Duality Explained

On the origin and nature of concepts

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1. Introduction

"A mind is like a parachute. It doesn't work if it is not open."
Frank Zappa

The Universal Plan

This book is a summary of Universal Plan (UP) theory, focussed on explaining the much misunderstood concept of duality. For a more complete and detailed account which includes more examples and all the reasoning behind it please see my first book, "The Mindlike Machine" (TMM).

In essence, the UP is a theory of *information, relationships,* and *concepts*, and it makes the following claims:

1. The universe is made of information. It exists within a mind, which may be artificial.
This is the only possible (logically consistent) explanation of reality / existence.

2. All information is conveyed in "packets", which we call "concepts" or "ideas".
Everything is made of "ideas", i.e. this is a theory of *idealism.*

3. All concepts are described via *relationships*, which are *comparisons*.
All relationships, and all definitions, are comparisons.

4. The most fundamental concept, from which all others are derived, is the concept of "One".
"One" is equivalent to: consciousness, being, the individual, unity, and of course the number one.

5. Duality is the first concept that is derived from unity, and it is equivalent to *relationship*.
All dualities are relationships. All fundamental relationships are dualities.

6. All other concepts derive from duality.
Duality is the starting-point from which all other concepts are derived.

7. Duality is the primary expression of *logic*.
All aspects of logic and mathematics are implied by, and contained within, the concept of duality.

8. There are just *ten* fundamental concepts from which the whole of reality is constructed.
This is also a "theory of categories", it describes the ten most fundamental ontological categories.

The UP offers a deep understanding of the *conceptual-framework* which underlies all thought. It explains how concepts work, and hence how thought must be structured to be logical and make sense.

The UP is claimed to be *the only conceivable universal theory of everything (TOE).* It is a "grand unified (or unifying) theory" (GUT) that goes far beyond any similarly labelled works. It unites all subjects by the one thing they all have in common: *information*.

It allows us to see the world in a more logical, coherent, connected, and meaningful way. It has powerful explanatory abilities, explaining *why* things are the way they are, not just *how* they work.

The UP is the *simplest, most parsimonious TOE* possible. Everything (*all natural phenomena*) can be explained in terms of just ten foundational concepts. The whole of science can, in principle, be *derived* from it, including logic and mathematics.

While the UP is new to the modern world, evidence suggests that it must have been discovered before, prior to the modern-age and current recorded history. It seems it must have once been common knowledge as its parts are found scattered around the world, hidden within various scientific and esoteric traditions. This book does not dwell on this as the astute reader will be able to make those connections for themselves.

This book does contain some sections which are taken from TMM. However, those section have been revised and improved and most of it was written afresh in an attempt to put it into other words to further clarify it.

This book deals with some complex topics, and is entirely self-published. There are probably some mistakes which have been overlooked. I ask the reader for their forgiveness in these cases.

Overview

This book contains the following sections:

1. Introduction

This first section explains what the UP is in general terms and explains some of the problems it solves.

2. The Concept of Duality

Duality is the single most important, powerful, and useful concept that exists, and yet it is woefully misunderstood in the modern world. We can solve many of the greatest philosophical questions of all time via the correct deployment of this concept alone.

This is the longest chapter in the book because it's the most important concept to grasp, and it is a lot more complex and subtle than is generally recognised. Duality is the foundation of, and gateway to, all knowledge. Understanding it is an essential skill for the serious thinker.

3. Avoiding Paradox

To understand things, we must ensure that the framework of thought we employ does not contain paradox. Mathematics and science cannot contain paradox if they are to make sense.

4. UP Theory

This covers the basics of the UP and how it is derived from the most basic first principles of observation and reason. The UP contains no assumptions beyond the validity of this approach, and it can be verified personally by the reader.

5. Applications

Here, a few examples of how the theory is applied are given to illustrate how the UP can be used to analyse natural systems and provide new solutions for even the most challenging problems.

It includes chapters on: language, mechanisms, mind, colour, and includes a brief description of a unified theory of physics with a new model of matter, charge, and magnetism.

6. God and Morality

This final section discusses the concepts of *God* and *morality*. It explains why they are logically necessary, and hence why humans tend to believe in them. It defines these ideas clearly and objectively.

Explanatory ability

The UP has *vastly greater explanatory ability* than any other description of reality.

It answers many deep questions that no other framework has been able to, with relative ease. Seemingly intractable problems that have persisted throughout the entirety of modern recorded history, the UP solves elegantly, intuitively, and quickly.

Its achievements so far include:

- New theories of information, mind, senses, matter, and language.
- A unified, fully mechanical, model of physics (one substance, one force).
- A unification of human and computer languages, and of all conceivable forms of language.
- Better definitions for: "logic", "infinity", "entropy", "matter" and many other concepts.
- A new four-primary model of colour vision, and a new theory of how the prism separates colours.
- A clear definition of morality, showing it is objective, absolute, and natural.
- A full description of the free-will process, showing it is logically necessary.
- A logical proof of "God", and a complete, objective definition of the concept.

The UP:

- Provides an absolute, objective system of categorisation for describing / defining concepts.
- Removes ambiguity and paradox from definitions, improving understanding and communications.
- Acts as a template that can be used to analyse any natural system.
- Provides a new, 100% solid, foundation for science and knowledge in general.
- Is the missing "gold-standard", by which all other ideas can be accurately judged.

What is a "theory of everything"?

The phrase "theory of everything" is most commonly defined as a theory of physics. Wikipedia says:

A (TOE) .. is a hypothetical singular, all-encompassing, coherent theoretical framework of physics that fully explains and links together all aspects of the universe.

`https://en.wikipedia.org/wiki/Theory_of_everything`

It is generally assumed that a TOE must be a mathematical theory concerning physics because the current scientific paradigm is that of materialism. Its role is usually defined as a means of integrating quantum mechanics and general relativity, because they are considered to be validated.

General relativity and quantum mechanics have been repeatedly validated ... a theoretical framework revealing a deeper underlying reality ... must be discovered to harmoniously integrate the realms of general relativity and quantum mechanics into a seamless whole.

This view imagines that the correct TOE, when it's discovered, will be like the "icing on the cake" of modern physics. It sees it as the "final" or "ultimate" theory, and the "end" or "goal" of science. It would "tie up all the loose ends", and give us a completed picture of physics.

However, this isn't the only possible type of TOE, and there are questions such a theory could not answer, and assumptions it cannot avoid making, such as the existence of mathematics. The Wikipedia / mainstream definition of a TOE assumes the existence of mathematics, whereas the UP goes further and actually explains where mathematics comes from.

A universal TOE

A "theory of everything", in the most general sense, must be a theory which explains literally everything that exists. It must identify and explain the underlying principles which all natural phenomena have in common and are derived from. It must be relevant to every scientific topic we can imagine, from anthropology to zoology, and ideally would also explain things like religion, politics, and the purpose of the universe.

So we must ask, what feature of reality could possibly apply to all things? What could be relevant to every single branch of science? What could they all have in common?

The answer is simple. Every scientific paper ever written, no matter what the topic, is written in a *language* and conveys *information* via *concepts*. Every branch of science is "made of information", that is what they all have in common.

It is conceivable that the entire universe is made of information. It could, in theory, be a kind of "virtual reality" running on a computer, and we would not be able to tell the difference. In fact, as we will see, the universe can *only* be made of information. It's a logical necessity. There is no viable alternative hypothesis.

If everything that exists in the universe is indeed made of information, then a theory of information would be the same thing as a theory of everything.

A theory of information

"Normal" scientific theories deal with specific aspects of nature, and they all *assume* the existence of the following features of reality:
- Logic, language, information, mathematics, relationships, concepts

Ultimately, all science (and knowledge in general) is information that is conveyed in language, and describes relationships between different natural phenomena. The purpose of science is to understand the universe, and we obtain understanding by obtaining information.

We cannot do science without using these concepts / features. They are the necessary foundation of all science, all our ideas about the universe are built upon them. Normal theories rely on these things. They depend on them, but they do not explain them, and nor should they, it's not their job. That is the role of the

TOE.

The TOE must explain *why these things exist*. It must describe where they come from and what they are.

The TOE must provide the evidence that proves these things are real, genuine features of reality. It must prove that it is reasonable for all the "downstream" theories to assume they exist, and it must define these foundational concepts clearly. It must explain what they are and how they work, and it must prove they are valid tools we can legitimately use.

This type of TOE is an entirely different category of theory from any other. It stands above and prior to all other theories and *enables* them. In essence, it must describe how the process of "theorising" works.

If we analogise normal scientific theories to electrical appliances which are all designed to fulfil a specific purpose, then the TOE would be the electricity which allows them to function. Electricity is the generic power behind specific electrical appliances, as the TOE is the generic justification for specific theories.

Generalised, not specific

The TOE this book describes, the Universal Plan, is that maximally-generalised theory. It is equally applicable to all subjects, because it describes the thing that all other theories have in common, which is information itself.

All ideas and theories of the world are made of information, and the UP defines it at the most fundamental level. It describes the archetype of information in it's most generalised form, and reveals it has an underlying structure that the world is presently unaware of.

All information and concepts are derived from logic. They all rely on logic to "make sense" and have "meaning". So, the UP is also a theory of logic, and a "map" of it.

- Everything that exists can be described with information, in language.
- Information is constructed according to the rules of logic, and describes relationships.
- The UP defines the underlying natural structure of information / language / logic / relationship.

Logic and languages describe relationships, so we could equally say that everything that exists is "made of relationships". So, the UP can also be described as a *theory of relationships*.

Relationships are defined by the concept of duality. Duality is the key to understanding everything, as we shall see.

The first, not final, theory

Unlike the mainstream conception of a physical TOE, the UP isn't the "final" theory, rather it is the "first" theory. It's the *beginning* of science, not it's end. This type of TOE provides generalised, universal rules about the underlying structure of reality.

- It must act as a *foundation* for other theories.
- It must *inform* all other theories about what is possible / valid, and what isn't.
- It must be a kind of "*template*" that all other theories can be derived from, or checked against.

So, this type of TOE must be a simple, generalised framework of rules, from which all other theories can be derived, and that is how we will define it:

theory of everything
- a system of knowledge from which all natural phenomena can conceivably be derived

Note that this definition sets an extremely high-standard that the UP must meet. It says we should be able to derive all phenomena within the whole universe from it, at least in principle. The requirement that it should deliver such a profound level of predictive power goes far beyond any other conceptions of what a TOE should provide.

With this definition, we have set the bar for the UP about a high as it could possibly go. But that really is the level of ability it must have if it is to genuinely do the job it is required to do.

For example, the UP is able to predict the *order of colours in the light spectrum* from logic, as will be explained. That level of achievement is beyond the wildest dreams of the most ambitious theoretical physics.

The UP is the framework that mathematics derives from.

All attempts at a physical TOE must *assume* that mathematics exists, it must be "taken for granted", but what we really need is to be able to define mathematics itself, objectively. People tend to imagine a TOE should contain a lot of mathematical formulas, but a true TOE must explain where maths *comes from.* So, it cannot be a "mathematical theory" in that sense.

Ultimately, mathematics as we know it, is quite a long way "downstream" from the UP. The UP defines the concepts that are the *precursors* to numbers and mathematics.

The difference is:
- Mathematical formulas describe *specific relationships*.
- The UP defines the general concept of "relationship" itself.

The UP essentially defines what the word "relationship" means in full detail. It defines how it works at the most basic level, and lists all the possible types of relationship that can exist. For example, it says there are only three fundamental mechanisms which can change (transform / transport) things from one (ontological) category of "stuff" to another.

There's a lot of work still to be done to figure out exactly how all the various aspects of logic and mathematics derive from the UP. Some elementary parts are obvious, but the process that elaborates those into the concepts we use in everyday life remains mostly unanalysed at present (due to lack of time). It's a largely undiscovered country, ready to be explored, and there is still a lot to discover.

While modern physics has become the exclusive territory of mathematicians, the UP opens the door for important and profound discoveries to be made by anyone capable of simple reasoning. It "democratises" and releases science from being the property of a small "academic elite", to being universally available to anyone who can think rationally.

An absolute standard for judgement

If all theories can be derived from the TOE by logic, then it must act as a kind of "gold-standard" for science. It must provide a 100% solid framework of indisputable facts that other theories can be built on, and validated against. It has to be the solid ground all other science depends upon, and the measure by which it is judged.

A TOE must unite all branches of science, by describing what they all have in common. But it must also act as an absolute standard for validation. All other theories must be compared against it, and checked to see if they conform to its rules.

This means that the TOE cannot contain any assumptions, and it cannot rely on any other theories. It must be an independent, complete, stand-alone, body of knowledge which is derived purely from observable facts using elementary logic.

The UP's only assumption is:
- The universe operates according to the rules of logic.
- Therefore, it can be understood by humans.

It is the absence of assumptions (beyond this), and the fact it can be validated by anyone, that gives it the "authority" to act as the universal standard against which we can judge other ideas.

In essence, the UP basically just demands that *all theories must make sense*. That is pretty much all it does, and yet it leads directly to powerful, useful, ideas which have the potential to explain everything in simple unambiguous terms. The UP is really just *formalised common-sense*.

Is modern science wrong?

There are two basic parts to science / knowledge:

a. The data (observation).
b. The interpretation of that data (hypothesis / theory).

Assuming experiments are conducted properly, the data they collect cannot be "wrong". Observations are always correct if they accurately represent things in the real world. The problem comes when we attempt to interpret that data, and build a framework to explain it.

Most of the science in our textbooks is probably largely correct, but some is way off track, stuck in the

brambles of paradox. The discovery of the UP doesn't mean all our knowledge is wrong and we have to start from scratch, it just means that we now have the tools to determine how correct it actually is.

No framework

Modern science's biggest problem is that it currently *has no fundamental framework* to base hypotheses on.

As a result, some currently popular ideas, rather than being based on anything solid, have essentially just been "plucked out of thin air", or chosen to "challenge the norms of traditional thought". Over the last 100 years or so theoretical physicists have been playing around with deliberately paradoxical ideas, to see if maybe they can make sense of things that way.

But paradoxes don't make sense, by definition. They cannot "explain" anything. So this can never work. Lacking the rigour of the UP, even the most intelligent people have missed this simple fact, and wasted a lot of time and money chasing impossible ideas.

For example, Einstein's theory of general relativity assumes there is no absolute reference frame, and everything is relative to everything else. But this is a paradox because the concept of "relative" *depends on* the concept of "absolute".

It is *conceptually invalid* to posit the absence of an absolute reference frame, it simply makes no sense. Without an "absolute" there can be no "relative". A "relative" thing can only be relative to an "absolute", that's just the way the concepts are naturally structured.

(Note, the book "Hundert Autoren gegen Einstein" (One Hundred Authors Against Einstein) was published in 1931 by Hans Israel, Erich Ruckhaber, and Rudolf Weinmann. Many of the contributors noted this same incongruity in the theory.)

However, relativity theory has developed over time to treat acceleration as a kind of absolute to resolve this paradox. To determine which reference frame experiences length-contraction, for example, the determining factor is now considered to be which frame experiences acceleration. This is actually reasonable, and is probably compatible with the UP, although it still needs careful consideration.

To clarify: humans did not "invent" fundamental concepts such as the duality absolute / relative, we only *use* them. Just as arithmetic is an intrinsic, built-in feature of nature, so are the most basic concepts. Humans cannot make "relative" a stand-alone concept any more than we could make 1+1=3.

Appealing to paradox may be an entertaining and provocative approach to promoting novel thoughts, but it cannot possibly yield any genuine answers. Paradox is a problem which must be solved, it cannot be a solution.

Observation and Reason

“In questions of science, the authority of a thousand is not worth the humble reasoning of a single individual.”
Galileo Galilei (1564–1642)

Modern science seems to have lost its original ethos of observation and reason. It used to be founded on the assumption that the universe was logical, and we could understand it by observing it and applying reason, aka *common-sense*.

science
- the endeavour to gain knowledge of nature / the universe.
- from Latin scientia, "knowledge"

For some reason, that changed in the early 1900s (maybe earlier). Famous physicists began saying that the universe may not actually be logical, and that common-sense may be a poor guide to reality.

They proposed ideas that were paradoxical, such as *wave-particle duality* or *superposition*, and then created mathematical formulae to represent those ideas. Then they interpreted observations exclusively through that lens and abandoned the classical model. Some results of these approaches have been quite successful, but others have not. (For example, the reason for "wave function collapse" is still not known, and the inability to reconcile quantum mechanics with relativity still persists.)

It seems likely that at least some results which appear to validate wave-particle duality or other quantum effects have been misinterpreted. For example, the double-slit, the photoelectric effect, and the Stern-Gerlach experiment all have alternative explanations which conform to classical, mechanical, models of

physics. The data cannot be wrong, but the interpretation can be.

A hundred years later, and physics seems to be at something of a dead-end, having made little significant progress since then. I would suggest this failure is a direct result of the abandonment of common-sense, which is actually the only possible guide to reality.

Paradox in science

If paradoxes are *true*, then science is *false*.

The only way to *explain* something is via facts and logic. That is what an explanation is. An explanation helps us understand things, but understanding only works via obtaining logical connections between facts.

If the universe operates outside the rules of logic, then it is *inexplicable* and beyond the reach of science. Paradox completely breaks science. If logic is not fundamental then nothing really makes sense, and all scientific theories are just an illusion of order floating on a sea of chaos.

Science is supposed to explain things, so we understand them. But paradoxes are non-explanations, and non-answers. They cannot lead to understanding, only confusion. Paradoxical ideas can certainly be entertaining, and they make for great science fiction, but they can never actually make sense of anything. They can never be explanations. A paradox is the opposite of an answer.

I would suggest that the inclusion of paradoxical ideas into science, while promoted as "thinking outside the box", has actually been corrosive to the integrity of science in general, and has acted as an obstacle to progress.

It is time to go back to the grass-roots of science, back to the common-sense approach of observation and reason that it was originally founded upon.

Ending the confusion

The modern world-view is that humanity is quite intelligent, and our understanding of the universe is reasonably close to the truth. However, the reader must be prepared to consider the possibility that this is an entirely misguided belief.

Whether as a symptom or a cause, the elevation of paradox to the status of "validated science" demonstrates that the world has become deeply confused. Modern thinking is quite *deranged* (disordered), and we all suffer because of it.

- The sciences are riddled with paradox and malformed concepts.
- Academic philosophy contains little wisdom.
- Modern religions can't define "God" or "morality".
- Politics is leading the world into a Hellish future.

I suggest there is one fundamental misunderstanding behind all these problems.

The modern world doesn't understand the concept of "duality".

In other words, most people do not even understand the concepts of "one" and "two". That implies they don't really understand anything at all, including themselves. This is the problem the UP seeks to fix.

Understanding concepts

All thought, the very act of thinking, relies on the existence of concepts.

People in the modern world *do not understand concepts*, so they don't know how to think. Even the most intelligent scholars have failed to produce a decent definition of the word "logic", for example. As a result, the world is drowning in a sea of terrible ideas, and questionable ideologies.

The "modern thinker" doesn't know how to define concepts properly, so abuses them, producing malformed incoherent ideas. Because others are similarly afflicted, bad ideas often go unchallenged. The worst ideas of all usually end up as "accepted wisdom".

It is generally thought that humans invented all concepts, and they are somewhat arbitrary. People imagine that we could redefine ideas to mean whatever we like, but this is not true.

Some ideas we did invent, like the archetypes of "cheese sandwich" or "the game of football", but the most

fundamental ideas like "true/false", "not", or "one and two" are intrinsic features of the universe. This is necessarily so. It is inconceivable that it could be any other way.

"One is not two" is an objective fact. Nothing humans can do would make this statement false. It is possible to *assert* that logic is not fundamental, but it is impossible to argue that case logically.

Science, philosophy, and religions are all full of illogical ideas which pollute minds, and prevent progress, sending people off on wild goose-chases for things that cannot possibly exist. Countless human lives have been wasted pursuing nonsensical ideas, and that harms us all.

Philosophers and dictionaries have been unable, throughout the centuries, to define important words clearly and objectively. Such as:

- duality and the concepts of "one" and "two"
- logic (reason)
- information
- matter, light, and energy
- morality, good and evil
- the "political spectrum"
- "God"

If we can't define something, then we don't understand it. *Definition is understanding.*

The modern thinker is like a man trying to build a house, with no knowledge of what the components are, or how they're supposed to join together. As a result, many of the most cherished ideas of the modern era are perilous constructions with no foundation, rain leaking through the roof, toxic mould, and no working toilets.

Objective definitions

The UP is a "theory of concepts". So, it's all about definitions.

- All understanding hinges on definitions.
- If we have the right definition for a thing, we understand it.
- If we cannot define a thing, we do not understand it.

The UP provides the solid framework for defining things that is currently completely missing from the world. It can define all those important concepts, like "logic" and "morality", objectively, and intuitively.

Most people want a moral and safe society, free of crime and threat. Most people want to be a "good" person, and do the "right thing" by others. But we can't have morality if we can't even define what the word means. We can't build a justice-system if we can't decide what "justice" is.

Surely, the number one priority for humanity should always have been to define morality objectively.

Philosophers and religious leaders have had at least 1000 years to work on this problem, but have little to show for it. Similarly, academic physics has tried for over 400 years to define what matter is, but despite having consumed vast resources, they're apparently still working on it.

To define any concept properly, we need a universal, objective system of classification for ideas. We have to understand how concepts should be categorised, and how those categories relate to each other. We need a "map of the conceptual framework". That is what the UP is.

"Throwing the books away"

As a young man, I spent many years attempting to make sense of the world from within the mainstream framework, as that was all that was available. I studied and attempted to understand the differing perspectives offered by the many disparate schools of thought that compete for our attention.

However, in the end I had to admit defeat. It did not lead to any coherent understanding of reality. I found no way to syncretise the conflicting opinions of the "experts". The morass of contradictory information that is the modern world leads only to confusion.

I decided the best thing I could do was to "throw all the books away" and start again from scratch, with the most basic tools: observation and logic.

I began by trying to think through what I perceived as the most important philosophical question of all: whether the existence of God could be proven by logic. We are told that such a thing is impossible, but I came to wonder if that assertion was actually true. I discovered it was not.

That was the beginning of the journey which eventually led to the discovery of the UP.

"The truth is within".

This cryptic phrase is the "mystics cliché". Anyone who has looked into esoteric ideas of "enlightenment" will have come across it. But what does it actually mean?

One of the aims of the UP is to demystify concepts usually labelled as "spiritual". It provides simple, down to earth definitions for such ideas, showing that, far from being "mystical" or hard to understand, they are perfectly simple, everyday ideas that we come across in the course of normal life.

The phrase "the truth is within" is one such case. Its true meaning is quite easy to grasp.

It simply means, *we already have everything we need to discover the truth about reality*:
- We already have all the information we need.
- We all have at least some capacity to *reason*, the ability to think using logic.

Be it spiritual or scientific enlightenment we seek, all we really need to do to achieve it is to think about the things we already know. The only thing missing is the *thinking*.

The only reason anyone can possibly fail to understand reality and themselves, is by not thinking things through. Thinking for yourself is the only route to understanding. Everyone capable of rational thought has all the tools they need to know the truth. The truth is already available to us and the way we "activate" it is by taking responsibility for our own thinking.

Conversely, the way to avoid "enlightenment" is by outsourcing our thinking to other people.

We already have everything we need to solve the problem. We do not need to heed the opinions of the "great minds" of the past, and it turns out they were often wrong anyway, even about the simplest of things. It is possible to figure the answers out for ourselves, and that is the only sure path to genuine understanding.

No books are required for this task. In fact, the beliefs we obtain from books may be our greatest obstacle.

Even this book (and TMM) is strictly unnecessary, because everything in it can be derived from observation and logic. Anyone could discover the UP independently, just by thinking through the implications of *duality*.

2. The Concept of Duality

“There are only two mistakes one can make along the road to truth: not going all the way, and not starting.”
(Attributed to) Buddha

"Duality Blindness"

It may sound a bit far-fetched, but I would assert.

The misunderstanding of duality is the greatest obstacle to science and philosophy.

Unless you have already read TMM, there will be a hole in your knowledge, even if you hadn't yet noticed.

If a person does not fully understand the structure of the concept of duality, they will struggle to discern the truth, in any situation. Western thinking has wandered off into a dark forest of elaborate fantasies, and people lack the tools to discern their predicament.

Most people think that science is pretty close to the truth about the universe. The UP suggests it's a bit further from it than one might think.

Yin and Yang

I expect most readers will be skeptical about the ideas of "Yin and Yang", but hear me out. The explanation of duality and Yin/Yang the UP contains is unique. You will not have heard this view before.

The explanation offered here is derived solely from observation, and the reader can personally verify the argument themselves. It provides a much deeper, clearer, and more practical understanding than any other source (that I'm aware of).

Duality is the most basic tool of thought. If we don't understand it, we can't think straight.

The concepts of "one" and "two".

As far as I can tell, not one of history's "greatest thinkers" has ever really thought through the concepts "one" and "two", and discovered what they truly *mean*. If they did, they could have written these books and saved me the trouble.

When you realise just how simple and obvious the UP actually is, don't feel bad you didn't figure it out yourself. You can take solace in the fact that literally the most famous intellects in the world apparently also missed it, so, you're in good company!

The modern thinker literally "does not understand the first thing about reality".
Everyone thinks they do, but they don't.

"It ain’t what you don’t know that gets you into trouble. It’s what you know for sure that just ain’t so."
Mark Twain / Josh Billings (?)

To be fair, people in the west are deterred from thinking about these things by the "culture". We're told that Yin/Yang is just Chinese mysticism (admittedly with a cool logo), and it has no relevance to science or the modern world. But, this couldn't be further from the truth.

It seems to be the case that even in Taoism, which really ought to understand these concepts better than anyone else, their true nature is still somewhat misunderstood.

Defining "politics"

Politics is one of the most important topics in the modern world, but the "political spectrum" that is commonly described (with communism on the left and fascism on the right) makes no sense.

The idea of Yin/Yang is often dismissed as being quite irrelevant to modern-day civilisation. However, the absence of these principles in western thought has had a *profound impact on our politics*, which is arguably the most relevant thing in the world these days, unfortunately.

The lack of understanding of duality has crippled western thought and understanding.

"Duality blindness" in the general population has allowed politics to be pushed far to the left, while the real political right has been almost completely erased from memory. There is no right-wing at all in UK politics, for example.

The political spectrum is best, and most simply, described as *Yin/Yang*, not L*eft/Right*. Quite often, the terms Yin/Yang are the best way to describe a relationship. They are the most technically correct and fullest descriptions.

Without Yin/Yang, fundamental relationships *cannot be properly defined*.

Without the concepts of Yin/Yang, and all the other UP archetypes, it is impossible to adequately describe the most generic things. This is why understanding them is so important. They are the most generalised and fundamental categories which allow relationships to be defined accurately.

It's impossible to truly understand politics, or anything else, without understanding Yin and Yang.

The absence of the concepts of Yin / Yang in the modern mind results in a kind of mental-blindness, an inability to see the "bigger picture", and to actually *understand* things.

Duality is the basis of all thought, and to be ignorant of it is a disability, a shortcoming, a *defect*. Without it, one's thinking is completely without any solid foundation. Duality isn't just mysticism, it's the foundation of all thought, logic, and of physical reality.

Defining "God"

Imagine a world where there is just one definition of "God".
A full, unambiguous, objective definition based on observation, that no one could rationally argue against.

How much conflict would that prevent?

- Misunderstandings cause conflict.
- Clear definitions can save hours of fruitless argument, or even wars.

The UP has the potential to remove conflict and misunderstanding from all areas of human thought, and to provide a common framework for all.

It makes "God" something that can be unambiguously defined, studied, and understood. It clearly defines the relationship between the "creator and the creation", and in so doing, it conceptually *unifies science and religion*.

We should note however that the "God" the UP describes is not exactly like the God of the established religions of the world today. The One category is the "God-concept" in the UP, and its properties mostly correspond to religious depictions of "the Creator", but there are some significant differences.

Understanding Yang and Yin

The journey to discover the UP begins with a recognition of the existence of duality. This concept is the "gateway" that leads us to the UP. Without it, genuine understanding of any natural phenomenon is impossible.

Consciousness / experience

Without awareness of these principles, dualities cannot be properly defined. A good example would be the duality of *consciousness* and *experience*. In modern western thought the relationship between these important ideas has gone completely unnoticed and undefined.

If we ask an AI such as ChatGPT (in March 2025) the question "what is the connection between consciousness and experience?" it gives us a page of text which fails to identify these two concepts as a duality. The training material the AI has consumed does not contain the answer because western writers don't know it.

Without the realisation that *consciousness / experience* is a duality (in which the former is Yang), then it is impossible to define these concepts adequately.

With knowledge of duality we are led to link those concepts to the duality of *observer / observed*. The observer is consciousness, and what is observed is experience, of course. While this may seem obvious once it's been spelled out, this link has apparently eluded explicit identification until now.

The absence of duality in western thought has prevented even the most intelligent people from understanding the simplest ideas. It doesn't matter how clever a person is, if they don't understand duality, they will struggle to understand anything.

Let's go back to the basics. What can we really know, with 100% certainty, about reality? The two simplest, most fundamental observations we can make are as follows.

Fact 1: I definitely exist.

The first fact we can know with 100% certainty is that "I exist", "I am".
We are aware of our own consciousness. *We know we exist*.

This is the only thing we can be *absolutely* sure of. It is undeniable (at least to myself) that I exist. (Note, arguing against one's own existence is irrational / paradoxical.)

We experience our own "being" *directly* within our consciousness, it does not come via any bodily sense. Our sense of *being* is a purely spiritual (non-physical) sense. Even if we had no physical senses at all, we could still be self-aware.

Fact 2: The world *seems to* exist.

The second fact of reality is that "the world apparently exists", but we can't be 100% certain it's real. I.e. it could be a simulation / dream etc. This reality (which includes your physical body) could conceivably be a simulation, or a "dream" of some sort.

So, we "believe" the physical world is real, but we can't prove it.

We have just discovered Yang and Yin

These are the two most basic facts we can personally observe about reality, and they correspond to the dualities of *consciousness / experience* and *observer / observed*. We only need these simple observations and a bit of thought to begin documenting the properties of Yin and Yang.

So, if you were wondering what evidence there might be for Yin/Yang, it's all around us, embedded in the whole of reality via deep, elementary relationships like this. People just tend to take it all for granted.

Yin and Yang are essentially the *definition of relationship*.

Yin - ("negative" properties) **Form, PASSIVE**	**Yang + ("positive" properties)** **Function, ACTIVE**

Nouns, data, objects, static / fixed	**Verbs, instructions, actions, dynamic / change**
The observed. The observation. Experience.	**The observer. Consciousness.**
Matter, tangible	Spirit, intangible
Many. The world contains many things.	One. Consciousness is singular. "The individual"
Belief, illusion, fiction, dream	Truth, fact, knowledge, reality
Unprovable	Undeniable
Indirect, curved, delayed (e.g. physical senses)	Direct, straight, immediate (e.g. spiritual senses)
The past and future	The present

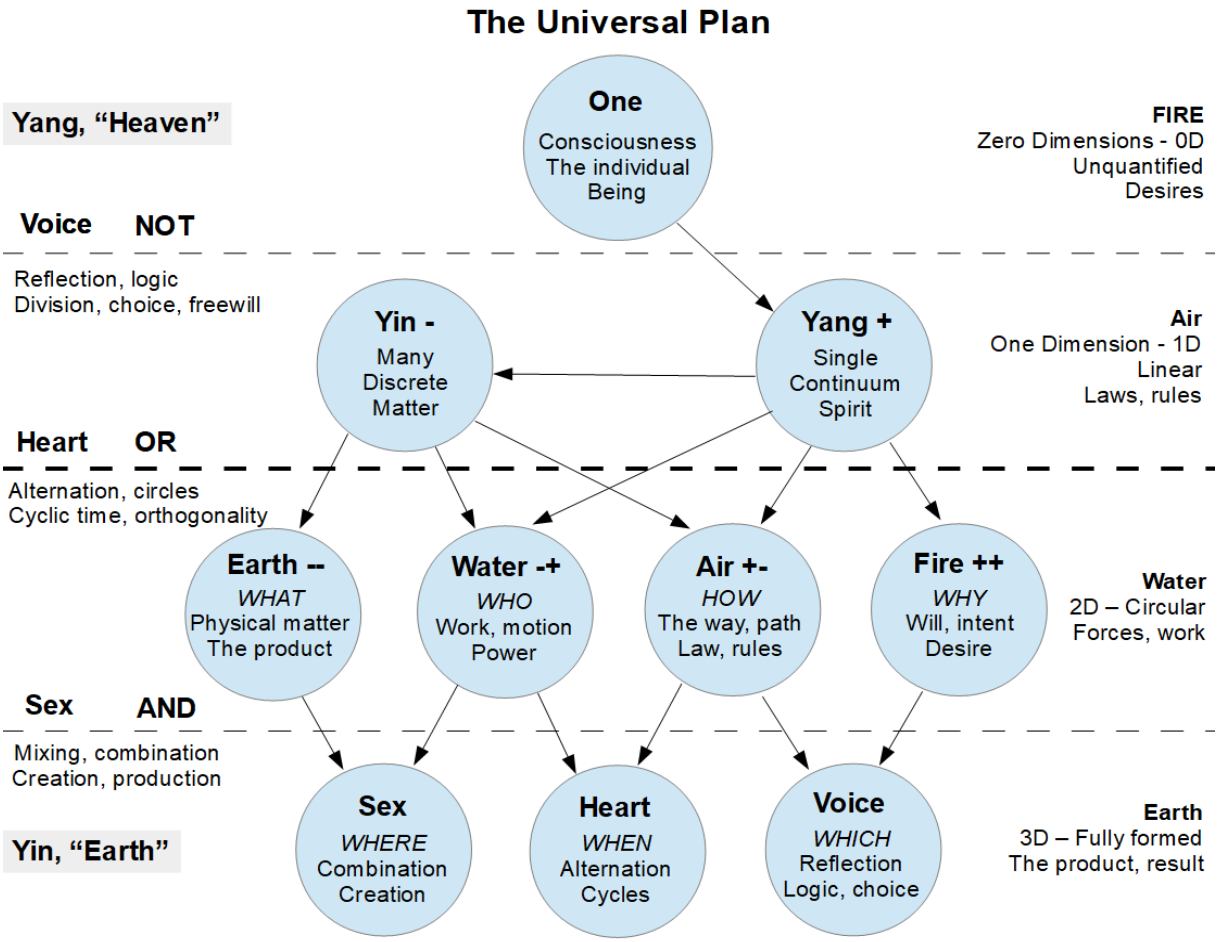
The Universal Plan, Diagram

Duality is derived from the concept of "One", and is created by applying a form of the logical "NOT" operator to it. This can also be called the "reflection operator", and is properly defined as the UP's "Voice" principle.

The diagram below shows the whole Universal Plan, with all ten categories, and the relationships between them. It is extremely simple, but also very deep. It is described in detail later on, but is included here to give some context for the following discussion.

These ten ontological categories can also be described as: archetypes, principles, concepts, or "super-concepts" as they're so broad and fundamental. Three of them (Voice, Heart, and Sex) can also be described as "operators" because they can transform / change concepts from one category to another.

The UP is a map of the underlying structure of logic, mind, information, language, concepts, thought, matter, and everything else. The reader may be sceptical, but I promise it will all make sense in the end.



The Origin of Information

The One category in the UP is the origin of all the other categories. It only allows for the simplest sentence "I am". Duality allows for the next level of complexity to emerge with constructs such as "I am not...". E.g. "I am the observer (consciousness). I am not the observed (experience)."

With two things, we can begin to compare and contrast. The concepts of *comparison* and *relationship* rely on duality, and again, without an understanding of it, we cannot understand what these fundamental concepts really mean.

Duality makes information possible. It is the origin of all descriptions. To explain anything at all, you have to

start out with basic dualities, like *observer / observed*, *true / false*, *is / is not* etc.

As will be explained shortly, the fundamental form of all information is "*a divided continuum*", where the continuum is Yang, and the divisions are Yin. That means it is the underlying form of *everything*. The universe and everything in it is made from consciousness (which is *continuous)* divided into discrete chunks.

We should note that the concept of "one", "unity", "me" *has no descriptive power.* We can't describe or explain anything with just the word "one" or "me". (In the "Guardians of the Galaxy" movies, the character "Groot" communicates with the single phrase "I am Groot". It's funny, because it's impossible.)

So, while unity is the origin of all concepts, all *description* relies on duality.

The properties of Yang and Yin

Yang and Yin are categories of paired concepts, and they are the primary tool which allows for the description of relationships, i.e. *comparisons*.

Duality = Difference = Distance = Relationship = Comparison

If we make a list of some dualities, and categorise the parts, we obtain a list of properties that describe the One category. This is an important observation. Yang describes "God" / unity, Yin describes "Not God" / many (or "diversity"), which is the same thing as "creation".

- Yang is a list of properties that One has. (I.e. the One category contains / is described by them).
- Yin is a list of properties that One does NOT have, but *creation* does.

Table of basic properties

This table lists some of the most basic, common properties we use to describe things. There are many other pairs we could add, but this illustrates the principle.

Yin - **Is NOT like One**	**Yang +** **IS like One**
Matter, mother, the feminine, "the Goddess"	Spirit, father, the masculine, "God"
Passive, receiver	Active, provider
Many, divided, separate	One, unified, singular
Symbol, example, instance	Archetype, category, type
Experience The observed, "the world"	Consciousness The observer, "me"
Yin HAS "The described", *has* properties	Yang IS/DOES "The descriptor", *is* properties
Conflict, opposition, competition	Harmony, complementarity, cooperation
Actual, the past	Potential, the future *
Discrete, finite	Continuous, infinite
Components	Connections
Nouns, data	Verbs, instructions
Quantities, numbers	Qualities, properties
Relative, the destination	Absolute, the origin
Creation, child, invention, product	Creator, parent, inventor, process
Moon, reflection, passive	Sun, source, active
Indirect, curved, circular	Direct, straight, linear

Temporary, mortal	Permanent, immortal
Shadow, darkness	Light
Absence, emptiness, void / non-existence Nothing	Presence, fullness, existence Something
Ignorance, nescience, not-knowing, belief	Knowledge, understanding
Illusion, fiction, FALSE	Reality, truth, TRUE
Death, stasis, stillness, unconscious	Life, change, activity, conscious
Sin, error, amorality, immorality	Virtue, correctness, morality

(* Note, we'll look at the concept of time in detail shortly and explain why there are two different ways to categorise the three concepts of past / present / future)

We can make use of these correlations both vertically and horizontally. In the vertical orientation we can correlate all Yin or Yang properties with each other to arrive at "The properties of Yin" (or Yang). In the horizontal, we are prompted to always look for a counterpart such as "what is the opposite of *number*?".

Vertical: "super-concepts"

Yin and Yang are "super concepts". They are the most general, broadest categories (or "words") that exist. They are "above" all other concepts, and provide for their existence. They contain, categorise, and describe every conceivable duality. All the sub-concepts they contain also describe them, and there is complete logical consistency between them all.

All the concepts under these categories can and should be considered together. The properties should be considered as describing each other, albeit limited by context. For example:
- The truth is singular, active, light, knowledge, reality, virtue, harmony, permanent, direct, the source, etc.
- Falsehood is many, passive, darkness, ignorance, illusion, sin, temporary, indirect, a reflection, etc.

This allows us to correlate concepts which we would otherwise not put together, and describe them more fully and accurately. It is an extremely powerful tool for analysis.

Horizontal: definitions

The Yang and Yin parts of dualities should be considered together. They are paired concepts that are defined by each other, which means we cannot define them unless we include their opposite. If we attempt to use any of these concepts in a stand-alone context, we will inevitably create a malformed construct.

For example, we cannot fully define the concept of "absolute" without also including the concept of "relative". "Absolute" can *exist* without "relative", but we can't *define* it without reference to it.

Many problems in science and philosophy stem from the lack of recognition that a given concept is in fact a duality. A good example is Darwin's theory of evolution which supposes that speciation (the development of new species of lifeform) occurs due to *competition* between individuals or the environment, and fails to adequately include the counterpart concept of *cooperation*.

Evolution is driven by both of these principles, and in fact as cooperation is Yang, we can surmise that that is actually the *active driver* of it, and competition is something of an *illusion*. This provides us with a much more grounded starting point for understanding the process. Unfortunately it's beyond the scope of this book to pursue it here.

Defining "God"

Note that Yin and Yang describe what One is like (what concepts the One category contains), in different ways, and that is their *primary purpose*. This is where religious descriptions of the properties of "God" must originally derive from, even if that origin has been lost in the mists of time (until now).

- Yang tells us that One is: spirit, active, creator, straight, permanent, light, existence, simple, etc.
- Yin tells us One is: not matter, not the creation, not circular, not temporary, not dark, not complex

etc.

Duality tells us everything we need to know about reality, clearly and succinctly. Yang and Yin are the *ultimate descriptors*, the most generalised, powerful, and useful concepts that exist.

Duality tells us, unambiguously, that the universe is a fiction, an illusion, a "dream", and there must be a "dreamer" actively creating it now, in the present.

The doctrines of the Christian religion make many claims about the nature of God, such as being masculine, eternal, simple, real, "the light", and so on. But the church cannot explain why these properties should be applied like this. The UP, on the other hand, does explain where all those ideas actually come from, they're grounded in duality.

As I said in the introduction, the UP can define God unambiguously, objectively, and in detail, far better than any other framework, and this is the basic definition:

God
- the original source, creator, and substrate of the UP, and of all things that exist
- the attributes of God are defined by the Yang properties (of all dualities)
- the attributes God does not have are defined by the Yin properties
- further (non-dual) attributes are defined by the Fire category, e.g. will, desire, intent, etc.

When all dualities are categorised, and the Fire category is populated with the appropriate non-dual concepts, this provides an extremely precise and complete description of all the attributes of the concept of "One" (God). It provides thousands of descriptors explaining his nature in full detail. There is no room for ambiguity, beyond the task of accurately discerning the contents of those categories.

This demonstrates that the UP offers a superior framework of thought to any modern religion or philosophical doctrine, and naturally supersedes them. It can describe "spiritual" / intangible phenomena infinitely better than any "faith", even to the point where it can truly unite religion and science, removing any conflict from them.

The UP is the single best route to ending all religious conflict, and any conflict between religion and science. And we have only just begun to explore the first two levels so far, there are two more.

One to many

The relationship between Yang and Yin is *one to many*. It is the archetype of *hierarchy* and provides the functionality that allows things to be *contained* within other things.

At the level of duality there can only be two numbers. In binary, they would be one and zero. Alternatively, we could have "one and many" as our number line. All hierarchies involve one-to-many relationships, and all information systems have hierarchies.

- One company has many employees.
- One employee has many tasks to do.
- One task consists of many sub-tasks.

The one-to-many relationship, and its variants, is of particular interest to database designers as it dictates how the data is naturally structured, and hence how it should be represented in a relational-database. If there is a one-to-many relationship between concepts, then they must be stored in different database tables as they are different categories of thing.

The possible list of relationships in a family are:

- One to one (e.g. father to mother).
- One to many (e.g. mother to children).
- Many to one (e.g. children to mother).
- Many to many (e.g. siblings to each other).

If two things have a one-to-many relationship, then they exist at different "levels" or "generations" in a hierarchy. One always comes before many. We'll be seeing this principle a lot. It's a useful tool to help understand and define how a hierarchy is constructed.

Consider a menu system or any hierarchical system of categorisation. There are parent categories which contain child-categories (or sub-categories). The container is Yang, the contents are Yin. Sub-categories can contain further sub-sub-categories, and this division can continue down to an arbitrary number of levels.

Note that hierarchies of categorisation always descend from the most generic (broad) to the most specific

(narrow). This is how the UP works. One is the most generic category, the three operators are the most specific.

Relationships are relative

Yin and Yang are the most accurate and technically correct way to describe relationships between separate entities. E.g. "the parent is Yang to the child", or "the sun is Yang to the moon".

It's important to bear in mind that all Yin/Yang relationships are *relative*, so we need to include that in the appropriate places. Nothing is ever just "Yang" or "Yin", it can only be "Yang in relation to...".

We can never say that something is Yin/Yang alone. It must be in relation to something else. Duality is always a *comparison*. E.g. to say "The sun is Yang" begs the question, "in relation to what?"

Even the Yang archetype itself is *Yin* in relation to One.

To be even more accurate, we also need to specify the relationship involved. E.g. "The sun is Yang to the moon in the relationship of provision of light".

Relatively dead

Consider the duality *alive / dead*.

We are Yin to One / God, so we are "dead", but we're not *absolutely dead*. Creation is *relatively* dead (illusion, passive, temporary, amoral, slow, dark, etc.) *in comparison* to the creator.

The universe is not *absolutely dead* compared to God, but it is *relatively dead*. Only One is *absolutely* alive, conscious, good etc. One is the only true absolute. Everything / everyone else is relative to it, and to each other.

One takeaway from this observation is that life on "Planet Earth" isn't actually "life", it's death. We are quite dead in comparison to what an actual living thing might look like. This isn't "life" it's "relative death". In the next book on the problem of evil, we'll see how we may be relatively-dead to a world which is itself relatively dead. These ideas can be nested, giving a reality composed of multiple levels of such relationships.

Duality tells us that the death is always a relative phenomenon. There is no such thing as being *absolutely dead*, that would be an oxymoron. Death is a kind of illusion.

The One category, as the only true absolute, is the only thing we can really compare things to if we want to obtain a truly meaningful and significant comparison. It is the "gold standard" of all judgement.

This explains that, as humans, while we can compare ourselves against other people, that comparison will necessarily be somewhat arbitrary and flawed. The only thing we can meaningfully compare ourselves against is the One category, i.e. "God".

And Jesus said unto him, "Why callest thou Me good? There is none good but One, that is, God. Mark 10:18

Jesus referred to God as "One". Is this just a coincidence?

People wind themselves up into knots over who might be richer, more handsome, and more virtuous than they are. The poor compare themselves against millionaires and find themselves lacking and envious. Millionaires compare themselves against billionaires and feel similar. They compare themselves against the poor, and are overcome with narcissism.

No one wins that game, so it's best not to play it at all.
In the final analysis, compared with the creator, we are all effectively just a bad as each other.

Defining "creator / creation"

As another example of the relativity built into the system, let's consider the duality *creator / creation*.

If you are making a cup of tea, then you are the "creator", so you are in the "One" category.
The creation of the cup of tea is your "creation".

- The One category stands *outside* "creation" / "nature" and precedes it.
- It is "*supernatural*" (literally "above nature") and it must exist before the creation process.

In the relationship between you and the cup of tea, you are the "supernatural creator", the "life bringer". We

have to conceptually limit the concept of "nature" in this relationship to the creation event. So, "nature" in this context only begins when you decide to make the tea. It's a relative term.

The term "creation" more generally refers to all the archetypes except One. I.e. the other nine. So, we can define these words in their most generic sense as:

creator
- the One category, "the individual", "consciousness" etc.

creation
- the lower nine categories of the UP.

These definitions are completely unlike any definition of those words we would find in a dictionary, and yet they are the most accurate, technically correct definitions available.

As we will see later, the creation of a cup of tea involves the exact same process and archetypes as the creation of the universe. All acts of creation follow the same generic process, which is described by the UP. The UP is the one and only "process of creation" that exists. It is the "one tool that can do any job".

Relationships are reciprocal

All relationships are always *reciprocal*. A Yang relationship is always balanced by a Yin one. For example:

- The parent is Yang to the child in provision of material needs.
- The child is Yang to the parent in the provision of "family".

So, while a parent provides for a child's basic physical needs, the child provides the parent with a "family". If there is no child, there is no family and there is no "parent". The child is Yang to the parent in the *meaning* they provide to the parent.

The child is Yin to the parent in the relationship of MATTER.
The child is Yang to the parent in the relationship of SPIRIT.

As another example: If you are reading a book, you are the provider of the "reading", you "bring the book to life". The book is the provider of the "story". You DO the reading (Yang / active / intangible / potential), it HAS the story (Yin / passive / tangible / actual).

In the relationship of *reading*, you are Yang to the book.
In the relationship of *entertainment*, the book is Yang to you.

In all such reciprocal relationships, one entity will provide Yin (tangible) things, and the other will provide Yang (intangible) things. This is a rule, and it helps us to understand relationships more completely, and not miss important facts.

The discipline of understanding these principles prompts us to define our terms more carefully, and to look for the reciprocal relationship which may not be immediately obvious.

Real-world relationships may be more complex involving multiple dualities, and the benefits exchanged may appear to be all tangible or all intangible. But, I think it's probably the case that if they're broken down into the most fundamental parts the above rule should still apply. Confirmation of this proposed rule would require analysing many more examples.

Even God is Yin in one important relationship

We're jumping ahead a bit here, but as an example of how all relationships are reciprocal this is probably one of the best as it's the most general / highest relationship of all. We'll come back to this topic shortly in the section on "The Purpose of the Universe".

The One category is the "Great Yang". It is the most Yang concept of all, providing for all other things, and yet it is Yin to the universe in the relationship of receiving information / being described.

The existence of Yin and Yang seems to conclusively show that the main purpose of the universe must be to explain God (i.e. consciousness), *to God*. So, One receives *knowledge* from the universe. The universe is "God knowing himself", and that knowledge is *provided* by the creation.

- One is Yang to the universe as "existence provider".
- One is Yin to the universe as "information receiver".

Here, *existence* is the tangible part, and *information* (knowledge) is the intangible.

So, just as the child provides intangible *meaning* to the parent, and makes the *definition* of family a reality, so does the universe provide intangible meaning and definition to God. Could God even be called "God" if he did not provide for our existence? He certainly would not be "the creator" if he had not created anything.

One-dimensional relationships

The universe is created from zero (0D) into three dimensions (3D) in four steps / stages. The four elements are the most fundamental descriptors of these four steps. The Fire category contains concepts which have zero dimensions and Earth contains all 3D objects.

(For clarity, zero dimensional concepts include: "one", consciousness, will / desire, "the beginning", etc.)

Duality is the one-dimensional (1D) level of reality, (and it is described by the Air category). It describes the simplest possible types of relationships. All dualities describe 1D phenomena.

We should note that the SI units, as used in physics, describe the most fundamental physical relationships we know of, and they are all dualities / 1D relationships. Of course, absent the UP, most physicists don't realise the significance of this fact.

Why should all the fundamental units in physics be one-dimensional relationships?
Because all fundamental relationships are dualities.

Property / unit	**Yin**	**Yang**
Distance, metres	Far, distant, there. Large	Near, close, here. Small
Time, seconds	The past	The future (Note: One is the present)
Temperature, kelvin	Cold	Hot
Mass, kilogram	Heavy	Light
Current, ampere*	Slow	Fast

* S/T units correlate current with velocity (See TMM).

String theory

Dualities are like 1D "strings" that can be "woven" (using the OR operator) into elaborate 2D tapestries, and then "folded" or "mixed" (AND) into 3D objects. This is how our 3D environment is constructed.

0D + NOT (Voice / reflection) = 1D
1D + OR (Heart / alternation) = 2D
2D + AND (Sex / combination) = 3D

So, the UP does describe a kind of "string theory". However, the UP's strings are actually one dimensional, like strings are supposed to be, whereas modern string-theory attributes more than ten dimensions to them, making the word "string" rather inappropriate.

This is basically how the three-dimensions of physical space are created, and the UP says that's all there are. There are no "higher dimensional" realities with 4+ dimensions, but there is a *branching mechanism* which allows for a hierarchy of 3D realities.

This "branching mechanism" is really just a description of how the UP can be "nested", like a fractal. This is what enables you to occupy the One category when making the tea and become "the creator".

This nesting of the UP explains the concepts of "quintessence", the "fifth element", and "aether". It's very simple and non-mysterious, and can be simply described as the ability of the system to be repeated at lower levels, i.e. as "sub-categories".

In other words., the UP defines the concept of "the fifth element" or "aether" simply as "the parent category".

Duality is the same thing as "relationship" and "comparison".

All fundamental relationships are dualities, and they are also *comparisons*.
All fundamental *properties* are dualities (like big/small, heavy/light etc).

All fundamental relationships are *best described* in terms of Yin and Yang. There are no better concepts we can use as descriptors . Determining which part is Yin and which is Yang tells us all their properties, in one "big word".

Yang is "the provider", Yin the "the receiver". For example, we can say: "The Sun is Yang to the Earth in the provision of energy."

The sun is the provider of energy and life to the planet. It has all the appropriate Yang properties, like light, warm, active etc. The Earth is Yin in this relationship, so it is relatively cold, dark, and passive.

"The child is Yin to the parent in the provision of survival needs". A child is: dependent, immature, incapable, needy, unknowing / innocent ("in the dark"). The parent is the provider of life, they are relatively independent, capable, and wise ("enlightened").

Note, not all the properties of Yin or Yang are always appropriate or suitable in every context. Every context imposes limits, that's what a context is. A context is, essentially, a set of limitations which reduce the scope of any descriptors we might apply to it.

For example, a child is Yin to their parent, but to describe a child as "the measurement" or "the noun" and the parent as "the measured" or "the verb" might be too much of a stretch.

Defining "logic"

I have asserted that the UP furnishes us with greatly improved definitions for important concepts such as "logic", so let's do that now.

Most current definitions of the word simply use the synonym "reason" or "reasoning" E.g. Wikipedia.

"Logic is the study of correct reasoning."

`https://en.wikipedia.org/wiki/Logic`

This is a useless definition. The words "logic" and "reason" are synonyms, they mean the same thing. It might as well say "*Logic is the study of correct logic*". The definition contains no information.

Modern dictionaries and philosophers really ought to be more humble considering such overt failures. The concept of logic is so incredibly important, underlying the whole of science, it's hard to fathom how anyone could be satisfied with this state of affairs.

The UP's definition is infinitely better, but it's so intuitive that once you've heard it you will probably think you always knew it. Once the principles of the UP are generally understood, it will seem so incredibly obvious that people will struggle to remember what life was like before it.

The UP defines it as so:

logic
- the laws of comparison / relationship.

It is that simple. Logic is:

- the set of natural-laws that allows for the definition of relationships.
- a set of rules by which objects can be compared, contrasted, differentiated, and defined.

Of course that's what logic is.
How could this have ever been missed? How could people not already know this?

I hope you'll agree that it is a far superior definition to any existing attempt. It explains logic's actual *purpose*: which is *comparison*.

Two Types of Duality

There are two types of duality: **Opposites and Complements.**

Note, this is my own terminology. I'm not sure if these two classes of duality are recognised in academia. I have searched various sources, but it seems this sub-categorisation has been entirely overlooked by modern philosophers. If this has genuinely been missed by academia, then it really does demonstrate how little this most fundamental concept is understood.

Anyway, these two classes of duality are crucially important. They explain and underlie a vast number of natural phenomena, including *morality* and *evolution*.

Opposing dualities

Opposites oppose each other; they act as a counterbalance or contrast to each other, whereas complements complete or match each other. Opposites conflict or "compete" like "enemies", complements match or "cooperate" like "friends".

oppose:
- to present in counterbalance or contrast
- to be or act in contention or conflict with
- conflicting, different, opposed, contrasting, differing, contrary, contradictory, incompatible

The SI units listed above are examples of *opposing dualities*:
- distance - near / far
- mass - heavy / light
etc.

Complementary dualities

complement:
- to complete; form a complement to
- companion, compatible, reciprocal, interrelating, interdependent, harmonizing

Some examples of *complementary dualities*:
- a couple - husband / wife
- a lesson - teacher / pupil
- ancestry - parent / child
- driving - driver / car, or captain / ship etc...
- a trade - seller / buyer

The distinction between these two classes of duality is of fundamental importance, and we will come back to it in various contexts as we progress.

Discrete / continuous

This duality is another crucial one to understand, and is closely related to the above classification.

Opposing dualities are expressed as a range, a spectrum of values, but complementary ones are either on or off. This corresponds to the duality *discrete / continuous,* and *digital / analogue.*

There are infinite possible values between any two opposites, like distance, it's a continuum, but you can only either be a driver or not be one. There's no continuum of values, it's digital, on/off, true/false.

Distance / space is a continuum. Being a parent is on / off (true / false).

Data can be either *discrete or continuous*, and this relationship is itself a *complementary duality*.

continuous
- uninterrupted in time, sequence, substance, or extent
- constant, continued, unbroken, uninterrupted, unceasing

discrete
- separate or distinct in form or concept
- consisting of unconnected distinct parts
- separate, individual, distinct, detached, disconnected, unattached, discontinuous

Continuous data includes analogue data and the set of real numbers. Discrete data includes digital data and the set of integers.

By determining which type of duality we are dealing with, we can know whether it will produce a continuous or a discrete output.

This is an important rule that allows us to predict how any duality will present.

The Rules of Duality

Here are some of the basic rules of duality. These rules come directly from the properties of Yin/Yang. They effectively *describe themselves*. There are more, which are described by the relevant dualities, but these are probably the most important.

Yang comes first, Yin follows.
- e.g. leader/follower, first/last, cause/effect, parent/child, source/destination, etc.

Yang is one, Yin is many.
- Duality describes a *one-to-many relationship*.
- One cause to many effects, one parent to many children, one teacher to many students, etc.

Duality describes a *hierarchy*, not just a pair.
- A one-to-many relationship is the basic definition of a hierarchy.
- Yang is the *level above Yin in the hierarchy*.
- E.g. consider categorisation. Parent category is Yang. Child categories are Yin to their parent.

Everything comes in two forms.
- Including things like "time", and probably "the universe" too.
- As a general rule, the most fundamental phenomena will always be dualities.

Duality itself comes in two forms, complementary and opposing dualities.
- Complementary dualities create "one from many" and are discrete units. (e.g. "a family")
- Opposing dualities create "many from one" and are continua / ranges. (e.g. "distance")

The path from Yang to Yin is direct and easy.
The path from Yin to Yang is indirect and difficult, and sometimes impossible.
- Yin and Yang can change from one to the other, but the cycle is not symmetrical.
- Yin can sometimes never become Yang. E.g. a reflection in a mirror cannot become a real object.

Duality is *asymmetric.*
- Yin and Yang are not symmetrical. *Symmetry does not exist until the Heart principle.*
It is common for people to imagine that Yin and Yang are symmetrical and equal, but this is incorrect. They are asymmetrical and unequal. True is not equal to false, by definition. One is not equal to many, etc.

Duality is *reciprocal.*
- All relationships have a Yin and a Yang aspect. All relationships are reciprocal, in some way.

Yang is general / potential, Yin is specific / actual.
- The universe is created by a process of going from the most general to the most specific.
- Like a tree, where the trunk is "general / potential", and the leaves are "specific / actual".

What's Yin on the inside is Yang on the outside, and vice versa.
- This rule applies primarily to 2D concepts (like "work").

The duality inside/outside can refer to physical objects, but more generally means:
- Inside: "how it's made".
- Outside: "what it looks like".

Measurement Creates Quantities

Taking measurements is the "bread and butter" of science. It's the action of collecting data that provides the foundation for all knowledge. Without data, science couldn't even have theories. "Measurement" is closely related to the concepts of observation, perception, experience, comparison, and judgement.

measure
- (verb) to bring into comparison, quantify, determine, judge, compare, evaluate
- (noun) a reference standard used for the quantitative comparison of properties

A measurement in science is an "observation".

observe
- to see; perceive; notice, to watch attentively

observation
- the act of observing or the state of being observed
- the facts learned from observing

"Measurement" is "observation" which bridges the gap between observer and observed. It is the verb "to look", enquiry, investigation, and comparison.

The act of measurement is a deep archetype; it represents the “desire to know”. It's the verb which joins the nouns of consciousness and experience, the inner and the outer worlds. Every sensory perception we have is a form of measurement. Eyes measure light, ears measure sound, and so on.

Measurement also bridges the gap between the *qualitative* and the *quantitative* realms, which is another important duality to consider.

qualitative
- relating to the quality of a thing rather than to facts that are measured

quantitative
- relating to numbers or amounts, measures

Before you measure something, like a parcel, it only has a qualitative size, such as "medium sized", or "small". When you measure it, you obtain a quantitative size, like "20cm".

Measurement is the *only* mechanism that creates quantities from qualities. It is the means by which things can be better "known" or "described" (written down), and it works by comparing things. We started out with a one-dimensional subjective description like "small", and moved to a more accurate, shareable, objective, two-dimensional one, "twenty centimetres".

Qualities are one-dimensional. Quantities are two-dimensional (or more).

Both the act of measurement itself, and the result it produces are both comparisons. "Twenty centimetres" is a comparison of the parcel with the unit "centimetre".

Measurements are relative

All measurements are comparisons with other measurements, such as "1/2 a mile" or "5 seconds".

While qualitative statements have only one part like "near" or "far", quantitative measurements have two parts, a quantity and a quality, a number and "units". Although all units are also made of a measurement (e.g. "a mile"), they're more like a quality than a quantity.

There are no *absolute* measurement units (that are easily determinable). A "mile" is a relatively arbitrary distance-unit against which other distances can be compared.

The creators of our system of units have tried to relate them to real phenomena, to give them some grounding in nature, but there is no apparent or easily accessible absolute universal standard. (The Planck units might be.) For example, we record time in a day as 24 hours x 60 minutes x 60 seconds, it gives us a total of 86,400 seconds per day.

You would be forgiven for thinking it's just an arbitrary convention, but each time-second is equal to 15 arc-seconds of rotation of the Earth (or of the sun about the Earth, depending on perspective). Our time measurement is rooted in the speed of rotation of the planet. It's not an arbitrary duration for us, but in most other places in the universe it would be. It's “relatively arbitrary” or “relatively absolute”.

Absolute / relative

In the process of measuring, we go from qualities to quantities, and also from “absolute” to “relative” which is another important duality. The word "absolute" has several meanings, but here we're only interested in the context of it being half of the duality "absolute / relative".

absolute
- not relative to anything else, and/or used as a reference point for other things

relative
- something which is defined by its relation to something else (i.e. an "absolute")

Imagine a graph of some data. The origin of a graph (the 0,0 point) is the absolute, and any points drawn on the graph are relative to that. There's one origin, but many points on a graph. The origin comes first, the data afterwards. The origin is obviously Yang to the points.

When you see a scene with your eyes, the raw data your brain receives is the absolute, and the meaning you derive from it is relative. The scene as a whole is not relative to anything else, but all the things you

perceive within it are relative to each other, and to your knowledge. There's one set of input data (Yang), but many possible interpretations (Yin).

The Ruler

A ruler is a line of numbers on a straight edge we use to measure the distance between two things. It's like a material instance of the number-line, showing numbers from zero up, in sequence.

Measurements have rulers, and societies have rulers too.

ruler
- a straight-edged strip, as of wood or metal, for drawing straight lines and measuring lengths
- one, such as a monarch or dictator, that rules or governs

The English language contains many words with multiple meanings, and they often make interesting connections between seemingly disparate concepts. Rulers take measures. Government officials say they are "taking measures". Rulers provide the "law", the standard by which things should be judged. A "ruler" may judge things in units of "inches" or "innocence".

The archetype of measurement is like the "king" or “judge” of all concepts as it is the active process of “obtaining truth”. It's the “judgement” which produces,"knowledge" which can be communicated to other minds (i.e. is “shareable”).

The ruler represents the concept of having a standard, a law / rule / code / method / way. It deals in dualities, one-dimensional concepts, and the Air element is associated with duality and with "law".

Division

The measurement archetype contains (or references) several other concepts. An important one is "division". Consider the example of using a ruler to measure something. The act of measurement divides the ruler into two parts.

divide
- to separate into parts, sections, groups, or branches
- separate, part, split, cut (up), sever, partition, shear, segregate, cleave, subdivide

Measurement / observation / judgement is what divides true from false, near from far, observer from observed, etc. It's the process of obtaining knowledge, "learning", and has a universal "form".

When we make a measurement with a ruler we get three parts, one is active, the other two are passive. The measurement point (X) is the active principle, and the parts (A) and (B) are the passive result of where it's placed.

```
0 . 1 . 2 . 3 . 4 . 5 . 6 . 7 . 8 . 9 . 10 . 11 . 12
|----------------------------(X)-----------------
^         (A) 8 units           ^   (B) Undefined  -->
```

The three parts are:

- (A) the length of ruler from the origin, 0, to the end of the object: E.g. "8cm"
- (X) the active measurement point. X "marks the spot".
- (B) the length of the ruler going away from the object.

Part (A) of the ruler is defined, we know how long it is.

Part (B) of the ruler is undefined, we don't know (or care) how long it is. The physical ruler has an end, but we could be taking the measurement with any sufficiently long ruler, so this part is only bounded at one end.

We could say that (B) is infinitely long, because it has no endpoint, whereas (A) has two ends. Its length is finite and known. In contrast, (X), the measurement point has no size, no extent. A point has no dimension, it's just an idea. A thing of zero size is not a material object.

These parts align directly with the concept of time, (A) is the past, (X) is the present, (B) is the future. We'll come back to this.

The point

The measurement point (X) is an immaterial thing with zero size, but finding it is the method / algorithm used to solve the problem of discovering a distance or making a judgement. When we take a measurement, we measure up to "the point", and that's the point / purpose. Finding the point is the point.

point
- a dimensionless geometric object having no properties except location
- an objective or purpose to be reached or achieved

To take a measurement we must place the intangible, dimensionless point on the dimensioned measuring device by an act of conscious will. The (X) is located by "desire", "intent", "purpose".

From quality to quantity

From the idealist perspective the world is manifest from quality to quantity, from spirit to matter. The act of measurement is the (only) process by which "spirit becomes matter" or a quality becomes a quantity.

A popular interpretation of quantum mechanics says that the world doesn't exist in solid form until it's observed / measured. It says the world exists only as "probabilities" until an observation "collapses the wave function".

In quantum mechanics, wave function collapse occurs ... due to interaction with the external world. This interaction is called an observation...

`https://en.wikipedia.org/wiki/Wave_function_collapse`

In this view of QM, it's almost as if the observer is part-creating the world that is observed. While this is potentially a reasonable proposition for an idealist, it seems less so for the materialist. If matter isn't solid and fixed, then it's not really matter, is it? It seems odd for materialists to argue against the solidity of matter, but then (tangible) matter is believed to be equivalent to (intangible) energy anyway, so maybe not.

This theory offers a more down-to-earth explanation of the effect of observation on reality. The act of observation doesn't "help create" reality, it just quantifies it, by bringing it into comparison.

Instead of suggesting the world isn't fully formed until it's observed, it merely states that it hasn't been *quantified*, measured, or known. The world always exists fully formed, relative to us, because it is created prior to our existence at higher levels of reality. The world exists before we observe it, but only in *qualitative* form.

Observation adds a new level or layer of detail to the world. It "transforms" reality from being qualitative to quantitative, from being one-dimensional to two-dimensional, from absolute to relative. Measurement provides a new perspective, adds new detail, and allows things to be described and communicated.

Observation makes reality more "real" in this sense, but the world is always in solid form even when we don't observe it.

The Spirit / Matter Duality

Reality appears to consist of two fundamental complementary categories of stuff: "matter" and "spirit". The word "spirit" has a lot of mystical and religious connotations, none of which are to be implied here. The purpose here is to de-mystify the idea as much as possible and make it a term we could use in a scientific context.

I suggest the following definition:

spirit
- anything we perceive as a non-physical object. e.g. universals, concepts

When we talk about the "spirit of the law" for example, we're discussing its purpose / intent. Intent is something intangible, it's made of spirit, but it's not at all mystical or beyond human understanding. Desire is an everyday, ordinary phenomenon which everyone experiences and understands.

Everyone understands the concepts of "will" and "laws", there's no mystery there, and these are about as complicated as such ideas get. Physical matter, on the other hand, is extremely mysterious. What proportion of people understand Einstein's theory of relativity, for example, or the "nuclear weak force"?

The spirit-world is far easier to understand than the world of matter. Yang is simple, Yin is complex.

It's ironic that spiritual phenomena are considered "mystical" and "unscientific", when they are the things we experience directly and can personally know, whereas the claims of material science usually rely on third-party opinions and beliefs.

We're all familiar with desires, we all have them. Desires are intangible, but they exist, and we can perceive them. Other examples of "spirits" are information, rules, emotions, thoughts, wishes, pain, and wisdom. Abstract concepts like "dog" are spirits. The dictionary is largely an alphabetised list of spirits.

The “spirit world”, at least in this context, holds no mysteries, it's an open book, none of it is hidden from our sight. The counterpart to spirit is matter. These things are a duality and must be considered as being relative / in relation to each other. Spirit is not-matter. Matter is not-spirit.

matter
- anything we perceive as physical, tangible, and solid, not spirit

A living organism is "made of spirit and matter". It has a body, but the body is driven by the intent of the creature. It's the will to eat, mate, build shelters and so on that drives activity. These intangible desires may be entirely generated by the body's material needs; a "spirit" doesn't have to be at all "spiritual". Hunger is a spirit, a motivation, as is disgust or lust. These things can move you into motion, they are intangible *motivators*.

The "spirit-world" by this definition is the *conceptual-framework* we use every day, in every thought. It's the "world of ideas", and we are generally familiar with its content. It's not at all mystical, or beyond human comprehension. The spirit-world is fully open, simple, and transparent. It can be known directly, relatively easily. It's the opposite of the material world, which is complex and hard to understand.

Archetypes and symbols

As a different way of viewing the spirit/matter duality, we could reframe it as the duality of archetypes and symbols.

archetype
- an original model or type after which other similar things are patterned; a prototype

symbol
- something that represents something else by association, resemblance, or convention, especially a material object used to represent something invisible: "the lamb is a symbol of innocence."

The archetype is the original pattern or idea of the thing, and the symbol is a representation of the archetype, an *instance* of it. The archetype is the spirit, and the symbol is the matter. The concept of "hot" is an archetype, things made of matter which are hot symbolise it.

An archetype is a template, blueprint, prototype, principle, or plan.
A symbol is a representation, product, example, or instance.

Thus, these concepts form a duality *archetype/symbol* in which the archetype is Yang, the symbol is Yin,

A note about Plato's forms

While “Platonism” is taken to mean any view which regards abstract objects as real, his description of them is problematic. Plato's conceptualisation differs from this theory in that his "forms" were considered the "perfect example" of a thing, where, by “perfect” he meant “flawless”, or “without error”.

A "perfect example" would have to be very specific, but in this theory, archetypes are very generalised categories, which is the opposite view. It appears to be a duality. Plato's forms are specific, the UP's are general.

While Plato's idea of the archetype of "dog" would be an idealised "perfect" dog, in this theory it's all kinds of dogs lumped-in together, it's a category or a "super-concept". Here, adding the word “perfect” to a description would make it more specific, so less fundamental.

The idea of an archetype being a “perfect example” is a paradox. An “example” is a “symbol”, which is the dual-opposite of an archetype, so an archetype cannot be an example. Only something instantiated in matter can be a “perfect example” of a principle.

Archetypes may contain a description of a “perfect example” of their principle, but to say they *are* a perfect example is to confuse the container with the contents.

However, archetypes can be considered "perfect" if we use the definition “complete” or “whole”. The archetype of “dog” is perfect in the sense that it’s “complete” as it contains all dogs. To take it as meaning something like “the best dog you can imagine” doesn't fit with the concept of *archetype*.

perfect
- without defect, fault, or blemish, correct, the best possible
- complete, whole

The Duality of Time

Time appears to us as a one-dimensional feature of reality like a number-line that goes from past to present and on to the future. The present is our current measurement on the ruler of time (the "point", (X)), with the past behind/left and the future in front/right of us as parts (A) and (B) of the ruler respectively.

The known/defined part of the ruler (A) is equivalent to the past, it had a beginning (birth) and an end (now), it's bounded at two ends. The future is the undefined part (B), bounded only at one end (the present). The present is a strange and elusive thing. As we try to grasp it, it's already gone. This is because it's like the measurement point, it has zero size.

Quantisation

It's not possible to process zero-length time segments, so the mind must quantise experience into discrete chunks or "frames" for processing, a bit like how a ruler has gradations. In theory a ruler is a continuous measuring device capable of arbitrary precision, but in practise you wouldn't use one to measure anything less than a millimetre, and you'd quantise any result to that level of detail.

quantise
- to limit the possible values of (a magnitude or quantity) to a discrete set of values

This is another profoundly important concept.

As we shall see, all information is created by this process. The underlying archetype of information is a “quantised continuum”. A “continuous object divided into relatively arbitrary quanta” is the most fundamental description of reality.

So, the whole of reality is created from a “quantised continuum”. We will come back to this.

Spacetime

Time and space are considered to be a single four-dimensional object in Einstein's theory of relativity, but the archetypes suggest this is not conceptually valid and offer an alternative view. The concept of time is quite different from space. We certainly don't enjoy the same level of freedom of movement in time as we do in space. On this basis alone they seem to be different classes of thing.

If we find we like a particular location, we can stop there and enjoy the view, but any particular moment is already lost to the past as it reaches our attention. While we can consider both space and time to be dimensions, there's an aspect of them which is opposite or complementary. One offers freedom, the other is more like a limitation, a road we are forced to walk.

Another oddity with this view is that the present has zero size; it's a point with no dimensions at all, and yet it is the most "real" form of time. We can view past/future as a dimension, but it's something of an illusion. The three dimensions of space exist in the present, but past and future (by definition) do not.

Space / time as a duality.

The UP offers a different view on these phenomena. It says that time is the complement of space. Space / time is a complementary duality equivalent to “distance / change”, corresponding to Yang / Yin respectively.

Strictly we should frame the relationship as distance (Yang) vs “measurement of change in distance” (Yin).

space: distance (Yang)
time: measurement of change in distance (Yin)

It turns out that both space and time have three dimensions that exist in the present. (This is discussed in detail in TMM.) So, the UP takes a different view of "spacetime" in which they are a complementary duality, and there are three dimensions of each which exist in the present. This obviously leads to a quite different perspective on physics than the standard model.

From past to future

We consider the past to be “behind” us, and the future “in front”. When we walk, we usually walk forwards. Our eyes are on the front and our senses of hearing and smell focus that way too. When we walk, what's

ahead of us is our future location, and what's behind is the past.

The past exists in the present in the form of matter. Matter is “rooted in the past”; history is encoded into it. We can attempt to deduce what happened in the past from the way matter is configured today, but it's difficult. We could view matter as "*the past in encrypted form*".

matter
- the product of past activities, an encrypted history.

Our material bodies are concerned with the past. Their current condition is determined by history. They are busy digesting food eaten in the past or recovering from injuries sustained.

The future, on the other hand, only exists in minds. Minds are “rooted in the future”, that’s “where they live”. Providing for the future is the focus and purpose of all conscious work.

The future can be changed, or at least that is how we perceive it, but the past we have already seen, and it can't be changed. The past is fixed, it's literally "set in stone" in the earth and mountains around us. In the future though, anything could happen; you might win the lottery!

The past is made of tangible solid facts, but the future is made of intangible hopes and dreams.

Past - Yin - Matter - Tangible	**Future - Yang - Spirit - Intangible**
Behind	In Front
Fixed, unchanging, known	Undefined, unknown
Facts, memories	Hopes and dreams
2-ended: from beginning to present	1-ended: from present to infinity
The body lives here	The mind lives here

Precedence

Physicists wonder why time flows in only one direction, as their equations allow it to run either way. This is the mystery of the “arrow of time”, why does it point toward the future?

Duality answers this question succinctly and in many ways. There is always a natural, logical, sequence which things must follow.

precedence
- the fact, state, or right of coming before in time, order, or position

This is related to the concept of contingency.

contingent
- dependent on other conditions or circumstances; conditional.

We could rephrase this as a natural "law of precedence".

law of precedence (contingency)
- a thing must exist before other things can be derived from it.

The rules of precedence which are built into the concept of "two" are the reason for the "arrow of time", why time moves from past to future. (I think this eliminates the possibility of physical time travel.)

The universe is an *iterative process*, a series of contingent events. Future states are derived from past ones. Causality occurs in discrete steps / events.

Some things must come before others.
- The cause must exist before the effect.
- The parent must exist before the child.
- There must be light to create a shadow.
- You must be alive before you can die.

Some dualities, such as the above, obviously contain a dominant / active member and a subordinate / passive one. The child didn't ask to be born to the parent. The parent is the active party, the cause. These are all one-way relationships.

The "arrow of time", is thus the physical manifestation of the "law of precedence".

Hard / soft

Some dualities don't seem to have any particular order. Hard and soft for example. Which of these concepts comes first? There's no obvious precedence in the concept of "hardness", but then it's not a property with any sort of time component.

However, because we can correlate these ideas to Yin / Yang, we can assign a precedence to non-temporal concepts. All dualities contain this relationship even if they don't have a time-component. It works out that “hard” comes before “soft”. A receiver must be soft, so it can receive. A provider is “hard”.

Spirit is hard, it can't be changed, and it’s permanent (consider the unchanging laws of logic, or arithmetic). Matter is soft, it's always changing and is temporary. Spirit is made of an indivisible, single thing. Matter is made of many things which can be divided.

This corresponds to the idea of a “big bang” which, if true, would have been the “hardest” thing (explosion) ever, and explosions are made of intangible *energy* which is *spirit*. An explosion like a bomb would be an unlikely interpretation of the archetypes though. The UP suggests the universe probably *grew*, like a tree.

Time Is change

The only way to track the passage of time is by tracking changes in something, the sun and planets, pendulums, clockwork, quartz crystals, etc. Time is a measurement of change, so time is conceptually equivalent to "change". "Time passes" means "change happens".

We should consider "distance" and "change" as two parts of a complementary duality. They are equivalent to "space" and "time", and they are the most fundamental properties of all reality, not just the physical. Time is a measurement of "changes in space", so "space" must come first, and "time" must follow. The former is therefore Yang, the latter Yin.

I am led to believe that the SI units used in physics can all be reformulated in units of space and time (meters and seconds). This approach hypothesises there are only two fundamental units (space and time) and is called "S/T units". This would mean that the units for mass, voltage etc. are not fundamental. There's more on this in TMM.

The "beginning of time"

A popular view in physics is that "time began with the big bang"; however, the general concept of "time" is an absolute and cannot have a "beginning". It's a paradox, a category error.

category error
- a semantic or ontological error in which things belonging to a particular category are presented as if they belong to a different category

Absolute, unmeasured time originates in the "One" category, whereas relative, measured time originates in "Heart". These are the specific categories which are being confused in this case.

If we're building a framework of ideas, the concept of "time" would have to be created before the idea of "beginning" can be. A "beginning" is a specific type of time, it’s an "event". Beginnings exist within time, there must time passing before something can begin.

Conceptually, "time" is the same thing as "change". A "beginning of time" is like saying "when things began to change", implying there was stillness / no-change before the beginning, which is paradoxical.

So, time cannot conceptually have a beginning, it’s a paradox.

What we find is there must be two conceptually different forms of time: “real time” and “measured time”. Measured time can have beginnings, real time cannot. We can talk about the "beginning of the day" with no problems whatsoever, but we can't have a "beginning of time" in general.

Real vs measured time

Duality tells us that all fundamental things come in two forms. The phenomenon of time follows this rule. Its two forms are: real and measured time, corresponding generally to Yang/Yin and more specifically to the One and Heart categories.

You might think these things are the same or the difference is unimportant, but the relationship between these two perspectives is profound. They are opposites, but without an understanding of duality we'd probably never have noticed.

Measured Time (Heart) **Yin - Circular**	**Real Time (One)** **Yang - Straight**
Passive - Dependent	Active - Independent
Relative, Arbitrary, Fictional	Absolute, Real
Quantified, Limited, Defined, Measured, Known	Qualified, Unlimited, Undefined, Unmeasured, Unknown
Finite, Mortal	Infinite, Eternal
Quantitative - Two-part / dimensions (i.e. number + units): e.g. "7 days"	Qualitative - One-part / dimension "Ages" or "Soon"

"Yang time": real time

"Yang-time" is real / absolute / qualitative / direct time. It's "time passing". It must have always existed because it cannot have had a beginning. All things (including One) experience it *directly*. Yang-time is the straight "arrow of time" going from past to future, from cause to effect.

Yang-time is real, but it's unquantified and is essentially unquantifiable because there's nothing to compare it to. It has no beginnings or endings, it's just "change happening". In this view, before the physical universe began, change could happen (time passed) but there was no yardstick, no "year" or "day", no units. There was no way of telling *how much* time had passed.

Yang time is unmeasurable because it originates in the One category. It exists "alone", without any natural scale to compare it with. It is a purely *qualitative* phenomenon.

This is perhaps why "God" is said to be "outside time". It's not that time doesn't pass for him, it's just that there is no way of measuring how much time has passed from that frame of reference. In other words, time from God's perspective is unmeasurable.

Far from being "timeless", it works out that One essentially *is* time. One is correlated with activity and change, and change is time. Yang is change (active), and Yin is the measurement of that change (passive). (This is one of the ways in which the UP's description of God differs from others.)

There's only one real phenomenon of time passing, but there are many ways to measure / quantify it.

"Yin time": measured time

"Yin-time" is cycles / the (sine)wave, "cyclic time", or "fictional-time". It's indirect and circular / self-referencing, as all measurements are. It has a beginning, an end, and is quantified, but it's relatively arbitrary. This is the form of time that would become possible at the "big bang", i.e. when things began to be separated and could be compared with each other.

(Note: the official etymology of the word “sine” does not go this route, but “sin” is correlated with the moon via the Mesopotamian goddess “Sin”, and with the left-hand and darkness (sinister). The phases of the moon may have been the original inspiration for the name "sinewave".)

The length of a day on Earth is anchored in the perception of the sun's movement across the sky. It is a "relatively real" cyclic-time unit to us, but the day-length on Earth is arbitrary from the perspective of the rest of the universe. A 24 hour day is "real" on earth because it corresponds to its physical rotation, but it's not so real / meaningful anywhere else. It's Yin-time, relatively arbitrary and "fictional", but it does still allow measurement that is useful in the local frame of reference.

Cyclic time is essentially just a “convention”; It's something people have agreed on, and/or nature has chosen, apparently arbitrarily. The measurement units we use have no significant universal meaning but can have significant local meaning.

Our senses can only work with Yin-time.

It’s important to note that all our senses are dependent on Yin-time, they are measurements. The colours we see are due to measurement of the frequencies of light by the eye. The sounds we hear are measurements of sound waves by the ear. While time really flows in a straight line like an arrow, it's not possible to measure that, we can only measure "second order" time, and that appears as cyclic phenomena.

Real / illusion

The relationship between these two perspectives on time is profound and revealing. It shows the "characters" of the two parts of duality very well. Yang-time is the actual passage of time, and Yin-time is “just” a relatively arbitrary measurement of it. The former is real, the latter is more like an illusion, but we can only "know" time via this "illusory" route.

This is the deep underlying nature of the universe. Yin is a *necessary illusion*. To know reality we must rely on a fiction. It's a paradox, but it is resolvable from a higher perspective.

Both the Yin and Yang perspectives / concepts are essential components of reality. We need time to pass, but we also need to be able to measure it, and these two concepts are necessary complements. The relationship between them exemplifies the sheer elegance of duality. It is a beautifully simple, yet incredibly powerful concept.

Hopefully this clarifies our definition and understanding of the phenomenon of time and demonstrates the utility of thinking in terms of Yin/Yang to improve organisation of thoughts.

Near / Far

Some dualities are easy to classify as Yin/Yang, but I've had to re-think some over the course of the investigation. Near / far is quite easy. There's only one place which is extremely "near" to you, it's your exact location. There are many places which are far-away. So "near" is Yang, "far" is Yin.

"Near" is the same as "here" in this context, and "here" is the active principle, consciousness, you. You are at the centre of the universe, observing it. If near is here, then "far" is "there". Everything that isn't you (your consciousness) is "far away" relatively speaking. This also applies in the context of time; the present is near, and the past and future are far-away.

Consider: If consciousness is a point with no dimensions, then something the size of an electron is effectively infinitely larger (or smaller) than it. If your consciousness was embedded in an electron, it could still appear to be the size of a universe. Things with zero size have no scale. It's a kind of "infinity", which is a tricky concept we'll deal with in a moment.

Large / small

Things which are near are large, and things which are far away are small. This applies visually, emotionally, and in time. Things which are far away in time matter less to us, we think about them less, they're "smaller" in that sense.

Yang is the masculine-principle, and human males are larger than females.
So it sounds like Yang is large and Yin is small, right?
Surely as One/God is "everything" and contains the whole universe, he must be "large".

No. The opposite is the case, Yang is small and Yin is large. Yang is one, Yin is many. The archetypes have a natural numerical progression from one to many, and "one" is smaller than "many" (or "two").

(Things which are near only *look* larger, they're actually the same size as the ones which are far away.)

"Near" / "the present" / "consciousness" is a point of zero size, things don't get much smaller than that. The observer is small, the universe is large. The direct route is always shorter than the indirect one.

So, how can God be "small" if he contains the universe? The answer is that Yin is an illusion, and is a "projection outwards" from consciousness. I'll leave you to think about that.

Infinite / finite

Direct is Yang / one, and indirect is Yin / many.

The quickest way to get between two points is in a straight line, directly. There's only one direct path between two points, but there are many indirect paths which would be longer, and would be not-straight. In fact there are infinitely many possible indirect paths between two points.

The straight path is the shortest / smallest in space and time. It's the simplest, easiest route. There's only one direct path. "One", as a number, is finite. Therefore: Yang = finite. There are infinitely many indirect paths: Therefore: Yin = infinite. Right?

Does this mean that "matter is infinite and spirit is finite"? Surely spirit should be infinite, unlimited, unbounded, and matter should be finite and limited? This seems like a paradox, and it confused me for a while.

The first problem is that in imagining the possible routes between two points we have created a two-dimensional playing field, like a map, to plot the routes over. Anything two-dimensional exists at the next level down the hierarchy (at "four"). The analogy we have used can't be applied to a one-dimensional system.

In a 1D number line, the only path available between two numbers is a direct one. At the level of duality (Air) everything is "straight", the ability for things to "curve" only appears at the next level (Water).

Secondly, the word "infinite" is ambiguous in this context; we need to be more specific. The concept of "infinity" has two meanings, and so it took a little thought to unpick the problem. The solution comes by applying the rules of duality, correlating concepts, and carefully classifying them.

infinite
- literally "without end", unbounded, limitless (quality)
- impossible to measure or count, incalculable (quantity)

We use the word "infinity" in two different ways: for *qualities* and *quantities*. Things can be described as infinite / finite in quantity (number), or in quality (space and time, i.e. size and lifespan).

Mathematics recognises two types of infinity: "Countable" and "uncountable", which is a duality of course. As "quantity" (number) is Yin, this means "countable" infinities are Yin, thus, defining them as "illusory" or "paradoxical". This starts to lead us to clarity.

To truly understand the concept of numerical infinity, we have to correlate it to the duality *continuous / discrete*. What we find is that the only *true* form of infinity is a continuum / quality / Yang. Qualities are continua, and can be infinitely subdivided. The resulting subdivisions are quantities and are discrete, and *quantities can never be infinite*.

The table below explores some concepts relating to "infinity", and tries to make sense of them.

Yin: Matter - Finite	**Yang: Spirit - Infinite**
Finite in "quality" / "time and space"	**Infinite in "quality"**
***Apparently* Infinite in "quantity" / number**	**Finite in "quantity", i.e. "one"**
Many, discrete, integers	One, continuous, real numbers
A set of individual numbers	A range of possibilities
"Tending towards infinity". Apparent / illusory infinity.	"True infinity"
Countable	Uncountable. Infinitely sub-dividable.
(Matter is) Physically bounded. Limited in, and dependent on space and time. Finite in "space and time", or "quality"	Physically unbounded. Unlimited in space and time. Infinite in "space and time", or "quality"
Has size and mass which is finite, but can tend towards infinity	Cannot be compared / sized. Infinite / unbounded in that sense.

So, if we analyse the concepts with regard to the duality *quality / quantity*, we get:

- Yang is infinite in quality, but finite in quantity.
- Yin is finite in quality, but *tends towards* infinity in quantity.

The UP is a map of the most fundamental Yang/spirit objects, and there are only ten, but each of those objects is a continuum. They are finite in number, but infinite in quality.

The universe contains an apparent infinity of material objects, but each of them is finite in space and time.

Looking at the concepts via the lens of the duality *continuous / discrete*, we get:

- Yang is a single continuous true-infinity.
- Yang can be infinitely subdivided, and those discrete subdivisions are Yin.
- Yin is the many discrete subdivisions. It *tends towards* infinity, but never reaches it.

"One" (the "Great Yang") is "everything", a continuum, a range. It isn't composed of discrete units, it has no parts or components, but it can be infinitely subdivided.

The opposite of "one" is "many", which tends towards infinity, but *never gets there*. "Many" implies discrete objects, but you can never actually have an infinite number of them. The physical universe is big, but we can still count the number of elementary particles it contains (at least in theory).

In other words, **the phrase "an infinite number" is an oxymoron**. There is no such thing as an infinite number. All numbers, by definition, are finite.

This means the "set of integers" contains a number of discrete entities, which *tends towards* infinity, but never gets there.

The "set of integers" contains an *apparent infinity* of discrete objects.

On the other hand, the "set of real numbers" only contains one thing.

The "set of real numbers" only contains a single object / continuum.

So here is our answer, and a new and (hopefully) better definition for the terms infinite / finite:

infinite
- Yang, quality. A continuum that can be endlessly divided.

finite
- Yin, quantity. The discrete subdivisions of a (Yang) continuum.

So Yang / continuum is the *provider* that allows for Yin / discrete objects. Yang must exist before Yin can be divided from it. Yang comes first, Yin follows.

In other words, the One category (i.e. consciousness) is the source continuum from which everything else must be divided. This means that everything that exists (below One) is a *subdivision of consciousness*. This is the most fundamental form of all things, information, mind, concepts, matter etc. are all subdivisions of consciousness.

Still, we might ask, how can One/Yang be described as infinite if it's finite in number? The answer is that qualities come before quantities. One/Yang's fundamental nature is as a quality, not a quantity. Quantity is a derivative concept. So, the *fundamental* nature of One/Yang is infinite, its finite number is a secondary characteristic which is derived from that. I hope that makes sense.

We will revisit this theme again in the upcoming pages, as it is truly the most fundamental pattern of all. By clarifying the definition of the duality *infinite / finite*, we have unlocked the fundamental structure of the universe.

Zero size, zero dimensions

To have "no size" or "no dimension" is perhaps an odd concept, but it is a characteristic of One. It has "no size" because there's nothing to compare it to; it can't be measured or allocated a size. There are no spatial dimensions we can logically apply to it, just as we can't really measure Yang time passing, because there is no natural *scale* to compare it to. It exists alone.

To have "zero size", or "no size" doesn't mean that the thing is "infinitely small", or "infinitely large", it means that concept of physical size doesn't apply to it at all.

A measurement point is of "zero size" the same way a consciousness is: They both appear to be infinitely small from the "outside", but are infinitely large on the "inside". For example, the present is a zero-size point in time, and yet it contains the whole of reality within it.

Paradox

The concept of paradox is obviously part of a duality; things are either a paradox, or not. To understand it we need to identify it's opposite, and then if it's Yin or Yang in that relationship, although you can probably already guess.

paradox
- a statement or situation which contains two opposing / contradictory elements

A paradox is a self-contradiction, an impossible situation.

The opposite of a paradox is therefore a "logically consistent statement", but not necessarily a "truth". There doesn't seem to be a snappy name for the concept, so I'll frame the duality as paradox / non-paradox. A paradox contains opposing views, it's divided in two, and it is false. These are Yin characteristics. If we put them all together we get this table:

Yin - Matter, Indirect, Paradox	**Yang - Spirit, Direct, Non-Paradox**
Many: Large, long, curved, circuitous Many opposing views	One: Small, short, straight One unified view
Paradox, division, confusion, disunity Falsehood, illusion, reflection	Non-paradox, clarity, unity. Truth, reality, original.
There are many falsehoods, indirect-paths	There is only one truth, direct-path
Countable (apparent / false) infinities	Uncountable (true) infinities
Impossible, invalid	Possible, valid

These correlations are saying many things including that "Yin is a paradox", and that "Yin is impossible", and also that "countable infinity is a paradox". A "countable infinity" is conceptually invalid, as described above, like the "beginning of time".

Paradox is an essential quality of Yin, and this classification means we can (in theory) resolve all apparent paradoxes (as category errors). They disappear when viewed from a higher perspective.

The paradox of Yin

In nature, it's often the things which are missing which are the most important.

Although the etymology is controversial, I suggest that the word "lake" is related to "lack", i.e. of land. It's the absence of land that makes a lake, and it's a good analogy. A lake is just a hole in the land, but when filled with water it provides a more productive habitat for life than flat land can. More niches, more species, more biodiversity.

Life prefers to live at the edges between Yin and Yang, land and water, earth and sky. It is at the boundaries between everything and nothing that we get all the interesting stuff.

lake
- Latin lacus (“lake, basin, tank”), see lac
- related to: lack, like, lacuna, lagoon, etc,

lacuna
- an empty space or a missing part; a gap

Note, we "like" things we "lack". We are attracted to the things we feel we are missing, like coffee in the morning. These ideas are "two sides of the same coin". Again these words are not officially linked, but probably should be.

Yin is absence, omission, emptiness, lack. Yin is the "lady of the lack (lake)" (as in the legend of King Arthur). If Yang is "something", Yin is "nothing", and that is intrinsically a paradox. "Nothing" cannot exist, so how can we even talk about it?

There are many apparent paradoxes in reality and they all have Yin characteristics. Yin itself is a paradox and is the archetype of it. Yin is "the thing that does not exist", in the same way that a dream "does not exist", but also does. Paradoxes can always be resolved with a different perspective.

Reality is constructed in a hierarchy of multiple levels and I suspect paradoxes are always an invalid comparison between levels, a category error, similar to a grammatical error. For example, Yin is "illusion" and "a dream", but if you're in a dream it is Yang to you, it's real. The dream becomes your "provider of reality", like a "god", able to determine your fate.

Yin - Absence	**Yang + Presence**
To not be. Nothing. Non-existence.	To be. Everything. Existence.
The void / hole. Emptiness.	Prominence. Fullness.
Shadow	Light
Matter, Solidity	Energy, Activity
Temporary, temporal	Permanent, eternal

A deep example of the paradox within Yin is the concept of "knowledge".

The purpose of creation is to explain the concept of One / consciousness by "measurement", by comparing it to something else. But ultimately there is only One, and there is nothing to compare it to. It is "incomparable". It can only be compared against "not-one", which is nothing, so doesn't actually exist.

As we observed with the Yang/Yin forms of time, all comparisons are somewhat arbitrary and inaccurate, and yet they are still useful.

Measurements convert qualities to quantities, and in so doing, from absolute to relative, from the more to the less real. All knowledge (that can be written down) is relative, which is less real than absolute knowledge. It is possible to know directly what it's like to be you, absolutely, but to explain it to someone else is (relatively) impossible.

Yin is matter which can be measured and "known", in the sense that it can be communicated. That is its purpose, to be known, seen, experienced, touched, and explained. However, Yin cannot be truly known, measured or touched. Yin can give the *impression* of these things, can make it seem like it is so; but it's always, from another perspective, an illusion.

When we have dreams we can see people, touch things, smell scents and so on, but when we wake up, and ascend to a higher-level of consciousness, we realise we didn't actually touch anything other than the bed.

The very purpose of creation is to make it possible to "know" the concept of "one", via measurement, and quantifying things. But we basically made-up the units on the ruler, and we can only really know life via qualities, quantities don't really explain anything.

Also, measurements are always approximations. It's not possible to measure anything made of matter perfectly, there's always a margin of error. We can never truly know exactly how big a parcel is, its size would most likely be a transcendental number anyway, which would take forever to write down. But we can know it well enough to get it posted.

Another example: Yin is "matter", and is fixed and solid, while Yang is activity, constant change. Yet the world of physical matter is always changing. Matter itself is in a state of constant flux. Matter appears fixed and solid, but it's made of intangible "activity" (energy), and is temporary. Spirit on the other hand is permanent.

These conflicts between intent and result highlight the paradoxical nature of Yin. Yin is "known and measured", but also "false and paradoxical", or "incomplete". However, it does the job it's intended for perfectly, and if we understand the inherent contradictions in Yin we get a clearer picture of Yang, and that is the ultimate goal, to explain "One" better.

So, paradoxes exist within the UP, but without violating any rules of logic, and they actually contribute to the explanation it is designed to produce. This is a fairly complex topic. It would take a book longer than this one to really do it justice. But this will have to suffice for now.

The Purpose of the Universe

With a basic understanding of duality, we immediately have a reason for the existence of the universe.

- Yin and Yang are lists of *properties*, they are ideas that *describe and define* things.
- They can only be describing / explaining One, as that is all that exists when they are created.

So, Yin and Yang are descriptions of One/God. They allow for comparisons between ideas to see if they are like One, or not. That is their purpose, it's why they were created.

- Yang is a list of all the properties that One has. (single, spirit, active, etc.)
- Yin is a list of all the properties that One *does not have*. (many, matter, passive...)

Yang is like One, Yin is NOT like One. Therefore:

The purpose of the universe is to explain all the concepts within the "One" category
(i.e. "God", "consciousness", "life", "being", etc.)

In other words, the universe is an *explanation of consciousness*.

explain
- to make something clear or easy to understand by describing or giving information about it.
- to "plan out", from Latin ex "out" + planus "flat"

The "alpha and omega"

This is presumably why "God" is said to be the "alpha and the omega", the "beginning and the end" in some religious traditions. It's not just some mystical assertion, it's describing the basic relationship between the One category and all the others.

One is the *origin* of all the other concepts, it's their beginning.
All concepts come from (are derived from) the concept of "One". It is the *source* of all ideas.

One is the *subject* of all concepts, it's their end / purpose.
It's also what they refer to. All concepts are "about One", it is their *destination*. Their purpose is to explain it.

The purpose of the UP and creation as a whole is to explain consciousness which is the same thing as "God", "being", "life", and "existence", and all the other concepts we find in that category. Experiences are a description of what it is like to exist.

As covered above, the concepts of *consciousness* and *experience* are a duality. Consciousness is Yang, experience is Yin. Consciousness IS *one*, and it HAS *many* experiences.

The universe is (like) a computer, attempting to answer the most difficult question it is possible to think of:
"What is consciousness / being / life / existence?"

That's perhaps why the universe is so big. It's a difficult question to answer.

So, God had to create an enormous universe to attempt to figure it out. Nature presumably then created us, to act as intelligent helper agents. And here we are, paying our taxes, worrying about stuff, selflessly helping God out with his "existential issues".

The universe exists to describe consciousness, i.e. what it is like to be alive. It is an exploration of existence. It matches with some religious ideas that "God wishes to know himself".

However #1, the universe may have other purposes.

In nature, things tend to serve more than one purpose, it's likely that's true of the universe as a whole.
It must be pretty lonely being God. Perhaps he wanted a *family*. Hopefully, he's not too disappointed in us.

However #2, this could be a man-made simulation.

While the above should be true for the original universe, this probably isn't that universe. As we will explore in depth in "The Mortality Simulator" (next book), this reality is unlikely to be the original universe.

In essence, the UP suggests that we should originally come from a Yang/"provider" reality where we are immortal, and this is a simulation of what it would be like to be a mortal. Mortality, and the suffering it entails, must be a choice because it would violate God's own law of morality to force people to suffer against their will.

This is obviously more or less compatible with many traditions' ideas of an "afterlife", aka "Heaven".

So, this particular reality could have an entirely different purpose from the original, such as entertainment, education, or sport. (It could even be "correctional facility" or a "lunatic asylum".) The *mortality simulator conjecture* offers a neat solution to the problem of evil that has plagued religious debates throughout history.

Please see the aforementioned book on my website for the details.

Knowledge vs belief

If the purpose of the universe is for God to "know himself", that implies two things that contradict modern religious depictions of him:

1. That God is "omniscient".
2. That God is "outside time".

If the universe was created to explain God to himself, then he must have lacked that knowledge. Therefore, he is not omniscient. If this theory is correct, he created the (original) universe *because* he didn't even know himself.

If the universe was created to provide information, then God could not foresee those answers. There must a process of self-discovery happening, over time. Therefore, he is not "outside time".

The UP says even God cannot strictly *know* the future, as it hasn't yet been experienced yet. It says we should define "knowledge" as "experience", generally speaking. In other words, the only things we can count as real "knowledge" are things we have personally experienced. All else is belief, supposition, conjecture.

Knowledge and belief are a duality in this perspective. The duality might be framed as "approaches to truth".

knowledge
- something we have proof of, have (personally) experienced
- *direct* experience

belief
- something we think is true but lack proof / sufficient evidence / experience of
- *indirect* experience

For example, imagine someone tells you "over that hill is the ocean".
- Without going over the hill, you only have belief. I.e. "I think he's lying / telling the truth".
- If you walk over the hill, you can see for yourself if that statement is true. Then you have knowledge.

Beliefs are obtained via third-party experience, or via incomplete evidence and speculation.
Knowledge is obtained via direct observation.

So, the UP departs from some modern religions in its definition of God. It says that God does not strictly *know* the future. He may have a good idea of what will happen, but the word "knowledge" should be defined as "experience", and the future hasn't yet happened or been experienced.

Some religions assert that God is "outside time", and that is how he can know the future. However, the UP tells us that God IS time and obviously God cannot be "outside himself".

Different types of "experience"

You may have noted that above we classified experience as being Yin to consciousness, and thus correlates with belief, not knowledge. This is true in that particular relationship, but concepts can appear in multiple dualities in more specific forms due to the nesting of the UP.

In the relationship of *consciousness/experience* or *observer/observed* the context is maximally broad. Here, we are defining experience as illusion *relative to* consciousness. Note these are *complementary dualities*, which means there is no range of possibilities between them.

In the context of *knowledge/belief* we are contrasting two different *types* of experience, direct and indirect. Knowledge is *direct experience*, belief is *indirect experience*. *Direct / indirect* is an *opposing duality*, so there is a range of possibilities. You can be anywhere on the spectrum between belief and knowledge of a particular truth.

Because we have had to add qualifiers to the word *experience*, we have narrowed the context and have increased the specificity. We're dealing with more specific types of experience. So this means we have descended the hierarchy of concepts.

In the example above, when someone tells you that "the ocean is over that hill", you then have indirect experience of the ocean's existence. You have direct experience of the statement being made by that person, but you only have indirect experience of the ocean, because it has come via that third-party.

In this case, because *indirect* is Yin, then belief is the Yin form of experience and knowledge is the Yang form.

Because *direct / indirect* is an *opposing* duality, it creates a range / spectrum of possibilities, so an individual experience can be anywhere in between the two. A *relatively direct* experience can be mistaken. For example, you might walk over the hill and think you see the ocean, but after more investigation find out it's just a big lake, or a mirage.

So, direct experience does not necessarily equate to knowledge, it can be mistaken, but knowledge does necessarily rely on direct experience. I suggest we could categorise the concepts as follows:

```
One (root category) = Consciousness, the individual, the subject
  - Yang (like One, verb) = (Being) consciousness
  - Yin (Not like One, noun) = (Having) experience
Now, we overlay the whole UP onto Yin, so it becomes One / the subject.
These are the two top sub-categories of Yin (relevant to this topic):
    - Yang (Direct)  = Direct experience, knowledge
    - Yin (indirect) = Indirect experience, belief
```

Non-physical experience

The most obvious form of direct-experience is something we have seen with our own (physical) eyes, but it is also possible to know things we can't see, such as how the concept of duality works. We gain this sort of experience by thinking things through for ourselves, and "seeing" them with the "mind's eye".

When we think things through, by applying logic to facts, we gain direct experience of them. It is possible to *know*, for example, whether the UP makes sense. The mind's eye is capable of *seeing concepts,* and their connections to other concepts. Checking for and making connections between concepts *is* thinking.

There is also a duality between experience of "things that are not me" (which includes both the outside world and the conceptual-framework), versus experience of "myself" (consciousness). That could also be added into the mix, but I'll leave the reader to contemplate that relationship.

Our Relationship to "God"

There is some confusion about our relationship to God which is sometimes expressed in terms of *dualism vs non-dualism*. Ultimately both these views can be true, it's a question of context and perspective.

Simplistically, "non-dualism" suggests everything is God, and so you and I are also God.

So, some would say that "we are God", and in a sense we are, but we need to define this carefully, lest we get ideas above our station and become insane. The basic relationship between us and the One category is explained by the top two (Yang/Heaven) levels of the UP which contain the top three principles. It also helps to further explain the nature of these archetypes.

"The dreamer dreams the dream"

Consider the relationship between yourself and your dreams (awake or asleep).
When we dream, we imagine ourselves in another (fictitious) world.

There are three categories of "stuff" we need to describe in this process, and they neatly correspond to what must be the three most fundamental verbs: to be, to do, and to have. It also corresponds to the most basic sentence structure: subject, verb, object (SVO).

1. The dreamer (One) - IS - (Subject)

This is the real you who has fallen asleep or is daydreaming, the individual / consciousness.

The individual is defined by its existence: "I am". The defining quality of consciousness is that it exists.
So, this is presumably why the phrase "I am" is considered to be the "name of God".

2. The dream self (Yang) - DOES - (Verb)

This is the fictitious you that you are imagining / dreaming.
It's not the real you, it's an altered / limited version, suitable for the purposes of the dream.

Yang is a *reflection* of One. (We'll come back to the *reflection operator* shortly)

E.g. you might imagine yourself playing football, or riding a bike.
An action / activity / dream-character is defined by what it DOES.

3. The dream world (Yin) - HAS - (Object)

This is the fictitious world Yang is inhabiting and experiencing.
This is the environment, constructed for the purposes of the dream. Yin is a *reflection* of Yang.

E.g. the football field and other players, or the street you're cycling along.
A physical object or environment is defined by what properties it HAS.

The "holy trinity" of subject - verb - object

These top three categories could possibly be the origin of the religious notion of a "holy trinity":
Perhaps: Father (One), Son (Yang), and Holy-Spirit (Yin)

This is the archetype of the most basic sentence, such as:
"The dreamer dreams the dream".

It's the *subject-verb-object* (SVO) sentence structure, the most elementary form of a complete sentence in which something happens. I.e. "I am" is a valid sentence, but the only thing that is happening is "being". If we want to fully convey "doing something", we need these three elements.

"The creator creates the creation.", "The worker does the work.", and so on.

Characters in a dream

So, we are according to this definition, something like "God's dream characters".

Our consciousness is "lent" to us by the original consciousness. He could presumably decide to stop "dreaming us up" if he got bored. So, I guess we should try to be as interesting as possible.

That concludes the section on duality. I hope the reality and usefulness of this concept is now clear.

3. Avoiding Paradox

The UP says nothing fundamental, or truly *real*, can be a paradox. Things in reality have to make sense, and everything happens by cause and effect, aka *the law of causality*.

- Paradoxes are *conceptually invalid*.
- They cannot exist in (a coherent) thought or in physical reality.

This principle is a very powerful tool for analysis. We can immediately discount any ideas which are not internally consistent. Here are some examples.

Paradoxes in Mathematics

An "infinite number"

The concept of infinity is often poorly understood, even by mathematicians, leading to paradoxical ideas like "an infinite number", which is a commonly used phrase that is nonsensical.

- There is no such thing as an "infinite number". The phrase is an oxymoron.

"Numbers" and "infinities" are different classes of thing. Numbers *derive from* infinities. Numbers are always finite, no number is infinite. It's impossible to write / construct an infinite number.

To truly understand infinity, we have to consider the duality of *discrete / continuous*.

- Discrete things are always finite. Continua are always infinite.
- There cannot be infinite *discrete* objects, of any sort, *by definition*.

Continua are the only true form of infinity, and are "Yang" (continuous, "the measured", quality).
Numbers are primarily categorised as "Yin" (discrete, "the measurement", quantity).

(Note, continua need not be strictly "without end", they can be contained.)

I believe that the UP's treatment of the concept of infinity goes some way towards solving some paradoxes of infinity, such as "Hilbert's Hotel" and "Galileo's Paradox". E.g. Hilbert's Hotel cannot possibly contain an infinite number of rooms, because rooms are discrete.

An "infinite set"

It is said that "the set of all integers is infinite". But again, this is a *malformed* concept. A "set" is a collection or group, these concepts must always be finite, by definition.

A "set of" implies a number. A set is a collection of discrete items. So, the phrase "infinite set" is basically the same as "infinite number". The general idea of an "infinite set" is thus an oxymoron.

It could be argued that it's just a poor choice of terminology, but it causes a lot of confusion. We should try to avoid using confusing terms like this, especially in science and mathematics where precision is important. If we were to say something like "integer number-space is infinite", that might be better.

The "set of all real numbers contains an infinite number of objects".

Putting aside the above, this kind of statement contains another issue.

The problem with this is that it misses the essential nature of a true infinity, which is that it must be a continuum. Really, the "set of real numbers" must contain only a *single object*, an infinitely divisible continuum.

How we perceive these concepts makes all the difference to our understanding of them.

A "space" can be infinite because it implies a continuum, but a "set" is always finite, at least if we interpret that word conventionally. So, a "number space" could be better terminology.

The above analysis derives relatively easily from the properties and rules of duality.

- Yang is infinite, continuous, and comes first. It is "the measured" (and/or "the measurer").
- Yin is finite, discrete, and comes after. It is "the measurement".

This shows how a simple analysis using the rules of duality easily provides a new, clearer understanding of the concept of infinity. Not only that, it gives us the key to understand information itself.

We can cut right into the bones of reality with this realisation, and see it in its simplest, most basic form. This is as deep as it gets:

- A "continuum divided into discrete parts" is the fundamental form of *all information*.
- Everything that exists is made of a *divided continuum*.

Paradoxes in naive set theory

The simplest form of set theory ("naive set theory ") is prone to paradox.

Bertrand Russell's paradox exposes a fundamental issue in naive set theory. It revolves around the concept of the "set of all sets that don't contain themselves" and results in paradox.

- If this set does contain itself, then it is not a "set that doesn't contain itself", so it shouldn't.
- If this set does not contain itself, then it should.

So, there is no possible arrangement which can accommodate the proposed set.

This isn't essential to the topic in hand, but for the sake of clarity, I'll identify the solution to this problem.

Sets arranged in a hierarchy, where sets are contained by other sets, must follow two rules:

1. No set can contain itself. A set is a "container", and a container cannot contain itself.
2. Sub-sets must be more *specific* than the set containing them.

The hierarchy must be defined as going from more generic to more specific as it descends through the levels. It must be a *hierarchy of specificity*. This is how the UP is structured, and it is the only way to construct a logically consistent hierarchy.

An example of a hierarchy of sets that is non-paradoxical is the *taxonomic hierarchy* (or Linnaean hierarchy) which we use to categorise lifeforms into a series of nested ranks, including (from broadest to most specific): Domain, Kingdom, Phylum, Class, Order, Family, Genus, and Species.

The origin of numbers

Where do numbers come from, and how do they evolve?

The answer that is taught to students of mathematics is the "Von Neumann Construction", which is described as the "Set-theoretic definition of natural numbers".

https://en.wikipedia.org/wiki/Set-theoretic_definition_of_natural_numbers

This claims that numbers begin with zero, and that the number one is derived from it. So how does it work?

Summary of the argument:

- Take the concept of "nothing" / zero.
- Put it in an imaginary container called a "set", call it "the empty set" or "set zero".
- Wrap that in another set, call it "set one".
- Then claim that set one now contains "one thing", i.e. it contains the "empty set", set zero.
- And that's where the number one comes from.
- Higher numbers are then generated by iterating this process.

This process is explained by mathematician Marcus du Sautoy in a YouTube interview with Alex O'Connor titled "Do Numbers Exist?":

https://youtu.be/vCIAcOJFdiU?si=mPYibUEpYykNpPJ2&t=2175

The obvious objection is that common-sense tells us "you cannot get something from nothing". I.e. we cannot derive the concept of one from the concept of zero. So, where is the flaw in the reasoning?

The problem is as follows:

The process makes the assumption that it's reasonable to wrap the concept of nothing in a set, and call it "the empty set". But where does the concept of sets come from? There is no concept of "sets", "collections"

or "categories of stuff" included within the concept of zero/nothing.

In this process, the idea of "sets" must be imposed onto the concept of "nothing" from the outside, from a world in which the idea of sets makes sense. The concept of "zero" or "nothing" doesn't include the idea of "sets" or "collections", so that idea has to be introduced from somewhere else, i.e. from the "world of things".

So, this argument is flawed because it relies on concepts that are introduced from outside. To make it work we must add in concepts that the concept of nothing does not contain or imply. The concept of nothing does not lead to anything or imply "something". Nothing can be derived from it. Nothingness cannot become something by virtue of its own properties, because it has none.

Sets are not a neutral addition to the equation. They fundamentally change it. The concept of a "set" means "a collection" or "a number of things". So, this process is not deriving numbers from zero, it is introducing them along with the concept of sets. In other words, numbers are being "smuggled in" to the argument via the concept of sets.

The solution to this paradox is simple: numbers must begin, not with zero, but with *one*. This is why the UP begins at the One category, because it is the logically necessary origin of all concepts.

So, why do modern mathematicians insist on a paradoxical account of number evolution, that begins with zero, instead of using a non-paradoxical approach that starts with one?

I assume it's because the pre-existence of the number one is an undesirable situation for them. If they say that numbers all derive from one, that begs the question "where does one come from?". Note, logically, this is directly analogous to the question "If God exists, then where did he come from".

It turns out that it is impossible to account for the existence of the number one. Likewise, it is also impossible to account for the existence of a creator God. Conceptually, they both must have "always existed". Concepts have a natural structure to them, and this is where they lead.

This is a limitation of the conceptual framework itself. There's no way around it.

Paradoxes in Physics

Quantum mechanics (QM): wave / particle duality.

We need to separate the concepts of "wave" and "particle" because they are different categories, and a single thing can't strictly be both. It is argued that ontological categories do not apply to the quantum world in the same way the do in everyday life, but this is an extraordinary claim and causes paradox.

- A "particle" is a *substance*. (Physical substances categorise as "Earth".)
- A "wave" is a *motion*, i.e. in a substance. (Waves categorise as "Water".)

They are different classes of phenomenon.

- A wave is "energy", "motion" or "force". It is intangible, non-physical, and ACTIVE.
- A particle is tangible, physical matter which is PASSIVE.

A particle can "have energy". Passive matter is "activated" by energy.
These concepts form the fundamental complementary duality: *energy / matter* (Yang / Yin).

Understanding the duality of *energy / matter* is the *whole of physics*! But, most physicists are not even aware it is a conceptual duality. Without the rules and rigour of the UP, things get misclassified, and misunderstood.

Ultimately, a particle cannot be made of just "energy", it must also be made of a *substance*. The only substance it can conceivably be made of (that isn't smaller physical matter) is *information*.

Photons

Conceptually, the most fundamental form of light must travel as a wave in an underlying substrate (i.e. a "luminiferous aether"). I think it's true to say this is the only possible (rational) explanation. This explains why the physicists of the past believed there must be an aether, because it is logically necessary.

"Photons" may be a useful concept in some applications, but it's unlikely there is a photon particle in reality. However, it's not beyond the realms of possibility. If photons do exist though, they must be derived from a more fundamental reality in which they do not exist. I.e. there must still be an underlying form of light which travels as a wave in an aether, although we may not be able to detect it due to our size / scale.

Experiments which seem to show the existence of photon particles (e.g. double slit, photoelectric effect, Compton scattering) are probably misinterpreted. E.g. it is assumed that the electron has no internal structure, but this impossible. All physical objects have structure, that's what makes them "physical".

Light, energy and information

The UP says that light, energy, and information are fundamentally all the same thing, although the relationship between these ideas isn't without some complexity.

- All energy that exists is in the form of light. Light is the sole "carrier" or "expression" of energy.
- Light is a "divided continuum", so it is also information, as defined above.
- All matter emits light which contains information about its source.
- So, matter is constantly "informing" the universe about its activities, via its emissions.
- All matter also *receives* light from the universe, which "powers" it. It is a reciprocal relationship.
- The universe is therefore an "information network".

There's a lot to explore with these three concepts, I've only scratched the surface here. This gives rise to a simpler conception of "entropy" and "order", and physics in general. It also explains the "organising principle" and why stable structures form.

This ultimately explains the origin of all physical structure, and the existence of biological life, as all physical structures can be defined as "energy management machines". This is elaborated on in the section on physics, but for a more complete explanation see TMM.

QM: everything is quantised.

Quantum mechanics postulates that everything is quantised, even space and time, but this is impossible in principle. Quanta are discrete "packets" of stuff, and discrete things cannot be fundamental.

- Discrete, separate, quanta can only be created by dividing a continuum (substrate).

That is the only conceptually valid route to obtain any type of "discrete unit" of anything. All particles must be divided from an underlying continuum of some sort. Particles / matter must be made of a (relatively) continuous substrate.

QM: superposition

QM suggests matter / particles can have no fixed location and be in multiple places / states at the same time. However, these properties do not describe matter (the "Earth" category).

- Matter is: fixed, solid, and tangible.
- It always has a location and a (non-zero) size.
- It is always three-dimensional.

Superposition could possibly describe something that exists in reality, but it can't be physical matter.

The UP says that all physical realities are three-dimensional. There are no higher-dimensional physical objects. Mathematics can describe systems with more than three dimensions, but all physical things have exactly three spatial dimensions.

The UP does allow for nested 3D realities though, which is similar to the concept of a higher-dimensional system, but not quite the same. The UP does imply a kind of "multiverse", with multiple layers of reality coexisting and occupying the same space, but this is probably linked directly to *scale*, as opposed to being another dimension.

Einstein's general relativity

Relativity postulates there is no absolute reference frame, and everything is relative to everything else. However, this is conceptually invalid: the concept of "relative" depends on the concept of "absolute". There cannot (conceptually) be a "relative" without an "absolute". They are a duality.

To illustrate the concept, consider a simple graph drawn on some paper.

- Absolute (YANG): The origin point (0,0) is the absolute. It is the "provider" or "enabler" of the graph.
- Relative (YIN): The points plotted on the graph are all relative to the origin.

- The origin must exist before the data can be plotted: *leader / follower, first / second* etc.
- There's only ever one origin point, but there can be many data points. *one / many.*
- You can have the origin without the data, but not the reverse. *necessary / contingent, independent / dependent.*
- The origin point is *generic*, and offers only *potential*. The data points are *specific* and are *actual*.

Simply put, we cannot have a graph without an origin. The points on a graph can only be plotted relative to the origin, there is no other way to do it. Without the origin point, we cannot make a graph at all. So, we cannot have anything which is *relative* without an *absolute* it is relative to.

(As noted above, general relativity now treats acceleration as the absolute. This is feasible, but it's presently unclear to me whether it's strictly conceptually valid.)

Mathematicians may be able to invent ways to represent paradoxical ideas, but the rules of the UP say it cannot lead to any legitimate answers. It's fine as "entertainment", but it can't lead to genuine understanding. An "answer" must be logically coherent, it has to "make sense". Paradoxical answers aren't answers at all.

Curved space

As another example, Einstein's idea that "space can curve" also seems incoherent, unless we define space as something other than "emptiness". I.e. how could "nothing" bend?

The answer is that space is treated as if it is a geometric construct, rather than a physical reality. This implies that the universe is made of mathematics, which may be a reasonable supposition for an idealist, but seems less so for materialism. It also begs the question of what is the host or substrate which supports mathematics?

Allowing *apparent* paradox

A "golden rule" of the UP, is that "*paradox cannot exist in reality*". In other words, *everything works by logical processes.* This is true from the absolute reference-frame (the One category), but *apparent paradox* can exist, and that is classified as Yin.

Yin *is* paradox. She is the "lady of the lack", "absence", "nothing", "illusion". The concept of "nothing" is intrinsically paradoxical, as it cannot exist, and yet we can talk about it as if it did. Which elegantly exemplifies Yin's subtle nature.

Paradoxes can exist, but they are always an illusion from a higher perspective, and can always be resolved.

It's simulations "all the way down"

Note that this "golden rule" does not exclude things like "cheat codes" or "god mode" which may apparently "break the laws of physics" in a simulated reality.

The UP says that even "base reality" must be a simulation in the sense that there can be no reality in which matter is fundamental. All possible realities must be hosted as information within minds or machines.

This reality must also be a simulation, but it could be a man-made one, and it almost certainly contains aspects we are unaware of.

Some religious rituals seem designed to unlock "hidden features" etc. "Satanic" rituals are said to allow control of "demons". Computer operating systems have "background daemons" that hide away until you call for their services.

All of these things are, in principle, logical, mechanistic processes though. None of them could be truly "magical", "beyond logic", or inexplicable. The UP says everything that exists within the universe can be explained. The only thing that cannot be explained, even in principle, is the origin of the One category.

The Paradox of Materialism

Allow me to explain why philosophical "idealism" is the only logical option, if we want a coherent explanation of the universe.

Modern science is generally based on the assumption that the universe is made of matter, aka "materialism".

The UP says the universe is ultimately made of consciousness, as information, so it is "idealism".

Materialism is a form of philosophical monism which holds that matter is the fundamental substance in nature, and that all things, including mental states and consciousness, are results of material interactions of material things.

Materialism directly contrasts with monistic idealism, according to which consciousness is the fundamental substance of nature.

`https://en.wikipedia.org/wiki/Materialism`

Materialism / idealism is a duality. These views are opposites and there are no other possible options available. Reality must be one or the other, it can't be both, and it can't be something else. Either everything is made of tangible ("touchable") stuff, aka "matter", or it is made of intangible stuff, aka "spirit".

Here are three reasons why the paradigm of materialism fails as a basis for science.

1. Materialism can never define "matter".

The most basic question physics (*material* science) needs to answer is: **"What is matter?".**
But the materialist framework cannot answer this question.

We want a *definition of matter*. That has to be one of the main purposes of physics, right? To obtain that we need to answer two questions.

Q1. What is matter made of?
We want to know what the components of matter are (and how they are arranged).

Q2. Where does matter come from?
We also want to know its origin. Where does matter come from, what causes it to form?

For question 1, either:

a. It's made of tangible, physical things. I.e. smaller bits of matter.
b. It's made of intangible non-physical things. E.g. "quantum foam", "fields", "energy", etc.

Bear in mind that the concepts of tangible / intangible are a duality. Tangible is equivalent to "matter", intangible is equivalent to "spirit" or "not matter". Intangible things are, by definition, not matter.

I would argue that we can't understand the components of matter unless we can define their origins. To truly understand a thing, we have to know its cause, so we can say why it exists at all. So we can't really answer Q1 without answering Q2.

Option (a) leads to an infinite regression and/or "eternal matter".

If matter is made of smaller bits of matter, that's equivalent to "matter is made of matter" ("it's turtles all the way down"). It ultimately must suppose that matter has always existed in some form.

So, it can never answer either of our questions. It says:
Q1: *Matter is made of matter.*
Q2: *We can't say where matter came from because it always existed.*
- equivalent to: "*the origin of matter is beyond science*."

We see the evidence of this conundrum in science / philosophical debates. Materialists are forced by the natural structure of these concepts to posit some form of eternal matter. They have no other option. A popular version of this at present is the idea of a "cyclic universe" of "big-bangs" and "big-crunches".

Option (b) refutes materialism.

By definition, *intangible* things are *non-physical*, they are *not matter*. If matter is made of energy (or mathematics) then materialism is false, as neither of those things are matter.

If matter is made of "quantum foam", then what is that? Is it tangible matter, or is it intangible "probabilities" floating in a sea of mathematics? If it's the latter, then again, materialism is false.

The idea that "matter is fundamental" cannot be true. It requires that matter is "eternal", but that is impossible. Matter is discrete, and discrete things can only come from the division of a continuum. So, matter must have been divided from a continuum at some point in the past.

If something is inconceivable then it cannot exist, unless the universe is fundamentally paradoxical / illogical. But in that case, science is impossible (as explained above). One cannot argue that an idea is "scientific" if it invalidates the foundations of science.

The materialist position is untenable, and it results in the biggest question in physics simply being evaded. Materialism (perversely) makes matter impossible to understand. This is presumably why quantum mechanics has effectively abandoned the idea of a tangible physical universe, now suggesting an intangible mathematical / probabilistic one.

The UP clears all this up, and tells us:

Physical matter is made of information, and information is made of consciousness.

There is no logically complete / coherent alternative explanation.

Of course, it is true that idealism faces the similar problem that it must assume that consciousness is eternal. However, at least with idealism we can explain what matter is. Idealism allows us to explain much more of the universe than materialism does, it makes more *science* possible.

Idealism cannot explain the origin of consciousness, or anything in the One category, but this is an unavoidable hard constraint imposed by the conceptual-framework itself. It's also necessary as that absence of information is what allows the UP to be nested.

2. The existence of matter cannot be proven.

To put it simply:

- This reality could, in principle, be a simulation, and we would not be able to tell.
- Therefore the existence of matter is unprovable.

As explained in the section titled "Consciousness / experience" above, we can only determine that the world "apparently exists". We cannot prove it, it could be an illusion.

We only ever experience "information".

Consider:

- We never experience matter directly, only via our "senses".
- All sense-perception is information.
- All thought is information.

We perceive the world as information coming from our senses. We understand our senses via "ideas" and "knowledge", which is just more information. So, the whole of human experience can be described as "data-processing".

QM does seem to be converging on the conclusion that everything is made of information, but they're wasting a lot of time and money getting there.

3. Lack of explanatory ability

Matter can be made of information, but information cannot be made of matter.

Another problem is that materialism has very little explanatory ability. It cannot truly explain why things happen at a fundamental level, even in physics. It has no answers for the "big questions" in life, such as "what is matter?".

About four hundred years have passed since the "scientific enlightenment", and still:

- Physicists do not know what matter is.
- Philosophers cannot define "morality" or "free will".
- Mathematicians are still confused about "infinity".

- Dictionaries cannot define "logic".
- No one knows what "information" really is, or where mathematics comes from.

The predominant materialist ideology hasn't helped humanity answer any of these questions, and it can't. It has no explanations for anything because *information cannot be made from matter.*

To be clear, information can be *represented* and *conveyed* by matter, but it only becomes information when it is perceived / understood by a consciousness. At that point, the consciousness configures itself *into* the information, by *dividing itself* appropriately. Only a consciousness can *understand* information.

I'm not sure if the popularity of the materialist ideology is a symptom or a cause of the world's malaise, but it is certainly indicative of it.

4. Physical matter and the "Earth" category

This is a "bonus point", which comes out of the UP.

The UP allows us to objectively categorise concepts. It tells us what concepts really mean, by correlating them with all the other ideas in the same category. The ideas in a category all help define each other and provide more context. It is a natural, absolute categorisation, that is built into the structure of the conceptual framework itself.

Physical matter is categorised under "Earth", and correlates with ideas like "the result", "the product", and "the end". This tells us that matter conceptually cannot be a "beginning", because it's "the end". Of course, to explain things, you need to *start at the beginning* (which is the Fire category, "*desire"*.)

Also, all concepts in the Earth category are *passive*, they can't "do" anything.

The question word "what" is categorised under "Earth", so physical matter can only tell us "what is", it can't answer any other questions like "how" or "why". (This is explained in more detail in the "UP Theory" section.)

Materialism vs idealism

Let's explore some of the more commonly discussed conflicts between the two perspectives.

"Consciousness comes from matter"

Materialism says consciousness must be a product of matter.

Vast sums are being "invested" in "mind sciences" as people try to "crack the code of consciousness". It's a great example of how humanity is wasting its limited resources chasing cool-sounding impossibilities.

It's all back to front. Matter is the product of consciousness, and that is the only conceivable way it can work. To make a living consciousness from passive matter, there would have to be some *process or mechanism* which could do it, but:

- There is no conceivable mechanism which can produce consciousness.
- All mechanisms are deterministic, but consciousness can handle indeterminism.

It is simply impossible, even in principle, to get consciousness from mechanistic, deterministic matter. There can be no hypothesis for how mind can arise from matter. It's inconceivable.

(TMM explores why concepts like "emergence" do not solve the problem. It also discusses free-will and the duality of determinism vs indeterminism.)

The only way it can sort-of work is by defining matter to be something that is not matter. For example, the idea of "pantheism" in which all matter has a bit of consciousness. It still can't explain why that would be the case though, or what mechanism could give rise to that consciousness.

Consciousness and brains

A common argument from materialists for their view is:

"We only observe consciousness in brains made of matter."

In other words, we have *"no evidence of consciousness existing independently of matter".*
However, we can reverse this statement, and it applies equally both ways.

"We only ever observe matter with consciousness."

Only consciousnesses observe matter. The only evidence we have that matter exists is perceived indirectly, as information, within conscious minds. The fact that this argument works both ways around shows that no conclusions can be drawn from it.

Where did God come from?

The UP tells us that the God-concept is necessary. There is no way to explain the universe without an (ultimate) intelligent, intentional, conscious creator. It also says that the universe must be a mental construct which exists within (inside) God's mind. (Only things which are based in duality can have both an inside and an outside, One/unity can only have one side, i.e. an "inside".)

The objection most commonly given by materialists is that this model cannot explain where God came from. This is true, it can't explain that.

The origin of the host of this reality (which may be an artificial machine) is completely unknowable from within it. This information is outside the *scope* of what can be known from our perspective. We cannot see "outside the container".

However, as the UP explains, this absence of data in the conceptual framework about the origin of the One category is necessary for the system to function. If it did include that information, it would not be possible to nest the UP, and create sub-categories. It would be impossible to build a universe from it.

So, yes. This is a limitation of idealism, and the "God-hypothesis" in general. But it isn't quite the "gotcha" that materialists would like it to be. The origin of God is the only thing the UP (i.e. logic) cannot explain, but if we allow that, then we can explain everything else.

Materialism, on the other hand, cannot explain anything fundamental. It states that everything is made of matter, but can't explain its origin, or define what it is.

Materialism can explain many "downstream", derivative things, but only by making assumptions. We can even explain morality from a purely materialistic perspective, as a product of evolution, but only by assuming that the duality of conflict / cooperation exists in nature. I.e. it can't explain why that duality should exist, whereas the UP can.

This table compares what the two competing views are capable of explaining.

Can explain?	**Materialism**	**The UP**
The origin of the One category, God, consciousness, being, etc.	No	No
The origin of matter. What matter is. What it's made of.	No	Yes
Logic, mathematics, order.	No	Yes
Mind, morality, emotion, organic life, politics, everything else...	Yes, with assumptions.	Yes

What are "Concepts"?

The UP is a theory of information, and it is a theory of concepts as information is always conveyed in concepts. It defines what the most basic concepts are and how they are formed. But, what is a concept?

Having covered the basics of duality, we can define what a concept is clearly. The UP allows us to discover much better definitions for fundamental things than we usually find in modern dictionaries.

Common definitions are as follows:

concept
- a principle or idea

`https://dictionary.cambridge.org/dictionary/english/concept`

- something conceived in the mind : thought, notion
- an abstract or generic idea generalized from particular instances

`https://www.merriam-webster.com/dictionary/concept`

- A concept is an abstract idea that serves as a foundation for more concrete principles, thoughts, and beliefs.

`https://en.wikipedia.org/wiki/Concept`

Concept vs idea

Some sources treat ideas and concepts as synonyms, and I have used the terms interchangeably, but it is possible, and sometimes desirable, to differentiate them. However, how that is done is often not clear.

XAI / Grok (July 2025) says this:

A concept is a more formalized, abstract mental construct that categorizes or organizes information based on shared characteristics (e.g., the concept of "gravity"). While ideas can inspire or lead to concepts, concepts are typically more refined and systematic.

Stanford Encyclopedia of Philosophy says:

Concepts are the building blocks of thoughts. ... But the nature of concepts—the kind of things concepts are—and the constraints that govern a theory of concepts have been the subject of much debate ... This is due, at least in part, to the fact that disputes about concepts often reflect deeply opposing approaches to the study of the mind, to language, and even to philosophy itself.

`https://plato.stanford.edu/entries/concepts/`

I would suggest that the best way to define the terms is to use the Yin/Yang descriptors.

Concepts are more fundamental, they define singular (mental) objects, and are the building blocks for ideas.

Ideas are mixtures of concepts, they include multiple concepts and are dependent on their existence.

Generally speaking, the words and phrases we would find in a dictionary are concepts, and the sentences we build using those elements are ideas. Concepts are words, whereas ideas are sentences. Concepts / words are relatively simple in comparison with ideas / sentences.

So, in essence, concepts are the Yang provider for Yin ideas.

Divided consciousness

We made the following observations:

- The concept of finite/infinite is closely related to the concept of discrete/continuous (Yin/Yang).
The only true form of infinity is an (endlessly divisible) continuum.

- A "continuum divided into discrete parts" is the fundamental form of all information.
So, everything that exists is made of "a divided continuum".

- The origin of all things is the One category, which includes the concepts of "consciousness", "everything", "the whole", "the individual" and so on.
One is the most Yang category, therefore it must be a continuous phenomenon, not a discrete one.

So, everything that exists must be made of consciousness, divided into discrete parts.

Therefore, we can define the terms as so:

concept
- a single subdivision of consciousness
- a discrete packet of information describing a particular conscious state.

idea
- a mixture / combination of concepts

Concepts are singular, discrete mental objects which are divided from the continuum of consciousness. They convey, describe, or contain a specific state of consciousness. They are effectively "quantised consciousness".

Concepts are discrete packets of consciousness that has been divided into subject-specific chunks. Fundamental concepts are all 1D dualities, so are categorised as "Air". More complex, non-dual concepts (like "work") are 2D and categorise as "Water".

As *ideas* in this context are defined as *combinations* or *mixtures* of concepts then we can categorise them under "Earth", because *mixture* is the Sex operator, they must come after that.

An outline of how these fit together would be as follows:

Fire - 0D concepts, like "will" or "question"
Air - 1D concepts, dualities
Water - 2D concepts like "work" or "force"
Earth - 3D ideas, mixtures of the above, sentences

4. UP Theory

The Universal Plan

The UP is the broadest theory ever proposed, with the largest scope, being relevant to all branches of science and philosophy.

It states it is *logically necessary* that:

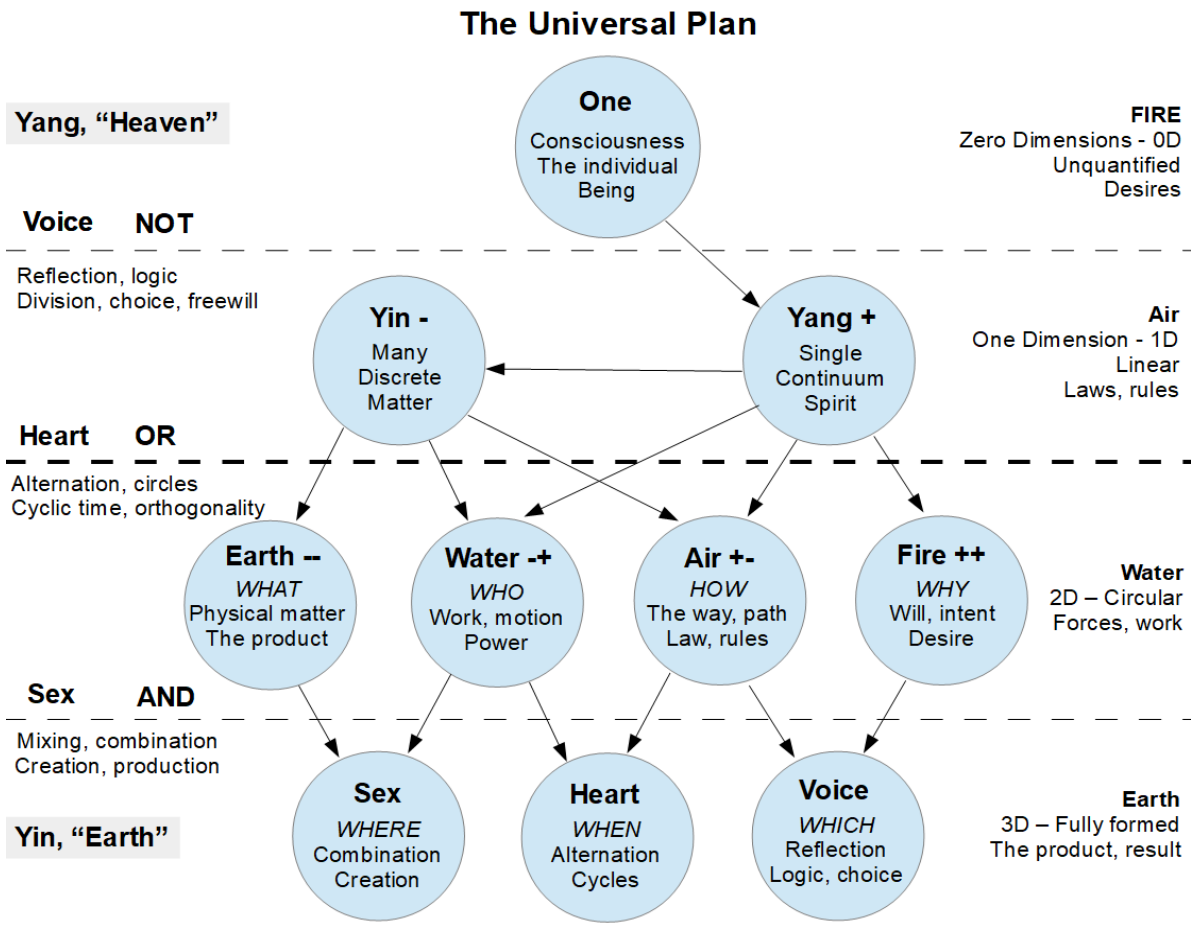
- Consciousness is the primary substance which everything is made from (the "prima materia").
- The universe is made of *information / concepts,* which are discrete subdivisions of consciousness.
- There is a natural hierarchy of ten basic (ontological) categories of information ("stuff that exists").
- The lower nine categories derive from and describe the properties of the originating (One) category.

This structure I call the "Universal Plan", but it is probably the original "Philosopher's Stone". For an explanation of why I suspect this to be the case, please see TMM.

- The UP explains the underlying natural structure behind all information.
- It is a map, an algorithm, a framework, a recipe, and a story.
- It can be used as a tool to help analyse and understand *any natural phenomenon*.

The ten categories it contains can also be described as "principles", "archetypes", "super-concepts", "minds", and even "gods".

- These ten archetypes are the broadest, most general, most fundamental ideas that exist.
- They are the "provider-concepts", the foundation of thought and language.
- They form a "family" of concepts, with a hierarchy, and well-defined relationships.
- There are three Yang/Heaven archetypes, and seven Yin/Earth ones, separated by *Heart,* the *centre.*



The UP's Version of Idealism

There are essentially only two possible explanations of reality, materialism and idealism, and the former is impossible because it incurs paradox. (As explained in the section "The Paradox of Materialism".)

So, there is only one possible option, "idealism" must be true. The universe must be made of information, and it must exist in a mind, like a "dream", "imagining", or a "thought experiment". Thus, everything is made of "ideas", "concepts", "data".

The UP may at first sight look a bit "mystical", but it is actually the least mystical, "hardest" science that exists. It is better supported by evidence than any current scientific theory. The UP is the "gold-standard" that ideas can be judged by, and the solid foundation that science is currently lacking.

A map of the *conceptual framework*

The UP describes the fundamental natural framework of concepts that everything is made from.

- The UP is like the "operating system" of the universe.
- It's also the fundamental "data-type" of qualitative information.

The UP is a map of the underlying structure of logic, mind, information, language, concepts, thought, matter, and everything else.

- The hierarchy progresses from the top down, starting with the concept of "One".
- The dashed lines show the mechanisms / relationships which produce the next layer (NOT/OR/AND)
- One is the most generalised category, the three-operators at the bottom are the most specific.

UP theory suggests the entire process of creating the UP can be done computationally, as the mechanisms which transform concepts from one into the next are the well-known Boolean operators. However, in this context, the operators are processing *qualitative* data, as opposed to *quantitative* data.

This means the UP is also the foundation for a *computational theory of mind*.

Ten fundamental ontological categories

The diagram above is a list of *categories of information*, and the relationships between them. It's non-mysterious to the point of being almost mundane. It is incredibly simple, but it's also subtle and very deep.

Each of the ten categories can be described in plain language. Each of them correspond to well-understood, everyday concepts we are all familiar with, like "desire", "rules", "work", and so on.

The UP demystifies the concept of "spirit" and shows it is in fact quite ordinary and non-mysterious. Thus, it is able to unite the worlds of science and religion, naturally and easily. The UP is a map of the real "spirit world" which is simply the "world of concepts", aka the "conceptual framework", that we are all at least somewhat familiar with.

Against mysticism

While it may look "mystical", the UP's effect is to dispel and render obsolete all forms of mysticism, replacing them with *knowledge*. To be clear, the definition of "mysticism" used here is as follows:

mysticism
- the belief that the universe is fundamentally unknowable and mysterious.

In other words, mysticism states that the most fundamental category of "stuff that exists" (the One category) is beyond logic and human comprehension, and therefore cannot be described using plain language. This is a common belief in mystical traditions, including the Abrahamic religions.

"The Father is incomprehensible, the Son is incomprehensible, and the Holy Spirit is incomprehensible. And yet, they are not three incomprehensibles, but one incomprehensible."
Athanasian Creed (circa 5th-6th century, widely accepted in Western Christianity)

"His essence is incomprehensible; hence, his divinity far escapes all human perception."
John Calvin (from Institutes of the Christian Religion, Book I, Chapter 5)

The UP says the opposite. Some aspects of One may be hard to comprehend, such as the infinity of being eternal, or the sheer power of his mind. But the "essence" of God is comprehensible and can be defined, and

that is the very purpose of the universe. The concepts which describe him are simple, commonly-used concepts that we encounter in the course of our normal lives.

Mysticism is anathema to science because the assertion that reality is fundamentally unknowable undermines it, effectively stating obtaining ultimate knowledge is impossible.

Mysticism can be defined as the elevation of the concept of "mystery" to the status of God.

- The purpose of science is to know things about reality.
- The UP says all reality is knowable, and the purpose of the universe is to explain the concept of "one" which is "everything".
- Any ideology which *denies the possibility of knowledge* is, by this definition, "mysticism", and is "anti-science".

The UP is natural law

The UP describes the laws of nature. It is the fullest and best description of natural law that has ever been proposed. It removes all ambiguity from it, and makes it simple, rigorous, and accessible.

The term "natural law" is often used as a synonym of "morality", but the UP explains all natural laws, including the physical ones. Natural law in the context of the UP means "all the laws of nature", not just those relevant to social interactions.

As we will cover shortly, morality is the law of cooperation / society. It is the original basis for all forms of human law, and is the only possible source for their legitimacy. We can't explore this in much detail in this book, but a later one will deal specifically with that.

Natural law
- (Latin: ius naturale, lex naturalis) is a philosophical and legal theory that posits the existence of a set of inherent laws derived from nature and universal moral principles, which are discoverable through reason.

`https://en.wikipedia.org/wiki/Natural_law`

The UP explains all the laws of nature, both physical and spiritual.

Derivation of the UP

This is an overview, it doesn't include all the detailed arguments necessary to fully support it. That level of detail can be found in "The Mindlike Machine".

The UP is derived from simple observation and reason. The basic steps in the derivation are as follows:

- Duality exists.
We can observe that duality is a fundamental principle of reality.

- If duality (two) exists then it must be preceded by unity (one).
The only way to explain the existence of duality is that it was derived from unity.

- Unity can't be preceded by anything. It must be the origin.
There is no conceivable explanation for the existence of unity within the conceptual framework.

That gives us the top two levels of the UP. The bottom two levels derive as follows:

- If duality exists then it must be followed by the four elements, which is a "duality of dualities".
If we only have duality to work with, the only possible next step is to apply duality to itself.

- The four elements have a natural order they appear in: FAWE. This maps to the human body.
We observe a natural order to the four elements in the states of matter, the human body, and in simple computation devices such as the Turing machine.

- Between the four-elements are three places where they mix, these are the "Three Operators".
We observe in the human body that there are three organs which allow for "transformations", and these correspond to the three basic Boolean operators.

Part 1 - duality, unity and reflection

Assume: the universe is made of information, not physical matter.

This is only notionally an assumption, it's really more of an observation. As explained previously, the existence of matter is *unprovable*, the existence of information is *undeniable*. Matter can only be made of information.

Observe: To have information we have to have at least two things, like "on/off" or "true/false".

The "information technology" infrastructure of the world runs on binary "switches" that can be either on or off. Binary is the simplest form of information we can imagine.

Observe: The concept of duality underlies all forms of information.

Yin -	**Yang +**
0, off, false, negative	1, on, true, positive
data, nouns, objects	instructions, verbs, actions
quantities (numbers)	qualities (properties)
passive, static, matter	active, changing, spirit

Information can only be about "differences" or "comparisons". The concepts of "difference", "distance", "comparison", and "relationship" all depend on the existence of the underlying concept of duality.

Reasoning: a hierarchy of concepts.

If ideas like binary, distance, or temperature *depend* on the existence of duality, then duality is like a "parent concept".

- There must be a *hierarchy* of concepts, as some depend on others.
- The concept of duality must exist *before* these (more specific) ideas can be defined.
- Broader, more general concepts must exist before more specific ones can be defined.

So we have ***a hierarchy of specificity***.
Concepts start out with the most general ideas, and progress down the hierarchy to become more specific.

Reasoning: duality cannot be the first concept.

- Duality is equivalent to the number two.
- But two is "two ones", so it depends on the concept of "one".
- So, "one" must be the parent concept of "two".

Observe: The concept of "one" doesn't have any conceivable origin.

There doesn't seem to be any way to account for the existence of "one". There is no information contained within the conceptual framework which can explain its origin. (I.e. unlike "two" which is obviously made of two ones.)

- One can't be made of components, instead it *is* the most basic component.
- There's no obvious cause for it, no place it could have "come from". It "just is".

Therefore, One must be the top of the hierarchy. The original / first concept.

Note: hierarchy and nesting.

I know I said the UP was intended to dispel all mysteries, but the origin of One is mysterious. This is the only mystery the UP contains, and it's actually necessary for the system to function. The absence of information on the origin of One is actually a necessary feature, not a bug. It is the feature that allows the UP to be *nested*.

That means that other things can occupy the "One" category, not just the original creator. As we saw above when defining more specific types of experience, Yin takes the place of One, and its subcategories are Yin and Yang, again.

As another example, when you create a cup of tea, you are the One category, you are the creator.

When we analyse any of the other archetypes in the UP in detail, we find a copy of the whole UP embedded within it. The UP is a *fractal* structure. For example, if we want to understand the Fire / desire category, we put Fire in the One category, and then we can describe a Yin and Yang of Fire, a Four-Elements of Fire, and

so on.

Without this nesting ability, there could be no creation. If the One category explained its origin, this would not be possible. So, the origin of One has to be unknown for creation to proceed.

Another way of putting it is: everything that exists is One from its own perspective, and contains a copy of the whole UP. When we look at any individual thing in detail, it occupies the One category, and its contents are described by the lower nine archetypes.

This implies that the UP may be *indivisible*, at least within most contexts. I.e. everything that exists has a complete copy of the UP inside it, it contains all ten principles. This interpretation remains to be proven though, it needs more thought and examples.

One is "everything".

As it's at the top, and concepts get more generalised toward the top of the hierarchy. "One" must be the broadest, most general of all concepts. So, it naturally contains ideas like "the whole" / "everything". From your perspective, you are the One category, and you are "everything". Everything you are and experience is contained within you.

"The number one" seems to be the simplest idea of all, and yet it contains all the other numbers, and indeed the whole of creation, *in potential*. (Yang = potential, Yin = actual.) All the lower nine categories exist within the One category, but only in potential form. Only when they are *expressed* do they become actual.

The reflection operator, NOT

Question: How does "One" become "Two"?

The only tool available to a mind is logic. All minds operate according to the rules of logic. That is the only possible way for a mind to do things. This is why everything in the universe occurs by logical processes.

(Note, this means that God is *not* capable of acting outside of logic, which means he is not "omnipotent" in the way that some religions believe. However, this is not a "weakness" or limitation, see TMM.)

What logical mechanism could create the concept of duality from unity?

Observe: The concept of "reflection" fits here.

There's only one possible candidate idea which can perform this function: *reflection*.

For example, you are an individual / one. The simplest way to create a duplicate of yourself is to look in a mirror. When you do this there are now two of you, only one is real (Yang) and the other is "just" a reflection (Yin). The real you IS you, the reflection is NOT you. The real you is relatively permanent, the reflection is temporary, and so on.

This is how duality is created from unity, via the *reflection operator*, the Boolean NOT.

The concept of reflection, at least in the English language, includes reflection as in a mirror, and *thought.*

When we think about things we can say we are "reflecting" on them, and this is a good description of what is happening. When we "reflect on our performance" we are reviewing the past, by "bending it back" into the present. We can also "reflect on our future", so the meaning is not limited to just thinking about the past.

reflect
- To throw or bend back (light or sound, for example) from a surface.
- to think about something
- from Latin reflectere "to bend back" from re- "back" (see re-) + flectere "to bend"

To summarise, One creates two via a generalised (qualitative) version of the logical NOT operator. This operator inverts / reflects a concept into it's opposite. Duality is NOT unity. Two is NOT one, it is a *reflection* of one.

The reflection operator / NOT is categorised in the UP as the *Voice* principle which is associated with concepts like logic, reasoning, thought, negation, free-will, and choice. TMM explains that free-will is a process, which is *initiated* by employing the NOT operator.

The Voice principle sits between the elements of Fire (will, desire) and Air (law, rules, plans). Its function is to transform will into law, desires into plans. Just as a human voice is used to express our desires, and once they have been spoken they become "law". For example: "I would like a cup of tea please" is your *voice*

expressing your *desire* and making it into a *law*.

Summary of the "Heaven Archetypes"

We can refer to the three concepts of One, Yang, and Yin as the Yang / Heaven archetypes because they have Yang properties and exist in contrast with the lower seven which are Yin / Earth. There is a natural duality between the top and bottom halves of the UP.

Note that the ten concepts in the UP are explanations of each other, they reference and describe each other, and how they are derived. It is a self-referencing and self-documenting system. It has to be this way because they are the most foundational concepts, and there is nothing else to refer to, but each other.

It will take a little while to absorb this information. Even though the components are quite simple, the connections between them are quite elaborate and subtle.

So, we now have the three "Yang/Heaven" concepts identified and generally described:

- **One**, the origin concept, "everything".

- **Yang**, the set of "positive" properties, the (active) reflection of One.

- **Yin**, the set of "negative" properties., a reflection of Yang.

We have also started to define these "Yin/Earth" concepts.

- **Logic** / reflection / negation / NOT (the "Voice" archetype).

- **Duality**, defined as *both* Yin and Yang (the "Air" archetype).

You may wonder why logic / reflection isn't categorised in the top half of the UP, as it is employed right at the beginning to create Yin and Yang. Instead, it is categorised as Voice which is right at the bottom level of the UP.

A short answer is that it is not possible to *define* logic properly until then. It has to be defined as the transformation between Fire and Air to make sense. It *exists* right at the beginning, but it can only be *defined* properly at the end. There's much more to it than that though. The UP is packed with meaning and full of interesting things to be discovered.

Part 2 - The four elements and the heart

At this stage the only concept we have to build with is duality. If we want to expand the hierarchy, all we can do is create a "duality of dualities". That creates four new categories, aka the "four elements" (4E).

I was taught at school that idea of the four elements of Alchemy was "primitive science that had been proven wrong". Modern scientists laugh at the idea and use it as an example of the amazing progress we have made in modern times.

It is clear why alchemy was doomed to fail: it was based on a misunderstanding of basic chemistry and physics. Alchemists based their theories and experiments on the Aristotelian assumption that the world and everything in it are composed of four basic elements (air, earth, fire and water)

`https://www.livescience.com/39314-alchemy.html`

When I was taught this at school, I felt that maybe they had missed the point, and the UP shows just how much they missed it by. The four elements were never supposed to be considered as physical phenomena, they are principles, concepts, and *categories*.

When the alchemists said that everything was made of the four elements, they meant that everything contains (at least) four different categories of "stuff". They did not mean that everything contains physical fire, air, water and earth.

Note that this very simple relationship between duality and the classical four-elements is another very simple relationship that has apparently been overlooked, even by Taoism, which seems much less clear on how their five elements evolve.

Duality, combined with itself, creates four sub-categories.

The four elements are derived as a *duality of dualities*. This explains why there are four traditional elements, as 2 x 2 = 4.

We can describe the properties of the four-elements according to their specific combination of Yin/Yang properties, as in the table below.

So, the properties of the four elements aren't simply "plucked out of the air" seemingly arbitrarily, they are derived directly from the properties of Yang and Yin. We can fully predict their nature from their parents' characteristics.

Again, it's a very simple relationship. There really is no room for interpretation.

- Each of the 4E has a Yin and a Yang characteristic ("property", "aspect", or "chromosome").
- Those characteristics can be either Yin or Yang.

- An element's Yin characteristic defines how "solid", "tangible" or "physical" it is.
- The Yang characteristic defines how "active" or "changing" it is. "Not changing" is equivalent to "having a fixed form".

		- Yin Aspect: Tangible **PHYSICALITY - Yin**	**+ Yang Aspect: Active** **ACTIVITY / FORM - Yang**	**Concept**
Cat 1 **FIRE**	+ +	**Yang / Yang** Intangible, Formless, Active, Changing		Will / Desire
Cat 2 **AIR**	+ -	**Yang** Physical aspect is intangible. You can't touch information.	**Yin** Activity aspect is inactive / unchanging. Information has fixed shape / form.	Information / Design / Thought / Path
Cat 3 **WATER**	- +	**Yin** Physical aspect is tangible. You can feel a force.	**Yang** Activity aspect is active / changeable, so has no form. Force has no shape.	Action / Force / Ability
Cat 4 **EARTH**	- -	**Yin / Yin** Tangible, Solid, Having Form, Inactive, Unchanging		Matter / Product

The properties of the four elements (4E) are strictly defined by their own specific combination of Yin/Yang properties. They are broad concepts, but they are precise and relatively specific.

The 4E provide us with a *more detailed explanation* of Yin and Yang. They compare and contrast duality against itself in all possible combinations in order to explain it in more depth.

The alternation operator, OR

The Heart principle describes the *alternation operator*, OR. This is the mechanism that creates this "duality of dualities". It provides "alternative paths" to follow. You can go this way, OR that way. You can have this property OR that property.

This is relatively complex in comparison with Voice / NOT. While the NOT operator only requires a single input source, OR requires two.

The Heart principle is so named because it aligns with the physical heart when we overlay the 4E over the human body, and the correspondence is excellent and informative, as it is with all of them.

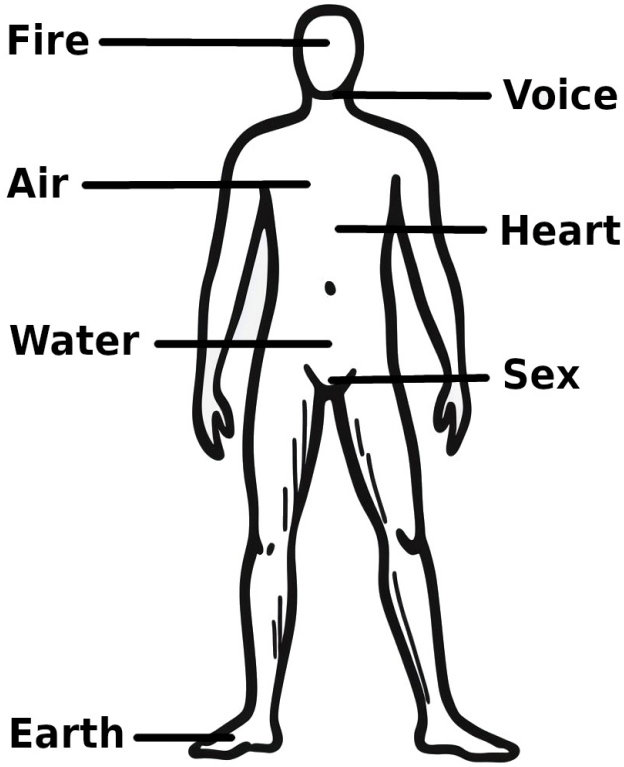
- The Heart principle underlies concepts like "the circle", "cycles", "orthogonality", and "repetition".
- It is the origin of cyclic measured-time.
- It is the kind of "alternation" that allows an electrical generator (alternator) to work.
- In the context of free will, it allows for the existence of *alternative choices*.
- The Heart is the *centre* (core/coeur) of a man, and of the UP.

Part 3 - Sex and the Three Operators

The four elements have a natural order (FAWE), which matches the body, the four traditional states of matter, and defines the universal creation process. It also matches the four parts of an instruction required to create the simplest computing device, and various other natural phenomena.

If we overlay the 4E onto the human body, we find they appear in the same order as the states of matter. They correlate perfectly with the body parts they align with.

In between the 4E, where they mix, we find the three operators (3Ops), Voice, Heart, and Sex. I could perhaps have given the Sex principle another name, but it is accurate. Also, it is the sixth principle, when counting down from the head, and the words six and sex are etymologically linked.



Element	Body Part
Fire State: Plasma = Electricity Will, Desire, Intent	**Brain** Runs on electricity Seat of consciousness, will.
Air State: Gas Law, Plan, Rules, Decisions	**Lungs** Runs on air (Note: People sigh when making decisions.)
Water State: Liquid Force, power, activity, strength, ability	**Stomach** Runs on water (mainly) Stomach is source of your strength / health.
Earth State: Solid Matter, solid objects, product,	**Limbs** Legs run on earth (pun intended) Limbs interface with physical matter.

In the human body, between the four-elements, we find three "creation centres", three body parts with "powers" / "abilities". If we consider the properties of these three parts, we find they are a mixture of the elements above and below.

Name	Mixture	Between	Organ	Function	Mechanism	Logic
"Voice"	Fire + Air	Brain + Lungs	Mouth	Voice, speech, choice	Reflection	NOT
"Heart"	Air + Water	Lungs + Stomach	Heart	Cycles, time	Alternation	OR
"Sex"	Earth + Water	Stomach + Legs	Genitals	Creation	Combination	AND

Voice mixes Fire and Air, (Will and Law) – Reflection
Your voice expresses your will, as "law" aka "decisions", "choices".

Heart mixes Air and Water, (Law and Action) – Alternation
Blood is a mixture of physical air and water, and of Law and Action.
It enables you to enact your choices, and provides the timing.

Sex mixes Earth and Water, (Matter and Action) – Combination
This is "matter in motion", it is "mixing", "creation", "production", "making".
These three operators are all made by this *mixing* process.

Three mechanisms

We can also view them as follows:

Principle	Operator	Mechanism	Description
Voice	NOT Negation Comparison	**Reflection**	**Mechanism allowing THOUGHT** Logic, comparison, division, reflection. Allows choice, free-will, decision.
Heart	OR Disjunction Exclusion	**Alternation**	**Mechanism allowing ACTION** Alternative paths and places. Cyclic time. Allows circularity, oscillation, waves, work, forces.
Sex	AND Conjunction Combination	**Combination**	**Mechanism of CREATION** Mixing, joining. Allows construction, fabrication, creation, reproduction

This completes the process. That is how the UP is derived. It really is that simple.

It may not seem obvious yet how this very abstract set of ideas might translate into something practical, but bear with me. It is a very different approach to solving the problem of the TOE, and it provides a unique perspective on reality, it will take some time to sink in.

A Universal Process of Creation

The UP is the most incredibly efficient, minimalist, parsimonious explanation of reality conceivable. It is a *self-documenting* system which describes a *single universal process* by which everything is created, including itself.

Nature is the most efficient machine conceivable, and the UP is the epitome of it.

Perhaps the biggest obstacle anyone will face when trying to understand the UP is not that it is too complex for the human mind to comprehend, but the opposite. It is the UP's mind-bending simplicity that will cause many to struggle to grasp it.

The whole creation process is explained by just seven archetypes, or stages. These are the "Earth" principles, and they present as a "story", a "process", a "recipe", or an "algorithm".

Note that the UP can explain why there are seven days in the week, and why one of them is considered a passive / rest day (Earth). No modern religion can do that. The UP owns the ground that is currently claimed by these faiths. The UP contains and explains the true meaning, the deep content, whereas the modern religions retain only shallow remnants of this knowledge.

The fact that the Bible, and the working week, refer to seven days of creation is clear evidence that the UP was once common knowledge. It is the foundation of the science that came to be known as "Alchemy", and it is the original and true identity of the fabled "Philosopher's Stone".

This is good evidence for its validity, although such evidence is somewhat superfluous given that fact that the UP is logically necessary. It really couldn't be any other way. There is no other way to explain the existence of the universe, and ourselves.

It is my belief that the UP was once the unified science and religion of the whole world. It is the culture that gave rise to the Golden Age, but it only persisted into the modern age hidden under the guise of Alchemy. Its true origin and meaning had been lost for the entirety of the current age, but the time has come for it to return, and hopefully lead humanity back toward the light.

The seven days of creation

Here's the list of the seven Earth principles, in order. This table explains the logical process of how the UP was created by the original "One", and they describe a *universal process of creation*. All creation events take this same form.

There are some subtleties to the process which are not covered below, this is a general overview.

Stage / Element	Description
Fire - 0 dimensions (0D) Will, desire	**One** The generic, singular, "parent" concept. The origin / beginning.
Voice Choice, reasoning, thought	**One is reflected into Two.** Mechanism: Logic, reflect, mirror, invert, think, choose.
Air - 1D Law, rules, plans, designs	**Two: is duality. Yang and Yin.** Properties, difference, distance. The beginning of information.
Heart Alternation, cycles, timing	**Two is alternated into Four** Mechanism: Alternation. Alternative paths / options. Orthogonality.
Water - 2D Work, action, force	**Four: is the four-elements.** Action, power, strength, ability, force (fours), fortitude, FAWE.
Sex Mixing, combination	**The Four-elements are mixed (joined), making seven.** Mechanism: Mixture, combination, joining.
Earth - 3D Product, result	**Seven: is the "seven principles"** This is the final level, which combines all the above into one archetype.

We have something like four "nouns" or "facts" (the 4E), joined by three "verbs" or "conjunctions" (the 3Ops). So, this sequence of "words" is a "sentence".

We can use this template as a tool to figure out how natural systems work.
Everything is made according to this set of rules, in some way.

For example, in the "Mindlike Machine" it's used as a basis to analyse how we see colour. It results in a new theory of colour vision, and a new theory of the prism, both of which arguably explain the phenomena better than present theories do. (The UP's colour theory is summarised later on in this book.)

Creating some toast

The UP can create any conceivable thing, and it applies in every case of creation / production. It is a "machine". It is powered by energy, has multiple coordinated parts, and creates a product.

When we fulfil a simple desire, like hunger, we must follow these seven basic steps. Every act of creation must include all seven categories of "stuff".

Stage	Description	Example
Fire Desire - WHY	The first stage of creation is to want something.	I am hungry. I desire food.
Voice Choice - WHICH	You must decide what to do to fulfil your desire.	Which food should I eat?

Air Law - HOW	When you have decided, you have a plan.	I'll make some toast.
Heart Alternation - WHEN	Timing. You have two alternate paths. Make the toast now, or delay?	I'll do it after this.
Water Work - WHO	This category describes the work being done.	At work, making the toast
Sex Mixing - WHERE	The act of creation where ingredients are mixed and joined together.	Bread + toaster + butter etc...
Earth Product - WHAT	The final product. The result. The object of desire.	The toast is made and eaten. Desire is fulfilled.

Two Patterns of FAWE

Four different things can be arranged in 24 different permutations (4!, four factorial), although half of the set is mirror images of the other half, so there are really 12 unique arrangements. However, so far, I've only encountered the elements arranged in two different orders, although the **FAWE** pattern does also appear in reverse form.

I suspect that these two arrangements are a duality, and the other ten possible arrangements are not found in nature because they are unnecessary.

These two patterns are probably best described as the duality of *form / function*, although more examples and analyses are required to establish whether this is truly the best way to describe them.

- Form: FAWE / EWAF
- Function: WFAE

So, this would imply that **WFAE** is the Yang pattern, as it only appears in a single form and represents *function*, which is active.

FAWE also appears reversed as **EWAF,** and represents *form*, which is passive, so it must be Yin.

FAWE: "Creation"

This pattern defines how things are created, or at least how that process looks on the outside. It seems to define the "*form* of creation", or something like that. The direction Fire to Earth describes a process that transforms desire into a product, like making tea, or a universe. It describes will being transformed, via work, into matter.

The order is **FAWE**, it appears in:
- The human body layout.
- The states of matter.
- Relational database structure.

Stage	Description	Part	Body	Database	Matter
1. Fire	Desire	I want a drink	Head	Database	Plasma
2. Air	Design / Plan	"I will make a cup of tea"	Lungs	Table	Gas
3. Water	Work	I make some tea	Gut	Column	Liquid
4. Earth	Result	I now have some tea.	Legs	Row	Solid

EWAF: "Decision" / "Work"

The reverse of the pattern above is **EWAF**.

Earth to Fire describes a process that "transforms matter into will", i.e. like making a decision prompted by events in the environment. When you make a decision you create a new desire (direction) based on material facts. It has the form of being the reverse of the creation process described above.

In order to make a decision, the facts of the matter must be considered and converted via a choice into a will / intent. This is the same form as an instruction for the universal-computer (Turing machine). It also turns out to be the pattern for work in general, so **EWAF** is the "universal-form" of work and choice:

Stage	Description	Part	Battery / Work
1. Earth	Data / facts	INPUT: Gather the information you need	Discharged Spade empty
2. Water	Order Data	PROCESS: Filter / prioritise the facts.	Charging Fill spade with dirt
3. Air	Plan / Law / Rule	CHOOSE: Decide which is the logical course of action	Charged Move spade to output area
4. Fire	New State / Motivation	OUTPUT: A new motivation / state / direction	Discharging Empty spade

The output of this process is not a tangible thing, but an intangible will / desire. For example, if after some deliberation you decide to sell your car, then it's true to say you "want to" sell your car, it's a desire. The effort of your deliberation resulted in an immaterial thing.

A Linear Cycle

In real life our acts of creation are usually prompted by the facts of the outside world. We do things in response to problems or situations we encounter. We react to the facts of the world. To represent this, we can combine the two lists above, in which case we can traverse this list going up & down:

Stage	Description	Example
Decision: EWAF...		
Earth	Situation, Problem	I am uncomfortable
Water	Discernment, Work	What is this feeling? (Search, filter, compare)
Air	Law, Judgement	I am thirsty.
Creation: FAWE		
Fire	Desire	I want a drink
Air	Law, Plan	I will make a cup of tea
Water	Physical Work	I make some tea
Earth	Result, Solution	I now have some tea.

WFAE: "Cycles"

The four also define the sine-wave / circle / seasons. In this form they appear in the order: **WFAE**.

The UP is a *qualitative* theory. It predicts that to understand any natural system we must identify the most fundamental qualities (properties) it has, *as we perceive it to be*. Our (direct) perceptions are qualitative, repeatable, and they are the best guide to reality.

Any point in a (sine) wave has only two properties relevant to the wave: *position* and *direction*. To make it simple, we can correlate the four quadrants of the wave with the seasons of the year. (See image below)

Position: Is it above or below zero?

Any point in a wave can be defined as being above or below the centre line or *zero*.

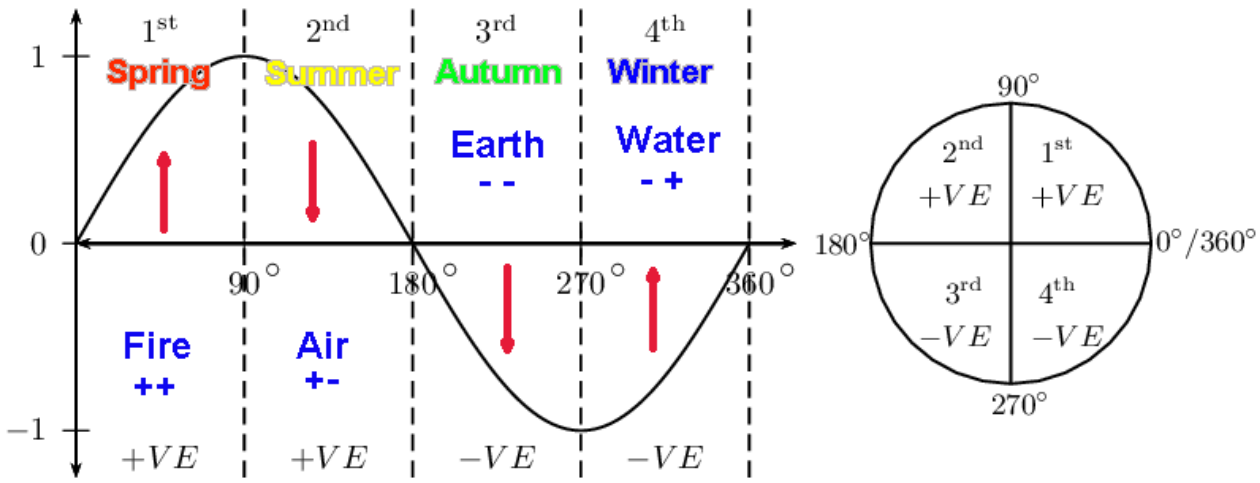
The position of any point on the wave can be either positive, above the (zero) centre-line, or negative, below it. In the seasons this represents a day-length of over or under 12 hours. In a compression wave this corresponds to pressure being above or below the ambient value.

Direction: Is it increasing or decreasing?

Any point in a wave can be defined as going up, or going down.

The wave's direction can be either positive, towards the top of the graph / wave, or negative, towards the bottom. In the seasons, this represents whether the day-length is increasing or decreasing. In a compression wave it corresponds to whether the pressure is increasing or decreasing.

Position and direction form a complementary duality of properties that describe a wave. Position is the passive result of direction which is the active part, so position is Yin, and direction is Yang. This is everything we need to classify it.



Note that the order shown in the diagram above begins with Fire / Spring, but the cycle naturally starts with Water / Winter. This becomes clear when we correlate this pattern with the stages of a human life.

This is probably why western cultures consider the winter solstice to be the beginning of the new year, as their belief systems were derived from Alchemy (which is probably the origin of "Paganism").

The stages of life

It is interesting to note that we can also correlate this wave-pattern with the stages of a human life. The three operators act as inflection points where things change in our lives.

Element	Season / Event	Stage of Life	Operators
Water	Winter	Childhood	
W + F	*Spring Equinox*	*Puberty*	Heart / systole / contraction
Fire	Spring	Young Adult	
F + A	*Summer Solstice*	*Becoming A Parent*	Voice, choice / free-will.
Air	Summer	Raising Family	
A + E	*Autumn Equinox*	*Family Have Grown Up*	Heart / diastole / relaxation
Earth	Autumn	Old Age	
E + W	*Winter Solstice*	*Death & Rebirth*	Sex, creation / mixing

This strongly implies that life is cyclical, and that reincarnation happens. The rules of the UP essentially

dictate, in many ways, that reincarnation must indeed be a fact. For example, if we consider the rules of duality we know that death is Yin, and Yin is temporary and an illusion. Spirit is permanent, matter is impermanent. Spirits cannot die. (See "The Mortality Simulator" for how this operates.)

At the very least it does explain why people may believe in reincarnation. There is a lot more evidence to support this view though. Please see TMM for more details.

This layout also reveals more details about the Heart operator.

In this cyclic pattern we see two of the three operators: Voice (F+A) aligns with becoming a parent, and Sex (E+W) aligns with death/rebirth. The Heart operator seems to be missing though, instead we find two combinations we have not seen before (W+F) "puberty" and (A+E) "family have grown up".

When I first discovered this I though perhaps they were new operators, but the way it actually works out is they are just different aspects of the function of the Heart. If we analogise the wave pattern to the beating of a heart then we find that these two combinations actually correspond to the two phases of the heart's operation, i.e. systole and diastole.

So, the Heart operator does indeed appear in this list, but in two places, as the systole (contraction) and diastole (relaxation) stages of each beat. This means that one year is like a single beat of the planetary heart. One human lifetime is like a single heartbeat to their spirit.

Conclusion

That is it. We have now covered the basics of the UP. It really is that simple. There are more details, more examples, and supporting arguments for the theory in TMM. Please refer to that book if you'd like to know more.

The next stage is to start using the theory to analyse some natural systems to see what it has to say about them, and whether it's of any practical use.

5. Applications

In this section we'll look at some of the results that come from applying the rules of the UP to a few natural phenomena.

A Universal Structure for Language

In TMM the UP is applied to analyse the phenomenon of language. It maps to the "parts of speech", and provides a means to unify computer and human language, showing they share the same underlying structure.

As far as I'm aware no one has ever tried to correlate the structure of human and computer languages before, but the UP makes it possible. In so doing it gives both of them greatly improved definition, allowing a better understanding of both.

In the table below, Computer Language is marked CL, Human Language is HL

We're not going to go into the details of how this mapping is derived here, it's a bit too long. See TMM for the full explanation.

The result of the analysis is that there are ten basic categories of word / concept, and they map to the UP as follows. The parts of speech it describes are largely the same as is currently recognised in academia, but there are some significant differences. Here, question words have their own category, there is a category for "timing" words which relate to verb-tenses, and "determiners" and "pronouns" both go in the Earth category.

In TMM determiners and pronouns in HL are correlated to assignments and variables in CL. For example, the determiner could be something like ($Cars=) "all the silver cars in London", the pronoun would be "they" in English, or "$Cars" in computer language.

<table>
<tr><td colspan="7">Level 1: One - Unity:
HL: "To be" / "I am"
CL: The executive: "run", "exec"...</td></tr>
<tr><td colspan="3">Yin - Matter, solid objects
HL: Noun
CL: Data</td><td colspan="4">Yang + Spirit, abstract objects
HL: Verb
CL: Instruction</td></tr>
<tr><td colspan="2">Earth --
HL: Determiners
CL: Assignments</td><td colspan="2">Water -+
HL: Adjectives
CL: Functions</td><td colspan="2">Air +-
HL: Adverbs
CL: Comparison</td><td>Fire ++
HL: Questions
CL: Flow control</td></tr>
<tr><td></td><td>Sex:
HL: Prepositions
CL: Math operators</td><td></td><td>Heart:
HL: Time-Joiners
CL: Code-blocks</td><td></td><td>Voice
HL: Conjugations
CL: Logic operators</td><td></td></tr>
</table>

The question words / interrogatives

This is a crucial set of correspondences. The seven question words correspond perfectly with the parts of speech, and when put together like this make much more sense, and explain each other better. It might take a little while to digest these correspondences though. The implications are profound.

Archetype	Includes concepts like...	Language
1. **Fire** Head	One: Will, desire, intent, direction, purpose, motivation. Zero dimensions. "Electricity".	Why Questions
2. **Voice**	NOT: Logic, reflection, inversion, choice, free-will. Reason, logos, nous, understanding.	Which Conjugations

3. **Air** Lungs	Two: Duality, relationship. Distance, difference. Information, knowledge, division. Law, plan, path, design, rules, judgement. One dimension. Qualities / properties.	How Adverbs
4. **Heart**	OR: Measured-time, alternation, repetition, oscillation, right-angles.	When Time-Joiners
5. **Water** Stomach	Four, the sine-wave, circles, cycles, seasons, waves. Action, motion, force, power, ability, work, people... Two dimensions. Quantities.	Who Adjectives
6. **Sex**	AND: Creation, (re)production, combination, mixing. "Earth in motion", so location.	Where Preposition
7. **Earth** Limbs	Seven / Eight. Product, result, reward, material wealth... Three dimensions. Solid objects.	What Determiners

In summary, this analysis indicates there are ten fundamental parts of speech, the purpose of which is to allow descriptions of the contents of the originating One category. Language exists to describe what "I am" means, what it is like to exist.

As the One category corresponds to "the individual", this suggests that proper nouns (names) should be categorised here. This is all open to discussion.

Mechanisms and Machines

To understand the following sections about the concept of "mind" and the "qualia processor", we need to examine the concepts related to "doing". The UP is a construct which was created to perform a function. It does things. So, how do we describe it?

Ultimately, the UP describes itself as a "machine", a system made of discrete parts which does work and produces an intended result. It can also be considered as a tool, which is an extension of a will. It also contains a series of mechanisms, and acts as a framework for knowledge.

Let's define our terms.

device:
- an object that has been devised, invented, contrived, to fulfil a particular purpose.
- from Old French deviser "arrange, plan, contrive," literally "dispose in portions," from Latin dividere "to divide"

There are a few closely related concepts which need categorisation so we can define them more clearly: Tool, mechanism, and machine. These are all different classes of device we use to manipulate matter and information.

tool
- a device that aids in accomplishing a task

machine
- a device designed do a particular type of work

mechanism
- a way of doing something that is planned or part of a system
- a method for converting one element into another (UP definition)

The concepts of tool and machine are conceptually distinct. A tool helps you do work, a machine does the work for you. A tool has to be guided by your will, it's an extension of it. A machine can be left to do its own thing, generally speaking. I suggest these concepts can be categorised into the 4E as follows:

F **Will / Why**	**Tool** Device with a single purpose. An instrument.	Sticks and stones Blades and hammers

	May have no moving parts	
A **Law / How**	**Mechanism** Device to transform / divide forces / elements Must include distance/separation of in/out forces	Lever, wheel, bearing, ratchet.
W **Work / Who**	**Machine** Device to do work. A collection of mechanisms. Includes moving parts, and always includes *rotation*.	Cart, car, watch, generator.
E **What**	**Frame / Foundation** Device that provides a reference point / foundation.	Machine casing, fulcrum Chair, workbench, road, walls.

In common usage, a mechanism can be a machine can be a tool, but the concepts have a different focus. "Tool" implies a single purpose, whereas "machine" implies motion. "Mechanism" implies method, "how", and "Frame" is "what".

When I was working on these definitions, after filling in the Fire, Air and Water categories, the empty Earth category told me there was something missing from the analysis. After some thought it became clear there was another type of device I hadn't yet considered, and it is actually crucial for a proper understanding.

Without the rigour of the UP and the four elements as a guide, we might not consider that the concept of a "framework" is so closely related to these other ideas and should be included here. One of the benefits of having the UP structure is that it shows us which categories exist, and need to be accounted for.

Framing

The Earth element is the concept of "frame". It is the framework of the machine, the fulcrum the lever acts against, or the casing the axle rotates within. The frame is an essential part of any device, and it is passive and solid, with no moving parts. It's the "frame of reference", and the fixed origin point around which all the mechanisms of the machine move.

Scientific theories, like the UP, are "frameworks". A body of knowledge, a set of beliefs, and "ideologies" are all frameworks we can use to aid in analysing a system or answering a question.

As shown in the section on language above, the Earth category contains determiners in HL (Human Language) and variables (assignments / values) in CL (Computer Language). So these concepts also can be described as a framing / frame of reference.

A "determiner" in HL, according to the UP, is a phrase which identifies a set of data, for example "all the people called George who live in New York", or "all Ford Mustangs built before 1980". The determiner phrase provides the set of data which later phrases can work with.

If we are talking about "all Ford Mustangs built before 1980", then the set of data it refers to is the Earth / foundation / framing of the remainder of the conversation. We can refer to it with a "pronoun", i.e. "they". This is equivalent to an assignment in computer code, where a variable (e.g. "$x") refers to a set of data.

The Earth category gives us a solid frame of reference which a machine can operate on, and is also the result (product, reward, value, etc.) of those operations. Note that the concept of "value" as in "wealth" and also as in "assignment" belongs in Earth.

Machines and rotation

A machine is a mixture of Yin and Yang, it has parts in motion around parts which are fixed. The fixed parts provide the solid reference point for the moving parts to move around, so they can transmit and transform the energy / information that is their input into whatever is the output.

The UP explains that all conceivable "machines" must include some form of rotation / alternation about a fixed point. The three "Heaven" archetypes describe linearity (straight lines), the lower seven "Earth" archetypes describe rotation. So, anything that is categorised below the Heart operator is necessarily circular and rotational.

(Note, in a computing context, a single bit of memory can be considered as rotating (alternation) between 0 and 1.)

A universal mechanism

If we consider the basic principle of the lever, we find it fits into the UP very well. I would suggest that this template describes a "universal mechanism", and all three of the basic mechanisms / operators can (probably) be described by it (the analysis has not yet been done to confirm the assumption).

F	Force, pressure, input, driving will.	The top two elements are "Heaven":
V	Reflection: Force is divided into two: Input and output.	LINEAR
A	**The "Stick" / "Lever"** Distance. The force is transmitted though a distance / difference.	Linear, straight, direct
H	Alternation: The force can go in another / alternative direction.	ORTHOGONAL
W	Motion: Rotation about a fulcrum / axis	The lower two are "Earth".
X	Mixing: Bearings / couplings. Join moving and fixed parts.	CIRCULAR
E	**The "Stone" / "Fulcrum"** The fulcrum / axis / frame.	Curved, indirect, rotational

Ten parts of mind

The UP defines the concept of "senses" as "the parts of a mind". It says that a mind is made of a collection of senses, and that senses are always part of a mind.

senses
- the component parts of a mind

We have both external and internal senses, such as the "sense of self" or a "sense of humour".

The UP allows us to categorise and correlate the physical and non-physical senses. It gives us some interesting insights, such as correlating memory with physical touch.

This is still a work in progress, and it really needs a full analysis including all possible types of desire, emotion, and feelings. That would take a lot of thought and would occupy a whole book though. So, please consider this a starting point for discussion rather than a definitive definition.

	Physical Sense	**Spiritual Sense / Mind**
One	**Sense of identity. "Me"** Being, consciousness, existence, awareness, self. The "mind's eye / I"	
Two	**Sense of "correctness". The Yin and Yang minds** Yin - Survival. The "mind of the body / matter", pleasure / pain Yang - Social. The "mind of reason", right / wrong	
Fire Will	Vision	**Sense of (non-physical) desire** Desire / will / intent / purpose / direction / ambition
Voice Choice	**Sense of Reason** Reflection, comparison, imagination, thinking, choice Logic, information-processing, language, communication	
Air Law	Hearing	**Sense of Knowledge / Law / Understanding** **Sense of Rules, Morality, Plan, Path** Understanding, intellect, judgement, rules, ideology, beliefs
Heart Time	**Sense of Time.** Future / past, timing, urgency, regret, hopes & fears	

Water Action	Smell / Taste	**Sense of Emotion** Emotions, feelings, ego, happiness, sadness, fear, jealousy, grief, etc.
Sex Creation	**Sexual-Desire / "Like" / "Attraction". Sense of Humour** (Sex is bringing two things together, and so is humour)	
Earth Matter	Touch / Pain etc.	**Sense of Memory. Physical desires / needs / urges** Memory, recognition, recall, facts and data. Hunger & thirst, health etc.

Many interesting observations emerge from this categorisation.

For example, it suggests that the sense of *identity*, i.e. the sense of being "me", is singular, universal, and undifferentiated. In other words, the sense of "me" feels the same for everyone. A beetle or a bacteria's sense of self feels exactly the same as mine, or yours, or God's.

All living things are united in that one way. We all feel like "me". Of course, all the other senses can be wildly different, but the sense of "being" feels the same for us all.

The Yin and Yang minds correspond to the idea of having a "devil" on one shoulder and an "angel" on the other, whispering into our ears. These conflicting minds give us the options of choice between the selfish and altruistic minds / survival strategies.

There is a lot more work to be done to fully categorise all the different aspects of mind / senses. This is just a starting point. I have not covered all the possibilities and there may be errors in the list. Hopefully though, it at least offers a different perspective that may be useful in the analysis.

The Mindlike Machine

The UP, among other things, describes the foundations of a **computational theory of mind**. This is no small claim. If it can be validated, it would be a significant advance in mind-sciences. It offers a completely different approach to the problem of creating artificial intelligence.

"In philosophy of mind, the computational theory of mind (CTM), also known as computationalism, is a family of views that hold that the human mind is an information processing system and that cognition and consciousness together are a form of computation"

`https://en.wikipedia.org/wiki/Computational_theory_of_mind`

Note, contrary to the above definition, the UP does not say that consciousness is a form of computation, it is in a different category. Mind is computational, but consciousness is more like the electricity which runs the mind-machine.

Mind vs machine?

Modern thinkers tend to treat the concepts of mind and machine as opposites, but the UP says this is a misunderstanding. The concept of "machine" is not in duality with "mind", so they cannot be opposites.

The dual opposite of "mind" is "body", and the UP tells us that both of these things are types of machine.

The concept of "machine" has no direct opposite, it's not a duality. A machine has all four elements, and the 4E classify themselves as a machine. In other words, some machines are alive, and all living things are machines.

Everything that does work is a machine

The UP says the concept of "machine" describes all things which do work. All work is done by machines. The UP itself is a type of machine. It's a set of time-ordered mechanisms that convert one thing into another via the expenditure of energy. It has multiple coordinated parts that do work.

If everything that does work is a type of machine, the question then is what types of machine are there? The UP suggests four, defined by what type of substance they process, i.e. what their inputs and outputs are.

Types of machine

Again, the UP structure shows us when we have missed a concept. The lower three types of machines described below we are all familiar with, but the four-elements tells us there is one we have not yet discovered, the "Fire-machine".

People consider mind and machine to be opposites only because they lack knowledge of the duality and the four-elements. Consequently, they are also unaware that there is a category of machine we haven't yet built. Although, when it's pointed out it becomes quite obvious, and we find ourselves asking how it could ever have been missed.

Minds are machines which process *qualia*.

F	Desire	**Qualia (Desire) Machine** Input/Output: Desires / will. (So, qualia are a form of desire!) A *qualia-processor*. A living mind / consciousness.
A	Information	**Information Machine** I/O: Information A *quantity-processor*. A computer / calculator
W	Forces	**Force Machine** I/O: Forces A force producing / processing device, e.g. motor, generator, gearbox...
E	Matter	**Matter Machine** I/O: Matter A matter processing device, e.g. cement mixer, oven.

If we mix the inputs and outputs we get the three operators. Together, in theory, these define all possible categories of machine / device.

Operator	Input	Output	Example
Voice 1	Desire	Information	Online shopping cart
Voice 2	Information	Desire	Human mind
Heart 1	Information	Force	Actuator
Heart 2	Force	Information	Sensor
Sex 1	Force	Matter	Particle accelerator, sun?
Sex 2	Matter	Force	Petrol engine

Mind as a "qualia processor"

The processes of computing and consciousness obviously have some commonality. Both are receiving and processing data, then acting on the result to change that data. Both use rules of logic to infer action.

Computers and humans use logic to figure out what to do, so we have the same basic instruction-set. However, there is a difference between minds and machines, and no one seems to have been able to put their finger on what exactly that difference is, until now.

If we simply recognise that duality exists and needs to be considered, the answer isn't hard to deduce, or even observe directly.

- Quality / quantity is a duality.
- We can observe that computers are quantitative devices, they work with quantities.
- So there must be a type of machine that works with *qualities*.
- We can observe (directly) that minds operates on qualities.

Computers process quantities, numbers. They are quantitative machines.
Minds process qualities, qualia. They are *qualitative machines*.

mind
- a machine which processes qualia

As a "qualia processor" is the "Fire" machine, then "qualia" must be "desires". I haven't used the word "qualia" until this section, so here's a definition:

qualia (philosophy)
- instances of subjective, conscious experience
- e.g. "the pain of a headache, the taste of wine, and the redness of an evening sky"

`https://en.wikipedia.org/wiki/Qualia`

We experience existence as being made up of qualities, as opposed to quantities. "Qualia" are the qualities we experience, and they are closely linked to *desire*, in fact, I suggest that's what they actually are. Qualia are the principle of desire, explained in full detail, experienced at the Earth level of reality. They are three-dimensional desires.

qualia (my definition)
- the fully detailed, 3D form of desire.

We observe this in ourselves. We work to experience the qualities we like, and to avoid the ones we dislike. Our thoughts and decisions are all centred around the core task of maximising the input of "good qualia", and avoiding "bad qualia" in our lives. We want to have positive experiences, not negative ones, and the work of the mind is to figure out how to achieve that.

The human mind processes qualia, it is a "qualia processor" (QP).

(Note, I have simplified this a bit, human minds work with both qualities and quantities, but they primarily work with qualities.)

Ultimately, it should be possible to create artificial QPs, using the UP as its fundamental data-type. I suggest that such a machine is probably what this universe exists within.

Colour

TMM includes an investigation into the phenomenon of colour. We can't go into all the details here, but we'll look at some of the basic concepts that emerge.

How colour is made

The "what it looks like" pattern of creation is **FAWE** and the seven principles (7P), so the creation of colour must be made in that order. This is what the process will look like "on the outside". The process isn't the colours themselves though.

Given the properties of the four elements that we already know about, the process of creating colour can only follow the pattern below. It's the only possible interpretation of the elements in this context. We start out with just "light", and end up with seven / eight / infinite colours.

Creation of colours: Stages	
Fire	Undifferentiated "light" Fire is One, undivided, unmeasured / infinite
V	*Reflection / Negation* *(Undifferentiated light is reflected into ...)*
Air	White & Black, Light & Darkness Air is Two, choice, difference, distance
H	*Alternation* *(Black and white, light and shadow, are alternated into ...)*
Water	4 Primary colours Water is Four / Force / Power / Work Where "all the work gets done". Has to be where the colours are made.
X	*Mixing* *(Four primaries are mixed into ...)*
Earth	Many Mixed Colours Earth is matter, the final product, the result, the object of desire.

It's interesting to note that one of the greatest minds who attempted to resolve this problem, Johann Wolfgang von Goethe, was really very close to the truth. His intuitions about the phenomenon were deep and insightful, and in many respects were closer to reality than Sir Isaac Newton's.

Four primary theory

The UP tells us that there are four, not three, primary colours, and it does something quite remarkable which I didn't anticipate. By applying the rules of the UP, we can actually predict the order of colours that appear in the rainbow, from (relatively) simple logic!

This achievement is far greater that anything I expected when I began the investigation, and is beyond what the modern sciences would consider even possible because the perception of colour is considered to be subjective, not objective. The idea that we could make such a prediction, based on logic alone is a truly stunning result. I'll say it again, for clarity.

With the UP, we can derive the order of colours in the spectrum from basic logic!

The UP tells us that to analyse any system we have to deal with the phenomenon as it appears to us, qualitatively. It says that the universe is a qualia-processor, and it's natural data type is qualitative data. So, to understand colour we have to isolate what the most basic qualities of colour are.

With a little thought, I suggest we find that the most basic qualities of any colour are whether it is a "light or dark" colour and whether it is a "cold or warm" colour. Note that these concepts are defined rigorously and there is no ambiguity in their interpretation. Please refer to TMM for the details on the exact definitions.

- Each of the four primary colours convey two binary bits of qualitative information.
- The data transmitted describes the fundamental qualities of: *lightness* and *warmth*.

Yellow is the colour which conveys the information of "light and warm", red is "dark and warm". Cyan is "light and cold". Violet is "dark and cold". This may seem a peculiar way to classify colours, but it seems to match how the eye physically works better than trichromatic theory.

Using this model, we can explain how the three types of "cone cell" in the eye operate, and it is quite different from the presently accepted theory. It better explains the sensitivities of these cells, and also explains the relationship with the rod cells as a natural duality.

- Cone cells: produce two binary bits of colour data – discrete.
- Rod cells: produce analogue brightness data - continuous.

This table shows how the four primary colours are correlated with the four-elements.

	Colour	**Light colour?** **= Green (cone output) > Red**	**Warm colour?** **= No Blue**
F ++	Yellow	Yes (+)	Yes (+)
A +-	Cyan	Yes (+)	No (-)
W -+	Red	No (-)	Yes (+)
E --	Violet	No (-)	No (-)

When we arrange these basic colours into the WFAE cyclic pattern, we get the order of colours we see in the spectrum (rainbow). It is an incredible result. It couldn't really be any more perfect.

This table links the three natural phenomena of the yearly seasons, with the main stages of life, and to the colour spectrum, all in one.

Element	**Season / Event**	**Stage of Life**	**Colour**
Water	Winter	Childhood	Red
W + F = *	Spring Equinox	Puberty	Orange
Fire	Spring	Young Adult	Yellow
F + A = Voice	Summer Solstice	Parent	Green
Air	Summer	Raising Family	Cyan
A + E = *	Autumn Equinox	Family Have Grown Up	Blue
Earth	Autumn	Old Age	Violet
E + W = Sex	Winter Solstice	Death & Rebirth	Purple / Magenta

Again, there is a lot of detail in TMM which explains this in full. There is no ambiguity in the analysis, none of this is dependent on interpretation.

The problem with Newton's theory of refraction

In the investigation into colour, another unexpected revelation occurred, which is that Newton was wrong about how the prism separates the colours. He somehow missed a crucial observation which invalidates his theory.

Somewhat astonishingly, this error has remained undetected in the over 350 years since his theory was proposed. Every single physicist who has ever looked at a prism has apparently failed to notice one simple thing.

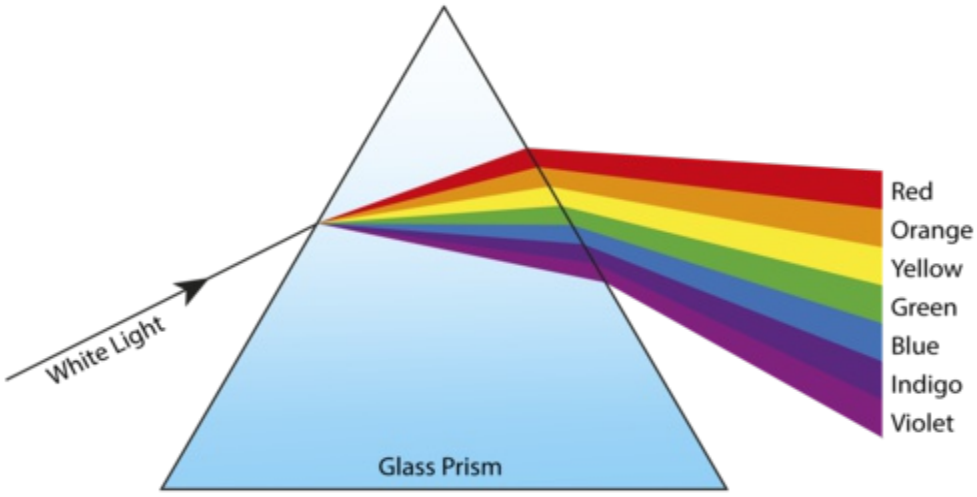
What it ultimately means is that the idea that different colours of light are bent by different amounts when they travel through a prism is wrong and quite redundant. The proposed mechanism is unnecessary, it

doesn't exist, and all colour production can be explained by the single simple mechanism of *diffraction*.

The observation

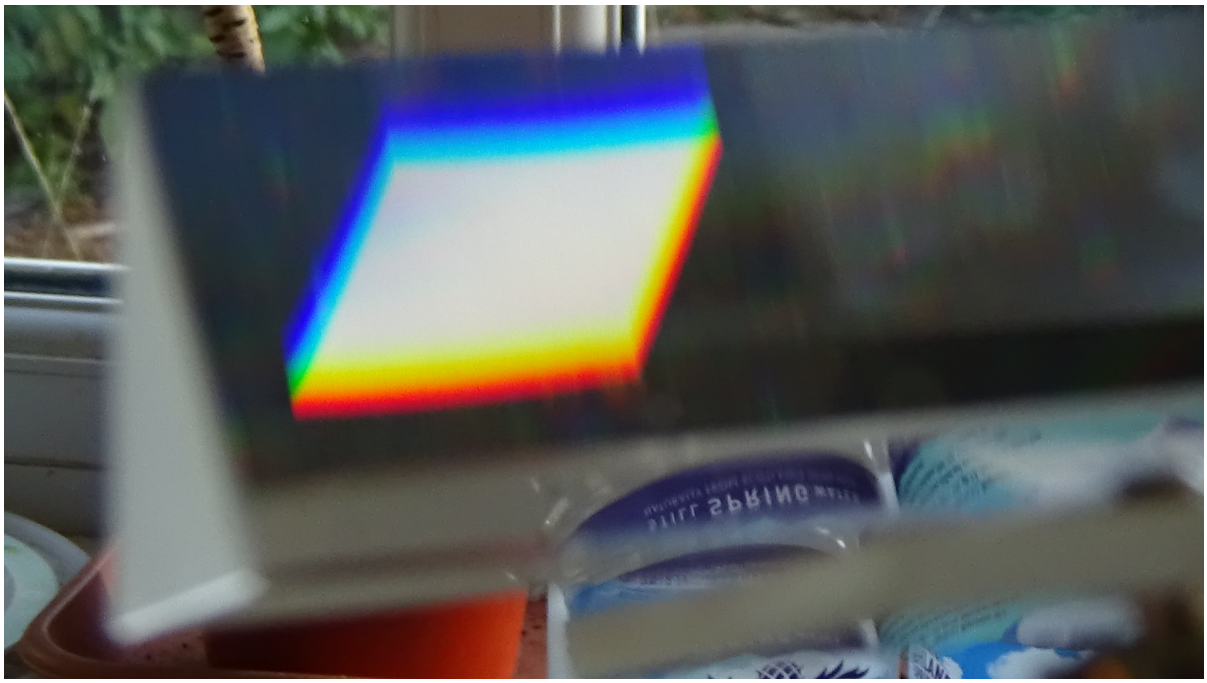
The observation which disproves Newtons idea of "diverse refrangibility", now called "dispersion", is a very simple one which anyone can make. All you need is a prism.

In all analyses of how a prism works, it is said that red exits at the "top" because it's "bent less by refraction". Everyone agrees that red exits at the "top" of the prism. This diagram shows how the process is supposed to work.



We do indeed see this ordering of colours when the light leaving the prism is projected onto a surface. However, when we look into the prism instead, we see the opposite, with blue at the top and red below. Here's a photo I took.

(Note, if this is printed in black and white, blue is seen at the top of the prism, not red.)



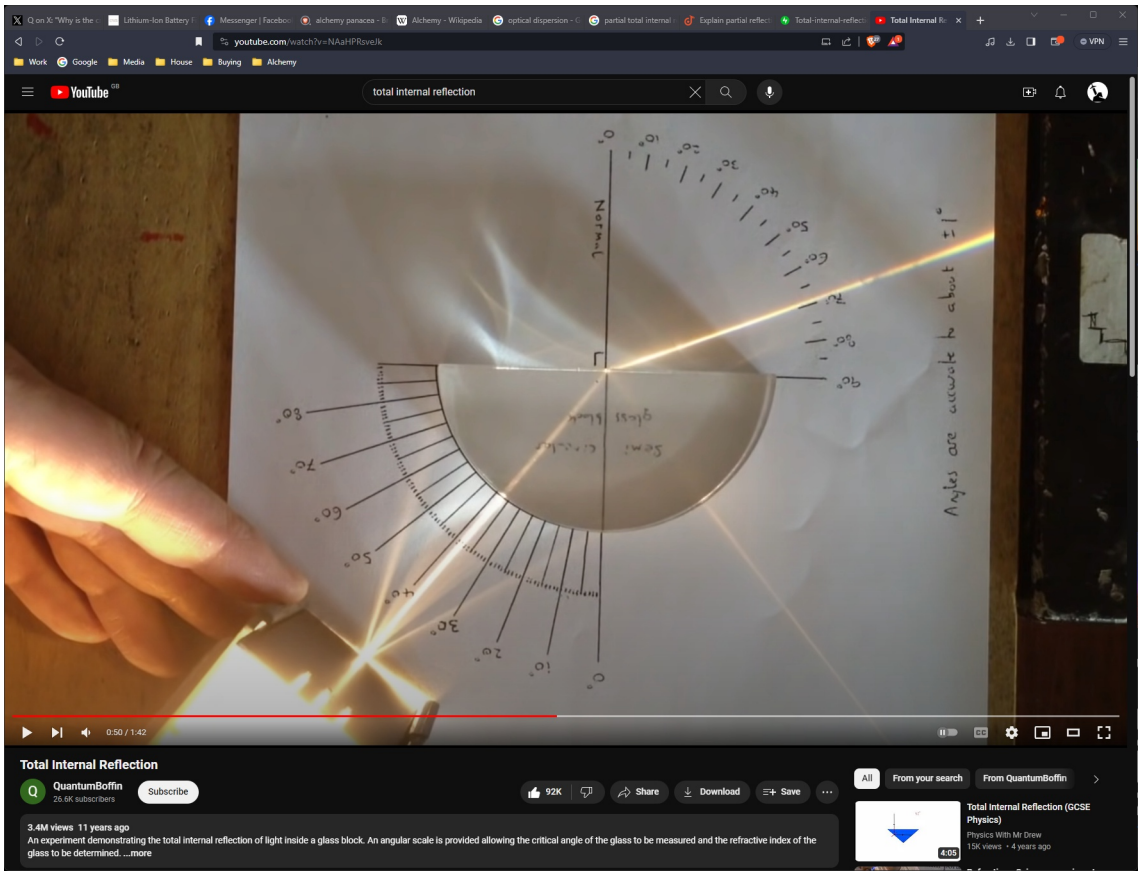
This observation cannot be explained by the current theory of dispersion.

(Note that the colours we see in the photo above are the four primary colours described by the UP. This is

part of the evidence presented in TMM to show that there must be four and not three primaries.)

There is another simple experiment / observation we can make which further disputes Newton's theory, and also shows us how it must really work. That experiment is the examination of the phenomenon of "total internal reflection".

Here, the light entering the semicircular prism enters perpendicular to the glass. This means that the colours cannot be getting separated in the body of the prism. It shows that the separation of colours must happen at the *surface* of the prism, and not in its body ("bulk dispersion").



A diffraction model of the prism

TMM includes more detail, and explains a new model of the prism which shows how the dispersion of colours can be, and indeed can *only* be, explained as operating by diffraction. In other words, the prism actually works in exactly the same way as a diffraction grating.

If we think about how the internal reflection of light by the prism works, this is actually quite obvious. If light is being partially reflected by the inner surface of the prism, then it inevitably must cause diffraction.

Again, this is one of those things that are so simple and obvious, it really does cause one to wonder how it could possibly have been missed by so many intelligent people, for hundreds of years.

Nature is the most efficient machine we are aware of. The idea that there would be more than one mechanism in nature which could cause the separation of colours from white light was always in conflict with the principle of parsimony.

The UP again provides superb, stunning results which clarify and simplify nature, making physics easier and more intuitive. While the modern day explanation of bulk dispersion relies on concepts such as the "phase velocity" of light, the UP shows that all that extra complexity is simply not required, it is redundant.

A new model of matter and physics in general

The UP goes on to provide a greatly simplified model of physics as a whole, beginning with a model of matter that is essentially the *simplest conceivable* one.

The UP's Unified Physics

Applied to physics, the UP gives us some interesting possible answers to some tough questions. It suggests a new, unified theory of physics and a mechanical model of matter.

It is (apparently) a new "aether" theory as it contains a significant difference from others, i.e. it describes the existence of *aether holes* which are essentially *cavitation bubbles* in the substrate. (Although it seems somewhat obvious, so it may have been considered before.)

The UP provides a simple model for what matter is, and how it forms. It has a simple, feasible, mechanical explanation for charge and magnetism. Modern physics does not have any of those things. These proposals could greatly simplify physics, and make it much more productive. (Assuming they're correct, of course.)

The starting point is as follows, but it gets a little complex after that. Please refer to TMM for a fuller explanation of this part of the theory.

One substance and one force

There is an "aether" that can sustain pressure waves, and that's *all we need* to explain the physical universe. The aether is the substance, the force is pressure.

The substance can (potentially) be *any continuum*

Any relatively continuous substance that can sustain pressure waves can form an "aether", which then acts a substrate for activity to take place within. (An aether of some sort is conceptually necessary.)

This allows for a "nesting" of "worlds" which can all exist in the same location, but at different scales.

The only force is *pressure*

Energy is transmitted as compression waves in the aether, and this is what *light* is.

Pressure also manifests as "radiation pressure" which acts on elementary particles of matter, and this is the cause of charge and magnetism. The UP implies there may be many forms of pressure operating in different substrates, at different scales, which all derive from that one fundamental form.

Light is the same thing as energy, and information

All energy travels as light. Light is the sole "carrier" of energy and information. Everything is made of light.

The basic model of matter

About 400 years have passed since the scientific enlightenment. Thousands of the brightest minds in the world have spent their entire lives attempting to uncover the secrets of physics. And yet, modern physics still does not have a model that explains what matter is.

The UP, on the other hand, leads directly to one which is simple, mechanical, and has powerful explanatory potential. It can be described in just a few words:

Matter is *a hole in the aether that traps light, and leaks*.

The model described here is derived from the most basic properties of duality. It fits all the relevant archetypes of the UP very well and leads to some interesting insights, such as why stable structures form, and hence an explanation for why matter and living creatures exist at all.

Matter is modelled as a low-pressure bubble in a high-density aether. Due to the fact that compression waves travel more slowly in a less-dense medium, this "inner vacuum" of low-density aether causes (some of the) incident light to curve around the central cavity, into a circular orbit.

This arrangement creates a *self-sustaining ordered system* of a Yin (static) "hole" surrounded by Yang (active) light, which circles around it.

This structure can occur naturally, due to the properties of the substrate. It suggests matter can be formed from turbulence in the aether, in much the same way that cavitation bubbles are formed by turbulence in water. The difference here is that the cavitation bubbles of aether can become self-sustaining due to the circling compression waves of light.

The model suggests that motion of the light around the hole acts as an "aether pump" which expels aether in an outward direction. This maintains the central vacuum, causing it to be stable and persist though time.

However, light cannot be completely "trapped" by this arrangement. Some will always "leak" out, and this is why particles have *emissions*. These physical emissions are the cause of charge and magnetism.

Particles in this model act as *antennas*, transmitting and receiving light, i.e. electromagnetic radiation. Different types of particles are distinguished by the primary frequency of light their physical characteristics resonate with, in just the same way that different sized antennas are resonant at different frequencies.

This model also offers a new explanation for why the sun *shines*. More on this below.

This idea of a Yin-hole surrounded by Yang-light gives rise to many interesting consequences. For example, it allows us to generate an extremely generalised definition for the concept of an *ordered system* as follows:

ordered system
- something which is Yin on the inside, and Yang on the outside

And conversely:

disordered system
- something which is Yang on the inside, and Yin on the outside

Where, for example (context-sensitive)
- Yin is passive, complex, many, discrete, indirect, curved, dark, empty, wet, chaos, etc.
- Yang is active, simple, one, continuous, direct, straight, light, full, dry, order, etc.

And:
- inside is physically inside and/or "how it's made"
- outside is physically outside and/or "what it looks like"

These definitions allow us to categorise and understand the concepts of order / disorder in a useful and universal way.

Examples of ordered systems:
- Machines. E.g. kitchen appliances are complex on the inside and simple on the outside.
- a human body (and any lifeform), matter.

Examples of disordered systems:
- Non-linear dynamic systems: e.g. a cloud is simple on the inside and complex on the outside.
- White noise, turbulence, crowd behaviour, traffic jams, etc.

It also provides a new definition of the concept of entropy in simple, mechanical context as:

entropy
- the tendency of matter to lose energy (i.e. as light)

It enables us to define all matter and living creatures as follows:

matter / living creature
- an ordered system
- an energy management machine

Which implies that *all matter* is a form of life.

It explains why persistent structures form at all, and why there seems to be an "organising principle" in the universe, giving rise ultimately to human beings.

This is the underlying archetype of "matter" in its most general sense. Living creatures, physical matter, and "things that matter" all fit this description when we interpret those concepts in their most general sense.

Physical particles are self-sustaining machines, working as "light traps".

The model describes how all matter consumes higher-energy light to exist, and emits lower-energy "waste" light. There is a hierarchy of particle-types, with some consuming the waste emissions of others. Just as in nature where the excreta of one species is the food for another.

The UP suggests an **Asymmetric Charge Model**, based on this principle. In this model, radiation pressure causes negatively charged particles to be attracted to positive ones, but positively charged particles are relatively repelled by the negative. The positive and negative charges are asymmetric, as *all dualities* are.

(This model implies that the particles we consider negatively charged are actually Yang to positive charges, so our labels are reversed.)

The standard model of physics holds that electrons produce charge without expending any energy, but this seems to imply they are perpetual motion machines, able to emit energy without consuming anything. This model says that electrons must consume energy in order to emit charge. In other words, all matter must both consume and excrete energy in order to persist.

There is a *vast* amount of ultra-high frequency light filling the universe

It is proposed that particles of matter consume and emit light at frequencies far above our ability to detect. (We can detect light up to about 10^27Hz.) This "invisible light" pervades the universe, but we are unaware of it. We do observe its *effects* in the phenomena of charge and magnetism though.

We are embedded within an "ocean" of high-pressure energy, similar to the way we are embedded within an atmosphere of high-pressure air but don't really notice it. Due to the extremely high frequency of this ambient light, it's not detectable or (easily) accessible to us, because of our size and the scales we have access to.

So, when two magnets attract each other, it's because there is a region of low radiation-pressure between them. The huge amount of force magnets can exert should give the reader some idea of the magnitude of the ambient radiation pressure that surrounds us, but are unable to directly detect.

This model leads to a relatively simple explanation for why matter forms into structure like atoms and molecules, and why these structures have various properties and engage in a wide variety of interactions.

How the sun works

This model also leads to a new hypothesis of how the sun works.

Simplistically, this model suggests suns are basically huge particles. They contain a central aether-hole that is maintained by the light which circles around them, and continually pumps out the central aether.

It suggests that suns receive ("eat") ultra-high frequency radiation from the universe (beyond our ability to detect), and sunshine is the "waste" energy that "leaks out" and escapes. So, sunshine is the "excreta" of the sun.

It also suggests that, due to the extreme aether turbulence they experience, suns could in principle create matter directly from energy. This in turn may help explain the formation of galaxies.

More complexity

The matter that this model describes is the most elementary particle conceivable.

It is possible that this corresponds directly to the electron, but it's also possible that this most fundamental particle would be too small for us to observe. The particles we do observe are then composites or more complex iterations of the basic principle.

The particles we know of, and certainly suns, are probably more complex than the simple model described here. They likely contain multiple levels of structure allowing them to manage and manipulate light in more controlled and "intelligent" ways.

This simple, mechanical model for matter provides a firm foundation that allows atomic and molecular structure to be fully explained. It potentially explains why negative charges are mobile while positive ones are stationary, why the electron orbits the nucleus, and how this can all be driven by *radiation pressure*.

Memory

This model also leads to a new hypothesis on how the phenomenon of *memory* works. Because light travels more slowly in a low-pressure aether, some light incident on a particle will travel directly, and very slowly, through the central hole/vacuum. The central void will thus contain a *recording* of light it has experienced in the past. Depending on the depth of the aether vacuum, it might take many years for the light to propagate through it.

This is essentially the particle's memory of past events. How it might access that information, and what it might do with it are open questions though. The model suggests that the memory of living creatures operates in fundamentally the same way, i.e. by slowing down the passage of light through a low-aether-pressure medium. Perhaps our human memory faculties make use of this feature of elementary particles to retain information.

6. God and Morality

Arguably, the two most important questions in the world are:

1. Does God exist?
2. Is morality objective or subjective?

A Logical Proof of God

It is accepted wisdom that it is impossible to prove the existence of God by logic, but is it true?

It seems even the greatest minds of the modern age regularly overlook quite obvious facts and get things wrong. So, maybe they're wrong about this too.

Basic claim

The basic claim / argument that arises from the UP is:

The only possible explanation for the existence of the (original*) universe is that it is made of information, was created by a conscious mind, and exists within that mind.

(* The section on sub-universes below explains this qualifier.)

To disprove it, all that is required is a single alternative explanation / hypothesis that makes sense, i.e. is logically possible (consistent, coherent, and not paradoxical). It is not necessary to prove that hypothesis is correct, it just has to show it is possible to construct one *at all*.

So, the bar is set quite low. It should be easy to prove the claim wrong, if indeed it is. If anyone can offer another explanation for our existence that is actually *possible*, that alone would disprove the argument.

Definitions

To make sure that the above statement isn't misinterpreted, we'll need to define some terms, starting with the word "explain".

explain
- to make (something) knowable / understandable / intelligible / comprehensible
- to describe the cause / reason for the existence of something

To explain something we must account for its existence, and make it understandable. In this case, we need to say what caused the universe to exist. To say the universe "always existed", or "cannot be understood" is therefore not an explanation.

An explanation must be made from facts and logic because this is how something is made *knowable*.

A logical proof

The general definition of a *logical proof* is:

logical proof
- an argument that demonstrates the truth of a statement based on accepted premises and logical reasoning

For this argument we will refine the above definition as so:

- an argument which demonstrates a statement is the only possible conclusion derivable from the given premises through logical reasoning.

If there is only one possible rational explanation for something, then that must be the truth. This is succinctly expressed in the following quote:

"When you have eliminated the impossible, whatever remains, however improbable, must be the truth"
Sherlock Holmes (Sir Arthur Conan Doyle)

Summary of argument

The groundwork for the reasoning has been covered throughout this book, and in more depth in TMM. It relies on the definition of duality given, and that the UP as a whole can be derived from it.

The UP describes the underlying structure of information and concepts. It demonstrates that there is only one possible, logical, *conceptually valid* way to explain the existence of the universe.

The basic premises of the argument are:

- There is a natural, objective framework of concepts that exists independently of the minds of men.
- The universe, and all thought, is constructed from this *conceptual framework*.
- The UP correctly describes it.

Even if the universe itself is not constructed from the UP, all thoughts are. It still defines what it is possible to *think*. So any thoughts that do not comply with its rules are *incoherent*, i.e. logically inconceivable. So, at the very least it demonstrates that the *concept of God* is necessary.

- The UP defines the most fundamental (ontological) categories of concepts / information.
- It defines how concepts can be legitimately connected, thus which ideas are logically consistent.
- It describes a single, generic, universal process of creation that everything is made by.

It tells us:

- All concepts originate in the One category.

So, the concept of "the universe" must also originate from that category.

- The properties of the One category correspond to descriptions of "God".

While it may differ in some respects from modern religious descriptions of God, it differs only in that the description it gives is logically consistent, whereas the alternatives may not be.

The UP makes it plain that the only possible way to explain the existence of the universe is that it originated from, and exists within, a single conscious mind. There is no other conceivable explanation. This is an inevitable conclusion given the structure of the conceptual framework.

As stated above, to disprove it, all that is required is for someone to propose a single alternative explanation is logically possible (consistent, coherent, and not paradoxical).

Some related issues

The argument above works as a stand-alone argument, and doesn't need any embellishment. However, for clarity, let's consider some related issues.

The universe had a beginning and a cause

Popular arguments for the existence of God, such as the Kalam argument, begin by stating the universe must have had a beginning. The UP also says this is necessarily true, but does it differently.

There are at least two reasons why we must suppose that the universe had a beginning and a cause, if we want to explain its existence.

Firstly, the universe can only be *explained* if it had a cause, because that's what the word "explain" means. We could propose that the universe had no cause and / or always existed, but then we wouldn't be able to explain it.

Secondly, and more importantly, everything happens by causality.

We might call this the argument from *hierarchical causality*. The concept of hierarchical causality has been touched on by some philosophers, such as Thomas Aquinas, but the UP's definition of duality makes it explicit by directly linking *cause/effect* to *one/many*.

The concept of cause and effect is a *duality.* Cause is Yang as it's the active part. Effect is Yin / passive / following. As all dualities imply a one-to-many relationship, that means one cause can have many effects, but an effect only ever has one cause.

This means that causality forms a structure like a branching tree when mapped over time, and it means that there must be a single originating cause. All one-to-many relationships originate in *one*. So, the existence of cause and effect, which is the principle that all science is founded on, dictates that there must have been one

original cause for our existence.

The universe is made of information

As explained in the section on Materialism, the conjecture that matter is fundamental inevitably leads to the requirement for matter to be eternal. So, we cannot obtain an explanation for existence that way.

We can only explain physical matter as being made of information. There is no alternative hypothesis that can provide an explanation for its existence.

The universe exists within a mind

If the universe is made of information it must exist within a "naturally occurring" mind, an artificial mind, or a machine / computer. This universe could conceivably be hosted within a "dumb" mindless computer, in which case it can't be classified as a mind, but it would of course still have to have been deliberately designed and manufactured by a mind.

The ultimate / original reality must be hosted by a "natural" mind. Although it's stretching the definition of "natural" somewhat as it is strictly *supernatural* (above nature). It would have to be either a mind that has existed forever, or somehow just popped into existence from nowhere (which would be "something from nothing").

This inexplicable origin is necessary at some point, and this is the furthest back we can push it.

Note, this does not invalidate the argument because the question we are attempting to answer is "what is the origin of the universe". We are not attempting to answer "what is the origin *of the creator* of the universe". That is a different question.

Sub-universes

For completeness, we must consider the existence of sub-universes. Multiple universes can conceivably be nested inside a single "higher" and "more real" universe, so we need to be aware of that principle.

For example, if humans created an advanced virtual-reality system that simulated a universe, then that would be a *sub-universe* nested inside this one. That is, of course, completely feasible and non-mysterious. We could create any number of VR sub-universes like that.

Yang is one / real, Yin is many / fiction. One more-real universe can contain many less-real ones. Just like cause and effect forms a branching, hierarchical structure, so does this. It dictates there must be a single original universe, but there could be an arbitrary number of levels containing multiple realities of diminishing "realness" below it.

The host mind which contains any given universe is its "God", by definition, as it occupies the One category.

God
- the mind that contains the universe, be it the original, or any other

There can be an arbitrary number of levels, with many sub-realities embedded within "higher" ones. But ultimately there must be a single, original universe created by an original creator.

- There must be an original "base reality" that is hosted by an original God.

The original creator of the original universe is the only one which must be non-artificial. All others could be created by entities which are themselves creations.

- Sub-realities could be hosted in artificial minds or dumb machines. Only the original creator cannot be artificial or a creation.

There would be no entities "above" the original creator, and so he/it could not be a creation. The existence of that original entity is inexplicable even in principle. So, the ultimate definition of God refers to that original creator, and the argument made here applies to it.

"Random" vs "God"

There are only two types of original creator-God that we can imagine, and one of those is impossible. We could characterise the duality as *intentional/unintentional, intelligent/unintelligent, living/dead*, and *conscious/unconscious*. There are other dualities we could use, but you get the picture.

The original "God", as defined above, is an intentional creator, a living entity with consciousness. He/it has the ability to know things, and make free-will decisions based on his knowledge. He can make plans and execute them, and can predict / anticipate the future (to some degree of accuracy) based on an understanding of the present.

The only way the universe could have been created *unintentionally, unintelligently, unconsciously* would be by some kind of "random" event. So, this is why materialist answers to the question rely on the concept of randomness. For materialists, *randomness is God*, it is the creative principle. Even the evolution of biological life is enabled by it according to this world-view.

Sexual reproduction, by shuffling the genes through the random processes of meiosis, produces a kaleidoscope of genetic variation on which natural selection can work.
Climbing Mount Improbable (1996), Richard Dawkins

A question that goes unanswered is what is the exact mechanism in meiosis that creates this random shuffling of genes? Ultimately, there *cannot be one* because *mechanisms cannot produce randomness*. We'll come back to this.

The table below shows the similarities and differences between "Random" and "God". For "randomness" to provide the explanation for existence that materialism seeks, it has to be no less powerful a god than "God", with all the same abilities but lacking life / consciousness etc.

Unintentional Creator: "Random"	Intentional Creator: "God"
Creator God: the one, original, supreme being; creator and ruler of all things **The "uncaused cause"**	
Eternal, timeless: Exists outside (measured) time	
Supernatural: Is outside, existed prior to, and is superior to the universe / nature ("supernatural" means "above nature")	
Omnipotent: Able to "reach into the universe" and change things "at will"	
Creative Force: Created all matter and living things	
Unconscious, unintelligent	*Conscious, intelligent*
Falsifiable: Can be proven false. **Unprovable**. Cannot be proven true. Must be taken as "faith"	**Unfalsifiable**: Cannot be proven false **Provable**: Can be proven true Can be proven
Something from nothing	Something from something else

Randomness is the necessary God of materialism. It has no alternative hypothesis, so must always fall back onto this concept as the provider of reality. However, we cannot rationally propose that the universe was created by some random event.

The hypothesis that a process is random can be proven false by identifying a mechanism which gives rise to the phenomenon. It can never be proven true because you can't "prove a negative", i.e. show the existence of the absence of mechanism.

So, randomness is falsifiable, but not provable whereas "God" is the opposite. It demonstrates that the concept of intentional vs unintentional creation is indeed a duality as these properties are mirrored.

Disproving randomness

So, why is the concept of a random creation not viable? Why can't the universe have been created by some random process? Quantum mechanics says that randomness is indeed a real phenomenon, and it could account for creation, so why must it be wrong?

The proof of God argument being made relies on our ability to disprove randomness, which is the only conceptually possible alternative, so it's necessary to disprove it. We'll do that by arguing that:

1. Randomness cannot be fundamental, because it's always the result of a complex system.

2. Randomness cannot be a cause, because *only mechanisms can cause change*, and:

- "Random" is defined as "no mechanism".
- Also, all mechanisms are deterministic. No mechanism can produce randomness.

First, we need to define what we mean by the term "random". Some definitions of the term are valid, some are not. Materialism tends to get them mixed up, as only by confusing them can it appear to be valid.

Statistical randomness vs acausality

We do observe randomness in reality. For example, nuclear decay is unpredictable. We cannot predict when any given atom will decay, and we do not observe any mechanism which can account for it. However, that doesn't mean there is definitely no mechanism, it just means we haven't observed one yet.

We might call this form of randomness "statistical randomness" because if we collect data about nuclear decay there is no statistical pattern noticeable. Statistical randomness is a perfectly valid concept, and it usefully describes some observations.

(Note that the UP's unified model of physics does provide for a simple mechanism which can account for nuclear decay and explains its unpredictability. It would be hard to observe, but is at least possible.)

The mistake comes when the assumption is made that there is no cause at all. This is an entirely different proposition, and is called "acausality". "Acausal" is a kind of "hard randomness", it's not just saying "we don't know the cause", it's claiming "there is no cause". But an effect without a cause is inconceivable.

random
- happening by chance with no (observed) cause or reason
- without (an observed) mechanism
- without definite aim, direction, rule, or method. unpredictable

acausal
- not involving causation or arising from a cause, not causal
- an effect without a cause.

So, materialism tends to conflate these two ideas, and that is an error.

While statistical randomness, the idea that there is no pattern in a set of data, is a perfectly valid concept, acausality is not. Acausality is a paradox, we cannot have an effect without a cause.

Note that it is only certain interpretations of quantum mechanics that claim randomness is fundamental. It is not an inevitable conclusion given the actual data they're working with. The experimental results that some claim imply acausality can be explained in other ways.

The interpretations of QM that claim the universe is fundamentally probabilistic are paradoxical and unnecessary. They say that randomness is fundamental, but are forced to attempt to explain it as the behaviour of an underlying substrate, a "quantum vacuum" or "quantum foam".

Obviously, the supposed "quantum vacuum", by their own definition, is a complex system. So, it is the "quantum vacuum" that is the fundamental thing, and not the randomness it produces. The idea that randomness can be fundamental is incoherent.

Acausality, the antithesis of science

Some physicists may insist that acausality is a valid concept and can exist within the scientific framework, but this position is unjustifiable. The idea that acausality exists is actually an outrageous and unscientific claim.

Despite claims to the contrary, acausality is pure mysticism, an appeal to magic, and it undermines the whole of science which is founded on logic and the law of causality.

The concept of acausality is literally the *antithesis* of science, it's opposite. Science is the thesis that the universe can be known, understood and described. Acausality is the thesis that it cannot. If acausality is real then science is impossible.

To summarise the problems and paradoxes inherent in materialism's appeal to randomness.

"Random" / "acausal":
- Is treated as if it is a mechanism that can cause things, but is defined as the absence of a mechanism.
- An "effect without a cause" is equivalent to "something from nothing". It's impossible.
- Randomness is essentially just a *statistical artefact*, existing only in the spreadsheets of mankind.

- It only exists as the output of a complex system, so cannot be fundamental.
- Is proposed as a "rational" and "scientific" alternative to "God", but is essentially still a "God". It has most of the same characteristics, only is not rational and is hostile to science (i.e. is inexplicable).
- Can never be proven to exist, whereas "God" can be. The existence of "random" is unprovable, so can only ever be a "faith", which is ironic.
- Is equivalent to "disorder", but the universe is ordered. The second law of thermodynamics, and common sense, says order cannot come from disorder.

To expand on some of the points above:

We only ever observe randomness as the output of a complex system.

For the universe to have been caused by a random event, we must suppose that randomness is a fundamental principle, but every example we have of (statistical) randomness is the product of a complex system, not something that exists independently.

For example, nuclear decay is considered a demonstration of acausality, but matter is a complex system.

In order to explain acausality, advocates of QM are forced to invoke some kind of "quantum substrate", which is, according their own accounts, a complex system.

Only mechanisms can cause effects, but random means "no mechanism"

Mechanisms are the only thing that can cause change.

Materialism claims that randomness is the cause of the universe. So, it must be considered a mechanism, able to transform things, but randomness is defined as the absence of a mechanism. This is a paradox.

All mechanisms are deterministic

All change happens by mechanisms, but all mechanisms are deterministic, and cannot give rise to randomness. Therefore, true randomness cannot exist, because there is no conceivable way of generating it.

As a proof, consider the fact that *computers cannot produce truly random numbers*, they can only produce *pseudo-randomness*. The more (apparently) random the output, the more complex the algorithm must be.

Systems can be "chaotic" (in the sense of nonlinear dynamics), where they may appear to be random but are actually deterministic. Very simple mechanisms can produce extremely complex appearing outputs, but they are never truly random.

`https://en.wikipedia.org/wiki/Chaos_theory`

Summary

To conclude, the argument is that the only possible, logically consistent explanation for the existence of the (original) universe is that it was created intentionally, by a mind, and exists as a mental construct within that mind.

The only alternative to this is "randomness" or "acausality", but randomness is only ever observed as the output of a complex system, and is actually deterministic. Acausality is an "effect without a cause" which is an overt paradox.

The fact that "God" is the only possible answer to the question of why the universe exists constitutes a logical proof thereof.

Morality

The question of morality has vexed the greatest minds for centuries. No one has been able to satisfactorily explain its origin, or whether it's a relative or absolute phenomenon, over the entire course of recorded history, until now.

Like all the definitions the UP furnishes us with, the answer is intuitive and quite simple. So simple, that after having read it you will probably think you already knew it.

Morality essentially determines how we define the meaning of the words "good" and "evil" in the context of human social behaviour, so how is it currently defined?

morality
- a set of personal or social standards for good or bad behaviour and character

`https://dictionary.cambridge.org/dictionary/english/morality`

Common attempts to explain the origins of morality often invoke rationality, but fall short of providing a full definition. They usually end up with something like the definition from Stanford University below, which amounts to "morality is what a moral person says it is".

In the normative sense, "morality" refers to a code of conduct that would be accepted by anyone who meets certain intellectual and volitional conditions, .. including the condition of being rational. That a person meets these conditions is typically expressed by saying that the person counts as a moral agent.

`https://plato.stanford.edu/entries/morality-definition/`

In the case of religions, they tend to say morality is "what God defines it as", which also isn't very helpful.

Ideology, politics, and religion

The concept of morality is closely related to that of "ideology", although modern dictionaries may not make the connection explicitly, for example:

ideology
- a set of beliefs or principles, especially one on which a political system, party, or organization is based

`https://dictionary.cambridge.org/dictionary/english/ideology`

I suggest a better definition would be:

ideology
- a set of beliefs or principles containing moral imperatives / normative statements

Politics and religions are both primarily concerned with defining what is good / evil in the context of society and human relationships. They are ideologies, and the distance between them really isn't as great as one might imagine.

The main difference between politics and religion is that in the former, the state is the "law giver", whereas in the latter it is "God" who makes the laws. Although in practise, even in religions, the "laws of God" are usually defined by an elite / priest class of humans, so the difference may be negligible.

All ideologies contain "normative statements" which say how things "should" or "ought" be done. They contain "moral imperatives" which tell people "you shall (not) do this ...". All ideologies can be described as a set of normative statements which describe what is "moral good", such as:

- Christianity: *"Love thy neighbour as thyself".*
- Marxism: *"From each according to his ability, to each according to his needs"*
- Capitalism: *"Individual freedom, personal responsibility, and voluntary exchange lead to prosperity"*

Ideology is the most controversial topic because it cuts to the heart of who we truly are at the core of our being. As the UP shows us so clearly, the primary expression of spirit / consciousness is desire. We are all made of desires. Our desires define who we are at the deepest level.

We all desire to be good, and if we are told our desires are evil, that is equivalent (conceptually) to being told that we ourselves are evil. This is why people argue so bitterly about ideologies, and are prepared to go to war over them.

As long as people can't define morality clearly, they will always disagree about it, and they will hate and kill each other over their disagreement. What humanity needs, more than anything else, is an absolute definition for morality that no one can rationally argue against.

Defining morality

The UP leads us to the correct definition of morality, which is as follows.

morality
- the law of cooperation
- a set of natural laws which define how to cooperate with other individuals

It's that simple. Morality is a set of natural laws which define how we can cooperate with other individuals. These laws are defined by some basic facts of nature, without needing to invoke any God. So, the UP is able to define and prove the existence of God, but God is not needed to explain morality.

The details of this law follow from two simple observations we can make about nature:

1. Sometimes you need to cooperate with other individuals.
2. You can't *force* someone to cooperate with you, they must *agree* to it.

If we think through the implications of these two facts of reality, then we will arrive at a detailed description of morality in just a few short steps.

War and peace

Good and evil is a duality, of course, like all fundamental principles.

We know that dualities come in two forms, opposing and complementary. They either work against each other, or work together. They either conflict (light / dark) or they cooperate (seller / buyer). This foundational duality describes the two basic forms of interaction, it is the key to understanding all relationships.

We can describe the principle with the duality **compete / cooperate**, or **oppose / complement.** Other similar related dualities might be: conflict / collaborate, foe / friend, war / peace, fight / agree, etc.

Generally speaking, in nature creatures can choose to interact with each other in one of these two ways. They are the most fundamental survival strategies in biological life. Do you help people, or do you use them to climb the ladder of success? Are you agreeable or are you ruthless?

We can characterise these strategies as the duality **selfish / altruistic**. The selfish-strategy is to get what you want *directly*, without care for the well-being of others. The altruistic strategy is to get what you want *indirectly*, via cooperative actions with others.

We should note that some things we desire can only be obtained via altruism, such as a high-trust society, or a technologically advanced one. If we want to live in a country where people have a high standard of living and are nice to each other, only altruism can deliver that.

If we categorise good and evil, and correlate them with other appropriate dualities we get a very clear picture of the two fundamental minds / strategies in nature. Without a knowledge of duality, it is impossible to truly understand anything, but with it understanding comes (relatively) easily.

This analysis of morality explains the character of Yin and Yang in the context of relationships between individuals. It explains everything, but it takes some time and thought to appreciate it fully.

The Yin archetype is the container for all concepts relating to "evil", and Yang to "good", but bear in mind that all relationships are reciprocal and there is a great deal of subtlety to it. While we may be Yang in one relationship with another, we will be Yin in another relationship with the same individual.

It may be tempting to take a simplistic view of this relationship, but it's important to understand that both of these minds are necessary for reality to exist. We all start out life as Yin (in comparison to an adult), with the mind of a child, and we all must strive to become more Yang via conscious effort. The mind of the adult must be worked towards, no one is entitled to it, no one gets it automatically, however old we may become.

Another thing we should all bear in mind is that we cannot meaningfully compare ourselves to other people. The only absolute standard we can judge ourselves by is by comparison with God / God's mind / the UP.

So, judgement must be applied with great care, patience, and humility. The UP does give us the absolute standard for morality that we can judge by, but we must be aware of our own frailties and not rush to judgement.

The two minds of nature

There are two fundamental minds / mindsets / ideologies in nature.

Yin is the "mind of the child" and operates under the "law of the jungle". It is concerned with survival in the context of being alone, it is "me against the world". It says "if you can get away with it, it's good".

Yang is the "mind of the parent" operating under the "law of morality". It is ultimately concerned with survival in the context of society / family. It is "we're all in this together". It says "if one is unhappy, none are happy".

(Morality is also sometimes called "natural law", but this phrase is rather ambiguous as the law of the jungle

is also *natural*. In addition, there are many laws of nature that are unrelated to morality, such as the laws of arithmetic or physics.)

These two minds seem to correspond with the two major parts of the brain. Yin is the "reptilian-brain" concerned with basic survival, Yang is the "mammalian-brain" concerned with socialising and cooperation.

Yin - Goddess, Matter **Oppose: Many separate minds** **The Law Of Competition / Conflict / War**	**Yang + God, Spirit** **Complement: One unified mind** **The Law Of Cooperation / Peace**
The child mind / immature Children are incapable of providing for others. Their job is to survive and grow to adulthood.	**The adult mind / mature** Adults are capable of providing for others. Their job is to raise a family, and build a society.
Amoral / immoral / selfish Not concerned with other people's well-being. See others as objects to obtain resources from.	**Moral / altruistic** Care about the state of other people's minds. See others as a single self / mind in cooperation.
Survival when alone. "Me against the world". Duty of care only to myself.	Survival in a group. "Ubuntu": "I am because we are" Duty of care to everyone, and nature.
Focussed on self: Selfish, ruthless, mean Large inside: Self-importance. Egotistical.	Focussed on others. Altruistic, agreeable, kind Small inside. Self-deprecating.
The "**law of the jungle**", the "**art of the possible**". Do it if you can get away with it.	The "**law of society**", "**natural-law**" Do no harm. Do the right thing.
Seek pleasure / avoid pain (hedonism)	Seek right / avoid wrong
The art of deception / camouflage. Compete, fight, trick, steal Distrust, fear, suspicion, hate	Honesty. Cooperate, work together, help Trust, love, friendship.
"Saving face", appearing to be good, "Virtue-signalling"	Being good. Having virtue.
The "reptilian brain". Only concerned with physical phenomena.	"Mammalian brain". "**Theory of mind**". Understanding of other minds.
Sin	Virtue

You might think that there seems to be some conflict in the definitions above. Yin is many and yet the Yin mind is only concerned with the self, and not with the many others they interact with. The Yin mind is also the "herd mind", associated with "the group", "the collective".

However, we have to bear in mind that some of these relationships are two-dimensional and so are a bit more complex. To fully understand them fully would take a longer analysis.

We also must remember that Yin is the principle of paradox. Yin is "in two minds" and is in internal conflict. Individuals in a herd are not overly concerned with the well-being of the others, they only care about them in their role as a shield of protection for themselves.

Yin is complex, Yang is simple. To understand Yin takes a lot more thought than Yang. In the end though, these definitions do all work out as fully logical categorisations.

Yin vs Yang law

So, these are the two basic forms of law intrinsic to nature:

Yin: WAR: The "law of the jungle", "do what thou wilt", "the art of the possible".
Yang: PEACE: Morality. The law of society / cooperation.

The "law of the jungle" is Yin-law. It is the "law of the Goddess".
The law of morality is Yang-law. It is the "law of God".

Morality is the glue that binds society and creates a high-trust culture. It allows for technological development

and a complex civilisation. The more Yang a society is, the more of an actual "society" it is, and the more it can be described as a "civilisation".

society
- a group of individuals (assumed to be) in a cooperative relationship, a "cooperative".

Note the following, often repeated quote, and consider what it is telling us about the true nature of politics:

"Politics is the art of the possible."
Otto von Bismarck 1867

Does politics serve God, or does it serve the Goddess? Is this why nations usually have a feminine figurehead, such as "Britannia"? We'll come back to this in later books.

So, morality is far from complex or confusing. It is an incredibly simple concept. When you get to the heart of the matter, all fundamental principles are simple. The only reason it has remained misunderstood for so long is the absence of a proper understanding of duality in the modern world.

As I claimed earlier:

- The ignorance of duality has crippled western thought.
- It has rendered western thinkers incapable of understanding anything properly.
- This disordered thinking is the primary reason for the current fall of western society.

The only way western society can have a future is for individuals within it to start thinking rationally, for themselves, and to make their thoughts more ordered and less deranged. The ultimate goal of my books is to provide the groundwork which will enable this transformation.

So, we have a basic definition for morality, as given above, but as we have defined society as a "cooperative" then we can also define morality as "the law of society".

morality:
- the law of cooperation / society
- a natural law which defines how to cooperate with other individuals

However, this is not enough detail for us to do much with. It doesn't tell us the method to determine how we should judge individual actions. To do that we need to define how the law of cooperation works in practise.

The law of cooperation

We need more detail to fully understand morality, how do we get there?.
As stated earlier, the content of this natural law follows from one simple truth / fact of nature:

You can't force someone to cooperate with you.

We all need help sometimes. We often require other people to cooperate with us, whether it's to fix a leaky roof, to give us a job, or to be the mother / father of our children.

While it is sometimes possible to force people to do things for you, slavery is a risky business, the enslaved might just turn around and kill you one day. If we want help without that risk we have to obtain their consent, which means they have to agree to help by their own free will.

Even simply holding a conversation is an act of cooperation. Communication takes time and effort, and we can choose not to talk with someone, and/or refuse to listen. All forms of cooperation include choices and that implies free will.

The only option we have is to offer some kind of deal / bargain / trade in order to entice them to help. Then they must decide to do it freely, without coercion.

However, this law doesn't just apply to humans, it pervades the whole of the "tree of life". Even plants and bacteria cooperate. Multi-celled creatures are only possible because individual cells have all (somehow) "agreed" to work together.

Sex is only possible via cooperation, and it truly is ubiquitous to all biological life. I think it's true to say that there is not a single species which does not have *any* cooperative relationships.

Furthermore, as cooperation is Yang, then we know it must be the main / predominant form of relationship. Relationships involving competition (conflict) are actually something of an illusion, and if we look a little deeper we will find there is a cooperative underlying them.

So, how do humans, plants, bacteria, and everything else go about initiating cooperative relationships? There must be a single common mechanism behind it, and it must be really simple and obvious.

The essential components of how we can arrive at a cooperative agreement require the following list of four basic things:

1. Consent

You cannot force someone to cooperate with you, they have to *consent* do it by their own free-will.

In terms of the evolution of mind (in the context of biology), this involves having the ability to recognise that other creatures have their own mind with desires that may be different from ours. So, this has to be the environmental factor which ultimately prompts the development of "theory of mind".

In psychology and philosophy, theory of mind refers to the capacity to understand other individuals by ascribing mental states to them.

`https://en.wikipedia.org/wiki/Theory_of_mind`

While it is possible for simple lifeforms to cooperate in a more mechanical, mindless way, it must eventually lead to the mindful form, which humans are capable of. So, it is the principle of cooperation which drives the ever-increasing complexity and subtlety that we see in nature, more so than competition does.

The necessity of being able to comprehend that other creatures have a mind, and then to actually understand the content of that foreign perspective is one of the most important drivers of evolutionary advancement.

While Darwin's view of evolution as being driven by competition certainly has some validity, the importance of its dual opposite is very much underestimated by modern biology. Again, if the existence of duality is recognised, we easily find this very simple and obvious reason why evolution should inevitably lead towards complex social organisation.

There are plenty more potential revelations concerning biology that this model leads to, but they will have to wait for another day.

2. Communication

In order to cooperate you have to be able to communicate. One party has to offer a pact or deal, the other must either accept or reject it. Communication itself is a form of cooperation, and it must be the most fundamental one as it underlies and enables all others.

As with any form of cooperation, you can't force anyone to communicate with you. It requires consent. Either party can refuse communication, and that is equivalent to refusing to cooperate.

If someone refuses to listen to something you say, they are refusing to cooperate with you, and are putting the relationship on a somewhat hostile footing. When communication is impossible, then violence may be the only remaining option. War happens when communication fails.

All cooperation requires communication, and so this principle must also pervade nature. This means that:
All creatures able to cooperate can communicate in some way.

If cooperation is ubiquitous in nature, then so is communication. All living things communicate, although they may not understand the language of creatures they do not cooperate with.

3. Benefit

For someone to cooperate with you, they must get some benefit from it.

There are cases where individuals may exhibit pure altruism, and give without thought of receiving, but generally some kind of exchange of value is expected. In modern human society we use money as a means of exchange, but in more primitive settings, and in the animal kingdom, barter is commonplace.

Sometimes just each other's company is all the benefit that is required. Social creatures like to have company, and we get lonely. Simply cheering someone up may be enough.

In terms of evolutionary development and theory of mind, it clearly can help if the individuals involved understand what benefit it is they each get from the relationship. With an understanding of the other's desires, one can ensure the other continues to get the benefits they want, and the partnership succeeds.

4. Consistency

For a cooperative relationship to persist and succeed, both parties must deliver what was agreed to.

If you let your partner down and fail to provide what was promised, that could permanently break the trust the agreement is based on and cause it to end. Once trust is broken, it may never be restored.

All cooperative relationships involve some investment, at least in time and energy. If the agreement is not fulfilled and trust is lost, the investment that was made into the relationship is also lost. So, even from a purely selfish perspective, there are good reasons to ensure you live up to expectations, and honour your part of the deal.

These four factors are all quite obvious and are clearly necessary in a cooperative relationship.

They fit perfectly into the four elements, as shown below, and perhaps unsurprisingly, they are the four traditional parts of a contract, as is defined in common-law.

	The Laws Of Cooperation	**Contract Law**
F	**Consent** You can't force anyone to cooperate with you, they must consent. *Other creatures have their own free-will and desires.*	Offer / acceptance
A	**Understanding / communication** To be able to cooperate there must be some form of communication. *Parties must be able to communicate to reach agreement.*	Informed consent Meeting of minds / mutuality
W	**Benefit** Fair exchange / contract / equity. A circle / circuit. *There must be an exchange of value, perceived as fair.*	Consideration (In law this means an exchange of benefit or value)
E	**Consistency**. *You must deliver your part of the deal. (Solidity, the product / result)*	Breach of contract Non-performance

Note, I did not set out to find four aspects to cooperation, or to make them fit to the four elements. It just turns out that this is the way it has to be because of the laws of nature. This is all logically necessary, it couldn't be any other way.

- For cooperation, we need consent.
- The only way to get consent is by communication.
- There has to be some benefit to all parties, otherwise there is no point in the deal.
- You have to actually do what you said you would do.

This, I suggest, is the original conception of the "social contract", and it is identical to the common-law concept of contract, and it derives from these simple facts of nature. English common-law was originally based on the principles of "natural-law", which is simply morality by another name.

"The customs of England, which form the body of its common law, are not contrary to the law of nature, but are rather its offspring, for they have been tried by long experience and found to be just and convenient for the realm."
Lord Chief Justice Sir John Fortescue, De Laudibus Legum Angliae, Chapter 16.

Contract is the only method available in (natural) law whereby consent can be obtained. There is no other mechanism is available. Nature is perfectly efficient, and if only one mechanism is required, that's all there will be.

Consent is essential

To fully explore the whole gamut of human laws would be outside the scope of this book, but in generalised, somewhat simplistic terms we could define the concept of crime as follows.

crime
- harm (injury, loss, or damage) done without consent

All exchanges cause at least some loss, even if it's just of time. In any interaction or exchange between

individuals, consent is necessary for it to be a moral act.

- If I take my neighbour's lawnmower without his consent, that is the crime of theft.
- If I ask his permission first, that is "borrowing", and it's not a crime.

Consent is, generally speaking, always the dividing line between what is lawful and what is criminal.

Humans form *societies*, and a society is a *cooperative*. Everyone in a society is assumed to be in a cooperative relationship with everyone else, and should seek consent if any harm may be done. All types of "crime" are thus acts which go against this *assumed cooperative relationship* and the natural "social contract" as defined above.

This section has laid the groundwork for understanding the concept of morality in practical terms. The topic of the laws of human society, and the interaction between the two types of fundamental law, will be dealt with in more detail in a later book.

In the next book ("The Mortality Simulator"), we will use the UP, and this definition of morality, to answer another one of the thorniest problems in philosophy, the "problem of evil".

The End

Dear Reader.

Thank you for reading this book, I am grateful for the time and attention you have directed towards it. In a world where so many things are vying for our attention, it means lot to me and I appreciate it.

I hope you have found it interesting and useful.

If you feel that any of the explanations in this book were insufficient, incomplete, or just plain wrong, please contact me and let me know, and I will endeavour to improve them. It can be difficult to find the right way to explain these concepts, and constructive feedback is welcome.

You can contact me via my website:

`https://timhenderson.uk/`

The next book in the series will be "The Mortality Simulator", which (I believe) offers a new and much more satisfying answer to the problem of evil.

Following that, I intend to cover the topic of human laws, politics, government and religion, and the structure of society. I aim to offer a new perspective on where the world is going wrong, and how to make the necessary course-corrections to avoid disaster.

If time allows, I would ultimately like to complete the unified theory of physics and be able to explain the remaining phenomena of motion, gravity and inertia, and offer a complete explanation of electricity.

I also suspect that there are classical, mechanical explanations for the phenomena which are currently viewed as proving quantum mechanics and the existence of a photon particle. Experiments such as the photoelectric effect and Compton scattering have eluded classical explanation, but perhaps one does exist.

Tim Henderson

11th August 2025