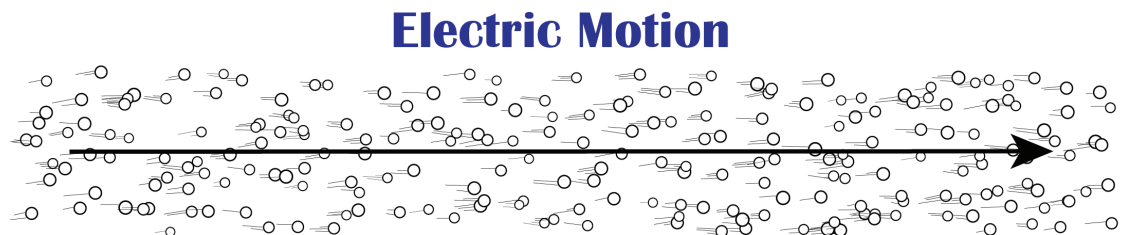


Figure 4.1 Electric flow consists of particles moving in a non-orbital path.

4.1 Examples of Electric Motion

Some examples of electric motion include lightning, current in electronic circuits, and static electricity.

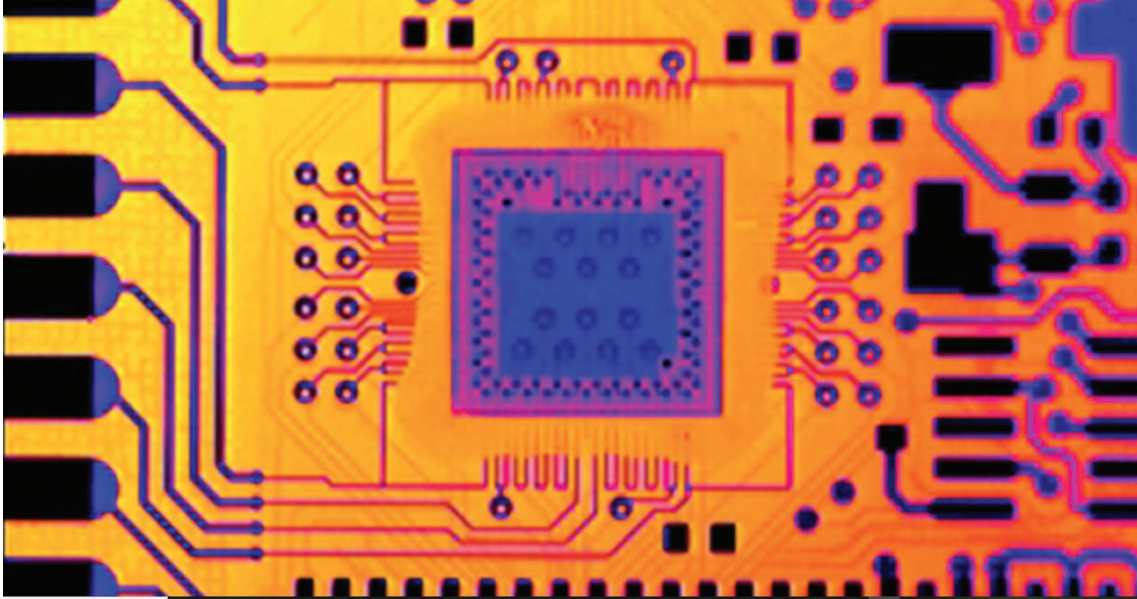


Figure 4.2 Infrared image of an electronic circuit showing the electric motion through the atomic paths of wires.



Figure 4.3 Lightning is electric motion guided by water molecules in the air (Image credit: Uğur İkizler)

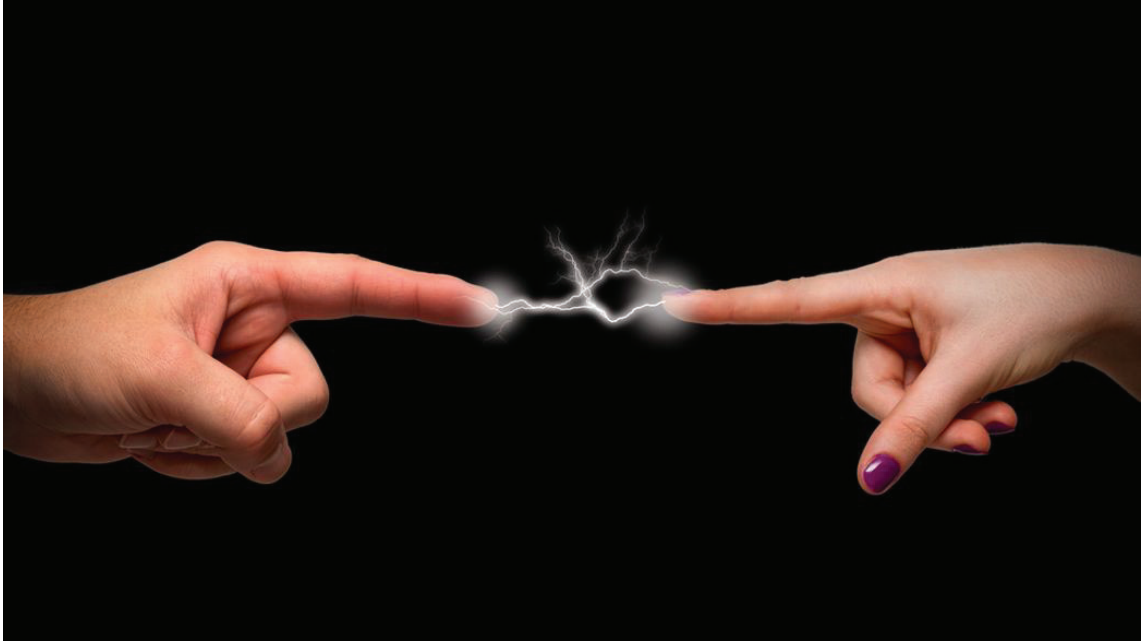


Figure 4.4 Static electricity is another example of electric motion.

4.2 History of Electric Motion

Electricity has been studied and used for hundreds of years with many conventions being established to help describe its behavior. From Benjamin Franklin's positive and negative charges, to the electron itself, scientists have been extremely successful in using what we call "electricity" to perform tasks that we could have never imagined only decades ago.

Yet the physics of electricity is today still is a complete mystery. We associate electricity with the electron yet electrons don't move fast enough to explain the light-speed current measured in electronic circuits. The physical models for current are particularly absurd. One of them involves the movement of holes left behind by electrons moving in the opposite direction.

"In electric circuits the charge carriers are often electrons moving through a wire. In semiconductors they can be electrons or holes."

– Wikipedia: Electric current

4.2.1 Electric Motion: the Fourth Universal Motion

The history of electric motion stems for discussions between David de Hilster and Dr. Glenn Borchardt in 2011. When discussing what the physicality of electricity could be, Borchardt talked about light waves being trapped in wires. Years later after Robert de Hilster's creation of luminic waves, David remembered this conversation and imagined that electrons were traveling

through a gravitic field guided by the nuclei of atoms, much like a comet would be guided down a path of regularly-space suns (see figure 7.4 on page 41).

This final motion solved a myriad of problems with the physical explanations for electricity given in mainstream science. Later, this model would prove to be invaluable in explaining the physicality of electronic components as well as make some startling but simple predictions not yet known to electrical engineers.

Electric motion is the fourth and final universal motion.

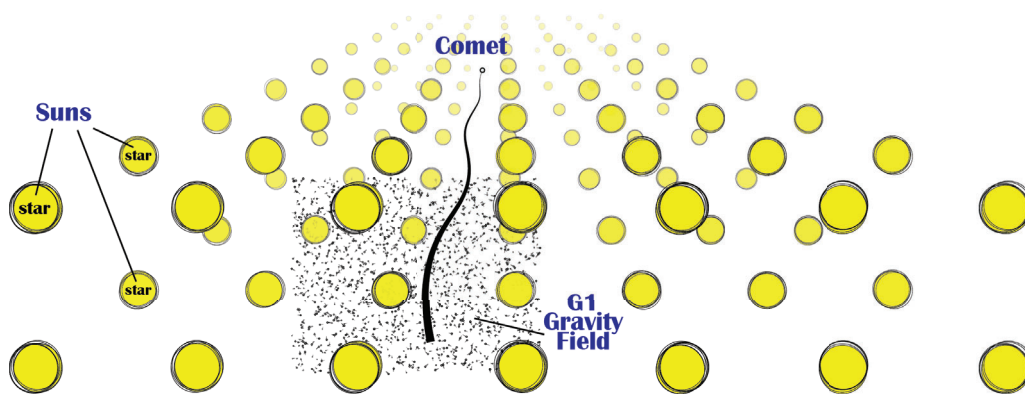


Figure 4.5 Visualizing comet motion through stars guided by gravity.

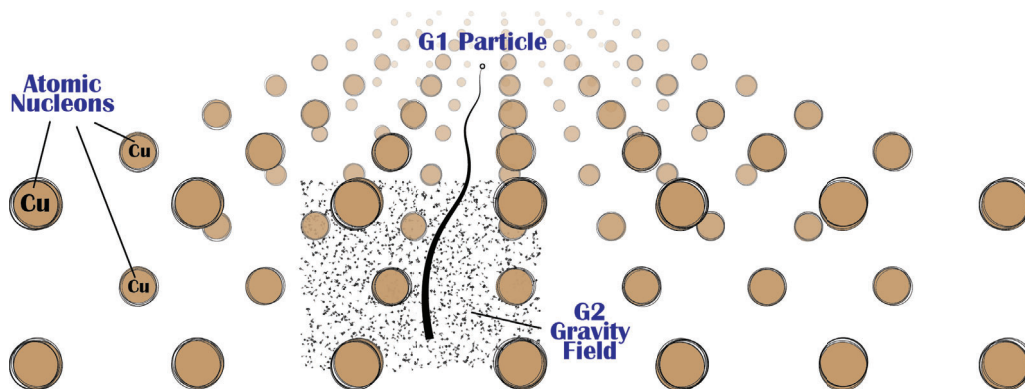


Figure 4.6 Visualizing electric motions as electrons being guided by a gravitic field.

CHAPTER 5

MOTION VOCABULARY

DAVID DE HILSTER

With this new proposed physical model for the universe, it became clear that a new vocabulary had to be created in order to talk about all the moving bodies found in the universe. The two driving factors for developing this new vocabulary was the speed of light, and the infinite levels of the universe.

5.1 Speed of Light

For each universal motion, there is a corresponding particle: light is a photon, gravity is a graviton, electricity is an electron, and magnetism is a magnitron. The magnitron is used by we authors to describe the moving particle for the magnetic field and is not commonly known or used in mainstream science.

One of the most important observations made by on of the authors, David de Hilster, was that all these particles traveled at or near the speed of light. Light of course travels at the speed of light. Electricity is measured close to the speed of light. Gravity, according to experimental evidence[7] and in mainstream science, is said to travel at the speed of light. And particle accelerators use magnetic fields to accelerate particles close to the speed of light and therefore must themselves be traveling at the speed of light.

David then claimed that if all these particles traveled at the same speed, they must in fact be the same particle. That is, the photon, graviton, electron, and magnitron were in fact, all the same particle. The only difference between them was how they moved.

This at first seemed improbable if not impossible. But once one thinks about it, it is not only possible, but it greatly simplifies the physical model of the universe. Although this is not the unification of the four forces, it is a unification none-the-less. It is the unification of four separate particles into one particle with their distinctions simply being how they move.

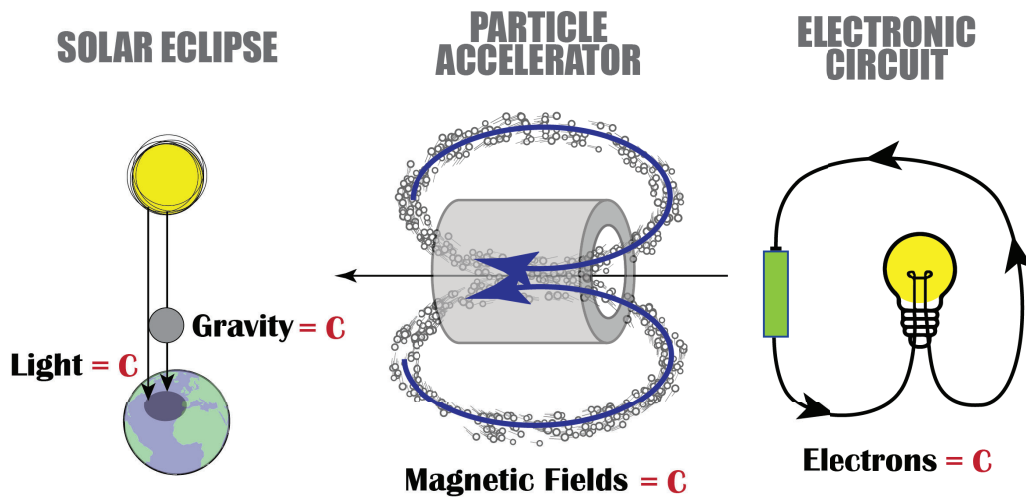


Figure 5.1 All four motions travel at the speed of light so it is assumed they are the same particle

This simplifies a myriad of physical models mainstream science talks about how electrons somehow emit photons in the form of radio waves, or how photons hit solar panels to create electricity, or how different colored light is emitted from the flame of a candle. There are many simplifications that occur when treating all these particles as the same particle which will be discussed in part 2 of this book.

5.2 Infinite Levels of the Universe

Both authors subscribe to Dr. Glenn Borhardt's infinite universe theory that states that the universe has infinite levels that always include smaller and smaller bodies and larger and larger ones. This means that there is never the "ultimate" particle that makes up the entire universe and that our celestial bodies including galaxies and galaxy clusters are not the largest structures.

The four universal motions therefore occur at all levels of the universe. The most obvious evidence of this is the fact that the equations for gravity and the force that keeps electrons in orbit around the nucleus are identical in form as discussed before. Both are gravitic fields but are at different levels of the universe. In today's scientific lingo, one is at our level of universe, and the other is at the quantum level.

Borhardt adopted a numbering system for the different levels of the universe. In his model, he had aether particles A1, A2, A3 etc. - one for each level of the universe.

Given that the photon, graviton, electron, and magnitron are in fact the same particle, and given that gravity is the most fundamental motion from which all the other motions are derived, we call this particle a G1 particle - "G" for graviton and "1" for level one.

We therefore use the following vocabulary for the four universal motions:

1. gravity particle: G1, G2, ... Gn
2. speed of the Gn particle: C1, C2, ... Cn

3. nucleon particle: $N_1, N_2, \dots, N_n$
4. atoms where G_n orbits N_n : $A_1, A_2, \dots, A_n$
5. periodic table: $P_1, P_2, \dots, P_n$

Item 2 is not a particle or atom, but the average speed of the G_n particle as an orbital. "c" is the defined value of the speed of light in a vacuum which is 299,792,458 m/s. C_1 is the speed of the level 1 orbital and could be more or less than the defined speed of light. The speed of the G_2 (C_2) is much faster than light, but its average value can only be estimated given it is postulated by this model.

Throughout this book, you will see references to this numbering system. The most common particle mentioned is the G_1 particle which replaces the electron, graviton, photon, and magnitron. The second most common particle mentioned is the G_2 particle which affects the path of the G_1 causing them to curve and orbit. The G_2 particle is responsible for keeping the G_1 in orbit around the nucleus of the atom, bending light waves of G_1 particles into rainbows, among other things.

The other particles mentioned but more briefly are atoms (A_1) which are listed in the periodic table for level 1 (P_1). Level 2 atoms (subatomic atoms) combine to make G_1 particles and N_1 nucleons. P_2 is a second-level periodic table that lists subatomic atoms.

CHAPTER 6

UNIFICATION

DAVID DE HILSTER

It is often the case in paradigm shifts that the next step in an evolution of a theory or model takes an unexpected turn. And even more often than not, the unexpected turn turns out to be something quite simple. For many decades, science has been looking to unify the forces by unifying the equations for such forces. But unification did not come from where people have been looking.

It was never the intention of we authors to come up with a unification in physics. We were interested in giving physicality to the most common forces. Something that until now, we have failed to do. We knew that the equations for the forces in the universe were equations that described the resultant movement of bodies acted upon by these mysterious forces, but we never had the goal of unification.

In 2015, when my father came up with his model for the luminic wave, the intention was never to unify. The intention was to give physicality to light. In fact, we were both fixated on finding the physicality for everything in the universe. After I realized what my father had done, I went back to those concepts that I had collected over the years that gave physicality to magnetism, electricity, and gravity. Putting all that together brought forth the four universal movements. The only difference between these fundamental forces is the way in which bodies moved.

At first, we did not see this as a unification. We saw it as a way to model the physicality of everything in the universe. The five years after our discovery was filled with "hacking" the universe using these four motions which was a 100% visual without any equations or formulas. We were too busy trying to come up with movements that described all the physical phenomena in the universe and it was working shockingly well.

While we were looking at the physicality of everything in the universe, the rest of the world was looking at unifying formulas. Formulas are abstract and mathematical systems meant to predict how a body moves from a physical force. They were looking at the results of the forces,

not the forces themselves. The world was simply looking in the wrong place for unification. They were looking at the variables and constants in those force equations to find and underlying "unifying" concepts or a formula or particle that would unify the physical world. They were concentrating on math, not physics.

Paradigm shifts often comes from those who are not looking for them. It most often comes from those who relentlessly search for truth and ignoring goals setup by the science of the day. Both my father and I were relentless in our pursuit of finding physicality for the forces in nature. We did not look at math. We looked at the physical. We were never looking to unify anything in physics. We were content to search for the underlying physicality of light, gravity, magnetism and electricity.

What we found was what we now call the four universal motions in physics from which all force equations in physics can be derived. And these came from looking at the universe from a different angle, not one of math, but one of physics and in the end, found a real possibility of the next paradigm shift in physics and unifies the physical world in a completely new way.