

The Evolution of Perception & the Cosmology of Substance

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a simpler theory of everything

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iUniverse, Inc.
New York Lincoln Shanghai

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to my daughter Megan

The significant problems we face today cannot be resolved at the same level of thinking we were at when we created them.

—Albert Einstein

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INTRODUCTION

We must organize our perceptions of the world. If we do not, the world shows up as little more than a kaleidoscope of disconnected impressions and events. We must organize our impressions through a system of thought or what can be called a *consensual theory*.¹ A consensual theory is the principle theory that a society uses to make sense of its world. It is the irreproachable axiomatic belief, undefended, but used as a basis for all subsequent beliefs. One can liken a consensual theory to a lens that a society collectively peers through.

It is difficult to contemplate the consensual theory from which one's society is operating for two reasons. First, a consensual theory is shared by all of the members of a society. Therefore, conclusions that result from analyzing the world through the organizing lens of the theory take on the psychological status of fact, a sense fostered by the soothing assurance of consensus. Secondly, the consensual theory is generally not overtly described, but is implicit² in the language of a society. For instance, children are not taught, "Today, children, we will learn our consensual theory, which is called *materialistic representationalism*, and discuss it in comparison with several other possible systems of thought." Rather, children are taught in *terms* of materialistic representationalism.³ We speak in terms of the theory, but rarely *of* the theory.⁴ So the consensual theory rides in us just below the curtain of our awareness. Most individuals in a society are not aware of the

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1. We might have as easily used the word "paradigm" or "system" or "received view." Our consensual theory is materialism or materialistic representationalism, the view that our experience of color, sound, etc. represents a material world that exists independent of all experience.
 2. *Implicit*: not stated, but understood in what is expressed (Encarta World English Dictionary).
 3. For instance they are taught, "Today, children, we will study atoms, which are one of the fundamental building blocks of life."
 4. An example of theory embedded in language is the phrase "develop your masculine (or feminine) side." This expression presupposes people are metaphysically a composite of sides (or parts or particles). It applies our atomic model to metaphysics, the result of being taught to think of virtually everything in terms of fundamental corpuscles.

paradigm of beliefs they are organizing their world through, nor, generally, that they are organizing their experience at all. This forgetting of the consensual theory is as natural as a man forgetting that he is wearing glasses. He looks at the world and forgets to take into account the influence of his lens.⁵

Because consensual theories are unstated and generally unnoticed, they are very hard to break into—to outline, critique, and change. And even when such changes are successfully accomplished by a group of philosophers or scientists, it is still hard to make the case to the public—which is loath to upset its complacency with a confusing and potentially calamitous alteration in fundamental perception.⁶

To most of us, that the world is fundamentally material seems obvious, though most of us could hardly recite what we mean by this. What we mean by saying that the world is material is that things are fundamentally explainable in terms of tiny building blocks called *atoms*;⁷ that atoms are in turn made of a substance⁸ called *matter*;⁹ and that this substance is analogous to substances like plastic or cement or some material that we see and feel around us. However, the system of thinking that makes these things seem so obvious—materialism¹⁰—has been forgotten like the glasses of so many people. Materialism is a consensual theory, a paradigm, a system of thought.¹¹ This is largely forgotten and materialism has come to be accepted dogmatically or as a point of faith. For, that a substance like matter can explain life in its entirety is less than obvious, as we will demon-

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5. Another way to say the same thing is that we tend to presuppose the objectivity of our own perspective, especially when our perspective is reinforced by the agreement of others.
 6. Consider the introduction of the earth-centered solar system which took 100 years to become generally accepted, and may have been responsible for the reformation.
 7. *Atom*: is one of the basic units of matter. Everything around us is made up of atoms...Atoms form the building blocks of the simplest substances, the chemical elements (World Book Encyclopedia).
 8. *Substance*: physical reality that can be touched and felt (Encarta World English Dictionary).
 9. *Matter*: is the substance of which all objects are made (World Book Encyclopedia)
Matter: the material substance of the universe that has mass, occupies space, and is convertible to energy (Encarta World English Dictionary).
 10. *Materialism* is a philosophical position that states that everything is material, or a state of matter. The word comes from the Latin *materia*, meaning matter. Materialists particularly deny that the human self is a spiritual—or in any way nonmaterial—entity. They interpret beliefs, thoughts, desires, sensations, and other mental states as properties of material systems (World Book Encyclopedia).

strate. It only seems obvious because the idea of materialism—the way of seeing and thinking that it provides for us—is dyed in the fabric of our perceptions.

Materialism is a 17th century theory, designed to explain what was known about our world in the 17th century.¹² Upon the support of this theory science has spiraled upward. Science is now like a one hundred story building built upon a foundation designed for four. It is cracking at the seams. To explain newly discovered phenomena such as the constancy of the speed of light, the behavior of subatomic particles, and experience itself, science must increasingly resort to metaphor and untestable conjectures such as folding spacetime, invisible strings, cosmic harmonics, and multiple metaphysical dimensions. Science can no longer explain in purely material terms what we know of our world. What was once a straightforward theory of matter and energy is becoming swamped in a sea of its own burgeoning metaphysics, exponentially expanding in complexity, a clear sign of a dying system.¹³ It is time to reexamine the foundation of our thinking at its core and rebuild it.

What is so fundamentally wrong with materialism that we would now be consumed in a quagmire of speculation in an attempt to rescue it from new discoveries? It is incomplete. We have built this system upon the impression of experience without first determining the source of that impression. We have taught our children the corpuscular theory—that things are entirely explainable in terms of atoms and a substance known as matter—but have neglected to provide them

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11. We do not mean to disparage the belief that things are made of atoms. That would be absurd. Materialism is more than atomism. It states that things are *fundamentally* explainable in terms of substantive particles. We mean to disparage that materialist assumption that atomism as a fundamental theory can account for all phenomena.
 12. 17th century refers to the work of John Locke who formalized the modern metaphysical stance of materialism. The problems that confront materialism outlined in this book were not, and could not have been, conceived in the 17th century. They required additional scientific developments. Some will argue that science has been repeatedly updated to account for modern discoveries such as the constancy of light and quantum events, updates like the plasticity of spacetime and the introduction of metaphysical dimensions and strings. But, the introduction of nonphysical entities contradicts the most basic principle of materialism, the reducibility of all events to matter and energy. Thus such embellishments do not count as redactions of materialism, but as departures from materialism. The point made in this book is that materialism cannot account for all currently observed phenomena and retain its original simplicity. It must resort to appending materialist tenets with spooky metaphysics such as immaterial strings, extra-sensory dimensions, and curved spacetime. This subject is discussed further in the chapter, *Problems in Physics*.

with a process by which these flecks of stuff came into being. This neglect has led science to attempt to explain late breaking phenomena such as special relativity and quantum events *post hoc* in the terms of an incomplete system. But the resultant confusion is not limited to science. This fundamental omission has been spiritually catastrophic as well. Believing we are, in our most *basic* nature, clumps of separate smaller clumps, we now see ourselves as entirely and irrevocably isolated from everyone and everything else, and perceive all things to be fundamentally divisible, both unto themselves and one from another. Due to such a consensual theory we stand now on the brink of self-annihilation¹⁴—a condition born entirely of fundamental metaphysical ignorance. We are advancing mechanically but declining spiritually.¹⁵ We have succumbed to pure consumerism and become a sick society without focus or direction. We have no idea of what we are born, or to where we are headed. We are without a compass in a world of matter.

What is the solution? The solution is to return to the source of these problems, our conceptual model of reality, our consensual theory. We must recognize that more fundamental than the *impressions* of experience, a formative process must continually be occurring behind the scenes to create it. On the most fundamental level, the world that we experience is the result of this process, not the aggregation of substance or its corpuscles. Here we posit the theory that this process is one of ongoing perception. Substance and its aggregation arise from this process. This process does not arise from the aggregation of substance.¹⁶

The primary implication of this new theory is an adjustment in how we view ourselves in relation to our world—thus it could be said to be centrally *ethical*. By supplanting the corpuscular ground of being with a unified process, we create a paradigm that entails a sense of oneness and inclusion, rather than disjointedness, dislocation, and isolation. This is accomplished by introducing a process of per-

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13. Where we are in science today can be equated to where astronomy was prior to the Copernican revolution (the change from earth-centered to sun-centered solar system). A model of the solar system that had once worked well to predict heavenly events suddenly had to increase its complexity to keep up with discoveries made possible by the newly invented telescope. The sun-centered model, chosen for its increased simplicity, eventually replaced it. It took about one hundred years for the new system to be generally accepted.
 14. We tend to forget that post-cold-war silos contain nuclear warheads and that the destruction of the environment continues unchecked..
 15. *Spiritual*: relating to the soul or spirit, usually in contrast to material things...showing great refinement and concern with the higher things in life (Encarta World English Dictionary).

ception as the unifying ground of all being. Unlike corpuscles, which are by their nature fundamentally separable one from another, perception is without borders, extension, shape, or location.¹⁷ Perception is by its nature *indivisible*.¹⁸ If what is fundamental is indivisible, then we ourselves are, in the very fabric of our most basic nature, fundamentally indivisible, both unto ourselves and one from another. It is the contention of this book that this single shift in consensual perception is essential to any lasting era of enlightened human happiness.

In addition to its moral implications, this book argues that this theory of the evolution of perception offers a stronger account of reality than materialism. In defense of this claim, four main arguments are given. It is argued that an evolution of perception offers an account for how substance emerges in empirical reality, an account that is missing from materialism. It is argued that an evolution of perception explains more empirical phenomena than materialism has. It is argued that an evolution of perception is metaphysically simpler than materialism, and is thus more mathematically probable. And finally, it is argued that the evolution of perception is a better theory than materialism by the criterion of *Ocham's razor*, the tradition in science that states, *when choosing an explanation—all else being equal—choose the simpler*.

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16. Note that subatomic particles could not aggregate into molecules unless and until electromagnetic forces existed to bind them; and that molecules could not aggregate into compounds and compounds into planets unless gravity existed. What are these forces and by what *process* did they arise? Materialism cannot tell us. In this book we offer an explanation for such formative forces of attraction and show that they are part of a unified process that binds the world together at its most basic perceptual level.
 17. It may be more accurate to say that such properties simply are not applicable to perception. It isn't the *kind* of thing that these words apply to.
 18. *Indivisible*: cannot be split in two. Early Greek philosophers sought for a fundamental substance or process out of which the universe is constructed. It was discerned by them that the substance must, by necessity, be indivisible. For this reason the Greek atom was theorized to be an *indivisible* particle. This solved the problem of accounting for change while postulating an indivisible entity. Thus the atom was originally a clever theoretical idea, solving both empirical and philosophical problems. The notion of a fundamental particle, however, largely disintegrated in the 20th century, due in part to modern particle accelerators. Quantum events occurring on a subatomic level have added to confusion over the fundamental nature of reality. The search for the fundamental stuff or process of life is thus once again a matter of inquiry.

HOW SCIENCE CHOOSES THEORIES

This book presents a theory. A theory is a proposed explanation of some event or process that we experience in nature or that we can abstract¹ from our experience. What part of our experience does this particular theory purport to explain? All events and processes, both observed and abstracted. Thus, this is a theory of everything. It is a core theory that explains in general all observable processes.

A theory can be tested, but never verified.² This is because, regardless of how well a theory may explain or even predict events, it remains possible that a new theory will do so with even greater elegance. Two theories can explain the same event or process.

Sometimes, two theories that explain the same event or process are incommensurable.³ Two incommensurable theories may be logically complete and have equal explanatory power. In such cases, one cannot judge one theory in the terms of the other, or from the standpoint of the assumptions of the other. Such theories operate within their own frame of reference.

This does not mean, however, that all theories are equal, or that value judgments about theories are merely opinions. The fact is that if no objective criterion existed for choosing theories, science could not exist.⁴ Science uses a set of measures to divide good theories from bad theories and better theories from worse.

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1. *Abstract* v. To develop a line of thought from a concrete reality to a general principle or an intellectual idea. (Encarta World English Dictionary) Here the word also denotes deriving from one's observation of an object its unique properties, such as its size, weight, shape, color, essence (what the object is), value, virtue, beauty, etc.
 2. In science, tests are designed to disprove, not prove, theories. Testing a theory simply tests to see if the theory can survive the test. A theory simply retains its viability if it survives a test. One could never, even in principle, devise a test for a theory that would verify it beyond all doubt.
 3. *Incommensurable*: not capable of being compared or measured, especially because lacking a common quality necessary for a comparison to be made (Encarta World English Dictionary).

When science is faced with two explanations for the same event and both explanations are logically complete and have equal explanatory power, science chooses the simpler explanation. This convention in science is called *Ocham's razor*, and there is a scientific reason that it is used. Simplicity is more probable than complexity. This can be demonstrated with probability law.

Where A, B, and C are postulates,⁵ the probability that A is true is 3 times greater than the probability that A and B and C are all true. $(P)A > (P)A \& B \& C$

Now consider 2 competing explanations of an event X written in the form of conditionals.

Explanation 1: If A, then X.
Explanation 2: If A & B & C, then X.

Explanation 1 is 3 times more probable than Explanation 2.

So Ocham's razor, the convention in science of choosing the simplest explanation, is itself scientifically grounded.

But, what exactly do we mean by a "simpler" theory? If simplicity is the objective criterion for choosing theories, what is the objective criterion for determining simplicity? Simplicity has various meanings, not all of which are applicable to scientific theories. The meanings of simplicity that are applicable pertain to the number of assumptions that theories require in order to work. Axiomatic simplicity, for example, refers to the number of axioms⁶ in a theory.

Another form of simplicity that has been used to weigh the probability of theories is metaphysical simplicity. Metaphysical simplicity refers to the number of substances or metaphysical entities that a theory relies upon for its explanatory power. To understand better what metaphysical simplicity is, consider an historical example. Substance dualism, developed by philosopher Rene Descartes, is the

4. Without a criterion for judging its theories, science would not move forward. Theories would increase in number and complexity indefinitely, rendering a cooperative paradigm impossible.

5. *Postulate*: n. a statement that is assumed to be true but has not been proven and that is taken as the basis for a theory, line of reasoning, or hypothesis (Encarta World English Dictionary).

6. *Axiom*: a basic proposition of a system that, although unproven, is used to prove the other propositions in the system (Encarta World English Dictionary).

theory that there exist two fundamental substances, mind and matter. Materialism is the theory that there is only one substance, matter, and that the so-called mental sphere is a function of matter. All that dualism can explain with two substances, materialism explains with one. Hence, materialism is metaphysically simpler than substance dualism, and therefore more probable.

The intention of this book is to make the same argument for the theory presented, i.e. to establish that the theory is more metaphysically simple than materialism, and therefore more probable. The basis of this claim is that the new theory offers an explanation for both material *and* mental spheres without relying upon any fundamental substances *at all*. But we will go further than this to show that the new theory has greater metaphysical simplicity. It will be pointed out that to explain certain phenomena, materialism must increase its metaphysical complexity. To explain certain physical and psychological events, materialism is forced to make additional metaphysical assumptions or postulate additional metaphysical substances or entities. The new theory does not need to do this. Even in these special cases the new theory retains its explanatory power using only its original axioms. Thus, as the complexity of the problems being explained increases, so does the disparity in theoretical complexity. By demonstrating this we will show that the new theory is metaphysically simpler than materialism, and is therefore a more probable metaphysical theory.

Note that the scope of the argument is limited to probability. We are neither trying to prove that materialism is wrong, nor prove that the new theory is true. Rather, we are attempting to establish that the new theory has greater probability. The argument for this theory is from Ockham's razor, the criterion science uses for choosing theories.

MATERIALISM

The received view is materialism. Materialism has two principle tenets. The first tenet of materialism is that *matter and its corollary energy are all that truly exist*. There is no other existent “stuff” in the universe. Anything else that people discuss, such as emotions, values, dreams, and the like, are either reducible to matter and energy or are functions of matter and energy.

The second tenet of materialism is that *matter and energy are independent of perception*.¹ What this means is that regardless of whether there is an observer present and regardless of the condition of any observer, the condition of matter and energy, as they are in themselves, remains the same. For example, whether or not Uncle Fred is looking at his watch, the matter and energy of his watch remain the same. And regardless of what Uncle Fred is thinking and regardless of whether he is walking or standing still, the matter and energy of his watch remain the same. The observer does not have any effect on matter and energy because matter and energy constitute fundamental reality.²

It is said that materialism is the best theory that we have because it has the greatest explanatory power. It is said to explain virtually any phenomenon. Here we are going to examine the explanatory power of materialism. We will see that its explanatory power is more limited than most of us assume. In fact there is a virtual banquet of phenomena that materialism cannot account for. Thus, even if it is true that materialism has the greatest explanatory power of any idea now known, which is possible, there remains room for a *more* fruitful theory.

One method that we will use to question the explanatory power of materialism is to perform thought experiments. In a thought experiment we picture cer-

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1. That matter is independent of perception is the core belief of material realism. In material realism, when we say that something is “real” we mean that it is *not* dependent upon perception. Material realism makes a clearly defined distinction between the subjective interpretation of a thing and the thing as it exists objectively in reality, as it exists independent of the influences of perceptual interpretation.
 2. While the color, sound, smell, taste, and feel of an object can change subjectively from one observer to another, these qualities are not considered to be properties of matter. This will be discussed further in the chapter, *Materialism Up Close*.

tain situations using nothing more than our imagination and common sense. The question we will ask ourselves in these thought experiments is whether there is any explanation for these situations that is consistent with the two tenets of materialism.

1. Matter and its corollary energy are all that exist.
2. The condition of matter and energy are unaffected by the condition of an observer.

If there is no coherent explanation consistent with these tenets, then materialism cannot account for them.

PROBLEMS IN PHYSICS

The Speed of Light: The following situation is predicted by Albert Einstein's special theory of relativity.¹ As strange as this scenario may seem, and it should seem strange, the fact that it is how things are has been confirmed by every major experiment designed to test it for nearly a century.

It is the middle of the night. Superman and Lois Lane are on top of the Daily Planet, the news company where they work by day. They are a little drunk. They have been flying around all night and are in a particularly playful mood. In this spirit of fun, Lois gets the idea to test Superman's powers. "Let's see if you can fly at the speed of light Superman!" Lois taunts. Superman likes the idea. Luckily there is a giant searchlight on top of the Daily Planet used by the newspaper company on special occasions to announce spectacular news events. "When I switch this light on, Superman, you chase after the front of the beam. If you can keep up with it, you will be traveling at the speed of light."

Superman gets ready and Lois throws the switch. Side by side Superman and the front of the beam of light stream up into the night sky. Superman has no trouble flying at the speed of light. He is *super* after all. However, whether or not he can keep up with the front of the beam of light depends on who is looking. You see, according to the theory of relativity the speed of light (186,000 miles per second) is the same for every observer, regardless of whether they are moving or standing still. To see the paradox that this entails, consider what Lois and Superman see in turn one second after Superman takes off.

One second after Superman takes off, Lois sees superman and the front of the light beam flying side by side, exactly 186,000 miles above the earth (or she would if she could see that far and calculate that quickly).

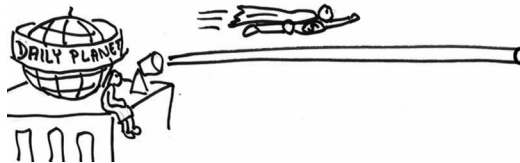
One second after taking off, looking back toward Earth, Superman sees Lois 186,000 miles behind him. But looking forward in the direction the light is moving, Superman sees the front of the light beam 186,000 miles ahead of him. To determine how far from Earth Superman sees the front of the light beam, we must add his distance from Earth to his distance to the front of the light beam.

1. Einstein used a scenario with railroad cars, but the concept is the same.

Doing this we discover that Superman sees that the front of the light beam is 372,000 miles from Earth.



What Lois sees one second after Superman starts to fly.



What Superman sees one second after starting to fly.

Here is the problem. In the same moment, one second after takeoff, Lois and Superman are seeing the front of the light beam in two different places in space. For Lois it is 186,000 miles from Earth. For Superman, it is 372,000 miles from Earth. At the exact same moment in time, Lois and Superman are seeing the location of the front of the light beam in extremely different places. Where is the *real* front of the light beam?

Remember that according to the second tenet of materialism, *the condition of matter and energy cannot be affected by the condition of an observer*.² But in this scenario one of the conditions of the light beam (its location in space) appears to be effected by the condition of the observer (his speed). It is as if Lois Lane and Superman are seeing two different light beams. But according to materialism they must be the same light beam. How does the materialist account for this paradox?

Albert Einstein followed through on the implications of this kind of scenario. To make the geometry conform to his materialist realist concept of space and time he had to squash and stretch time and space.

2. Light is unique in that it expresses attributes of both matter and energy. It has wave properties and particle properties.



Einstein would predict that Superman (and the space around him) would squash as he approached the speed of light.

To save his assumption that the light beam is independent of perception Einstein was forced to rewrite the fundamental geometry of space. In place of high school Euclidean geometry he invented his own, one where space and time bend, twist, squash, and stretch as needed to make everything work out right. In other words Einstein bent his geometry to conform to his assumptions, rather than bending his materialist assumptions to conform to geometry. In addition he manipulated reality to conform to his beliefs in a way that defies disconfirmation. If a genius like Einstein says that space must be this way, who could argue with him? There is no way to prove or disprove it? That light is a constant can be tested. That space bends like fabric cannot.

Now let's apply some horse sense. While it is poetic to say that space is "bent" or "compressed," what do we really mean by these expressions in any practical sense? Isn't space just empty nothingness? How does one bend empty nothingness? While one could build a three-dimensional model of bent space in a large dark room using iridescent wires to represent the curvature of space, such a model has no real conceptual corollary. For if we remove these wires from the room, in all honesty space in the room itself remains unaffected. Space simply *must* be flexible to save the materialist assumption that light is independent of perception. But what it really means to flex or compress space, no one can say.³

Materialism cannot really offer a satisfying explanation for the constant speed of light. It can offer imaginative metaphors, but it cannot offer any conceptual corollary for such descriptions.

There is another problem in materialist discussions of problems associated with space and time. Space and time, as we have just seen, must be treated as a fabric or substance of some kind capable of being contorted to save materialism from paradoxes. If something is compressed or bent there must *be* something to

3. All that has been said in this paragraph can be repeated with time, for Einstein was also forced to manipulate time.

compress or bend. In materialism we cannot simply say we are only talking about a mathematical reality when we talk of space and time, for this would entail that space and time *are* math. The math must be *of* something that exists, otherwise the materialist must concede to still another existent substance, mathematics. But materialism states that only matter and its corollary energy exist. Space and time are neither energy nor matter. Therefore, space and time cannot be fabrics or substances in any literal sense according to materialism itself. Thus discourse about the changeability of space and time is entirely allegorical. It may be due to modern man's desire for something miraculous to come of pure science that such discourse has survived. Science has not been held to account for its metaphysics and often is left alone to devise strings of imagination for which it can offer no analysis.

The point of the Superman scenario is that the condition of light certainly *does* appear to be affected by the condition of an observer. Materialism is at a loss to explain this without resorting to additional metaphysical postulates such as the substance of spacetime, the contraction of space, etc., theoretical concepts that lack real coherence and cannot be directly confirmed by observation. These metaphysical postulates add to the metaphysical complexity of the materialist explanation, and thereby lower the probability that the explanation is true. Such references to the *fabric of spacetime* are attempts to account for the incoherence of the math that is abstracted from direct experience. What we need is a theory in which the speed of light as a constant is not at odds with our basic assumptions, and therefore requires no hypothetical entities to account for it. In the final theory we accomplish this by redefining what the speed of light *is*, rather than creating anything new to account for it.

Energy: Since Einstein it is generally agreed that motion and location in space are relative. Let's look at what this means. *We cannot speak of the motion of an object in space except in comparison to the motion of some other object.* Consider this. If space were empty except for a single rock floating in it, would the rock be moving or standing still? Moving or standing still compared to what? We have to have some reference point against which to make a determination.



This is the basis for a mind-experiment that tells us something very important about energy. According to materialism energy is real. In fact it and its corollary matter are the only things that *are* real. What we mean by "real" is that it cannot be affected by the condition of any observer. For instance, the location or motion

of an observer should not, according to materialism, affect the location or motion of energy. Observation and energy are not connected. This seems obvious. Let's see if it is true.

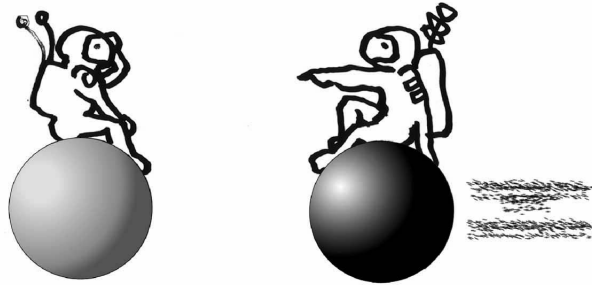
Imagine a hypothetical universe cleansed of all planets and suns and molecules of any kind. Imagine an empty universe going on in inky blackness in all directions forever. Now one by one we are going to put certain things into our universe as we choose them. After all, this is *our* universe; we can do with it what we want. Now imagine a white ball appears. Our white ball is the only thing in our hypothetical universe. Of course, according to the theory of relativity, this white ball cannot be said to be moving or standing still because we have nothing else in our universe against which to make a comparison. It just exists. Without any other object, talk of its location or movement is meaningless.



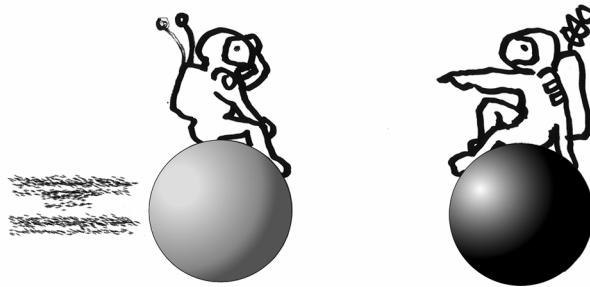
A white ball alone in space cannot be said to be moving or standing still—for there is no point of reference from which to judge.

Now into this universe let's add a black ball. We now have a white ball and a black ball alone in the universe. Imagine that the white ball and the black ball are gradually getting closer together. Which ball is moving and which ball is standing still? It depends on your frame of reference.⁴ For instance, if you were sitting on the white ball (you are the size of a mouse and wearing an appropriately small NASA space suit of course) you would swear that the black ball was moving, headed straight at you in fact, while you and the ball you were sitting on would appear to you to be motionless. But to a Russian cosmonaut sitting on the black ball that's headed for you, *your* ball—the *white* ball—would appear to be moving. Which is true? Both are true. It depends on your frame of reference.

4. In physics the frame of reference from which motion is determined is called the *inertial reference frame*. If I am in a space ship and I look out my window and there is a small round meteorite that appears motionless, but simply floats outside my window, then I would say that both the meteorite and I are in the same *inertial reference frame*. (We have the same motional point of view.) Now, say a Russian space ship swishes past my window. This Russian ship is in a different inertial reference frame from me. From my point of view—my inertial reference frame—my meteorite is standing still. But, from the point of view of the passing cosmonaut—from his inertial reference frame—my meteorite is moving.



To the astronaut on the left—the cosmonaut on the right is moving.

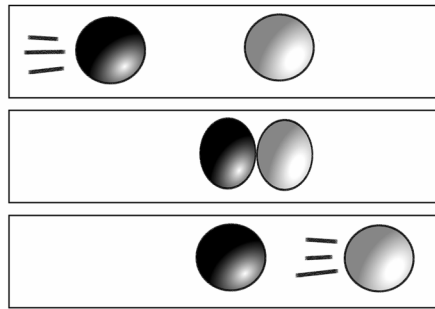


To the cosmonaut on the right—the astronaut on the left is moving.

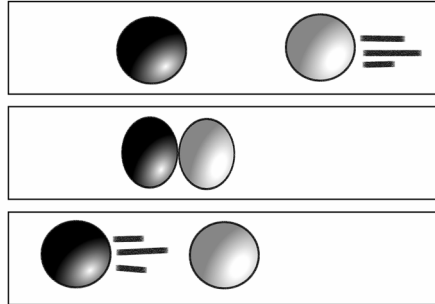
Now according to Newtonian physics, a body in motion contains energy. When a moving body (like a ball) collides with a motionless body, energy is transferred from the moving body to the motionless body. For this reason, the body that was originally moving slows or stops, while the body that was originally motionless takes up the lost energy and begins to move off in the direction the first ball was moving. In a case like this we say that the energy is *preserved*, but that it is *transferred* from one body to the other. In other words it is the same energy, passed from one body to another at the moment of collision. We see this occur every time we play pool and one ball knocks into another, sending it on its way. Or we see it at football games at kickoff. The energy is transferred from the player's foot to the ball, and it takes off.

Now let's return to our balls in space. Let's say that the black ball and the white ball collide in space and there is a transfer of energy. One bangs into the other and stops abruptly; its energy transfers to the other ball, causing it to start moving. Depending on our frame of reference, we might see this same collision in different ways. If we shared a reference frame with the black ball, floating

beside it let's say, we would see the white ball transfer its energy to the black ball. But if we watched the same event from the reference frame of the white ball, floating beside it instead, we would see energy transferred in the opposite direction.⁵



From the inertial reference frame of the white ball, the black ball transfers its energy to the white ball at the time of collision.



From the inertial reference frame of the black ball, the white ball transfers its energy to the black ball at the time of collision.

Here is the question. Where was the energy before the collision? Was it in the black ball or in the white ball? The answer changes according to the inertial reference frame of the observer. This means that the location, speed, and direction of energy, even the body to which the energy is the energy *of*, are effected by the

5. Here we *cannot* be sitting on the ball like in the example of the astronaut and the cosmonaut. Rather we must dismount our ball and float beside it, remaining in its inertial reference frame.

condition of the observer. So in what way is energy independent of perception? Energy appears to have no location, direction, or speed independent of observation? Again, reality conflicts with the second tenet of materialism, i.e. *that matter and energy are independent of perception*.

If we take this problem to a physicist, what will he say? He will point out what is a constant for both observers. Regardless of which direction the energy is seen to move, the formula that *governs* the *transfer* of energy ($M=E/C^2$) remains the same. But this tells us nothing about the energy that the formula is said to govern. Where *is* this energy? Does it exist? In what way? In what way does it exist if it has no location independent of perception? Since it has no location, should we say it's not in space? What would we mean by this? What is a thing that is not located in space? Its speed also changes with a change in reference frame. Does this mean that it is not in time either? What kind of an entity is outside of time and space? It is important to see just how huge a problem this is. Energy does not appear to exist! How can we resolve this?

Gravity: Pick up a ball and drop it. It falls toward the center of the Earth. This, of course, is called *gravity*. The speed at which the ball falls to the ground conforms to a precise mathematical constant— $F=Gm_1m^2/r^2$. For millennia people have tried to discover the mechanics underlying gravity. They have attempted to explain gravity. Today, we simply say that gravity is a law of nature and we describe gravity only in mathematical terms. But is this an explanation? Obviously it is not.

What is gravity? Is gravity simply the mathematical formula itself? If so, this creates several problems for the materialist. Can a mathematical formula exist independent of a mind to understand it? If so, in what physical way does the formula exist? If the formula independently exists, does it have location? If so, where is it? If it has no location, what do we mean by saying it independently exists? If we accept that a mathematical formula such as the law of gravity exists in some Platonic sense, independent of observation yet not physical either, then we have departed from materialism altogether. For the tenet of materialism is that matter and energy are *all* that exist.

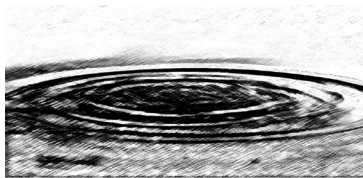
One option the materialist has is to say that such a formula *inheres* in the ball. But what does such inherence mean in physical terms? In what way does the mathematical formula inhere in the ball? We can cut open the ball and never find the formula. We can hook it to instruments and never detect it. We could say the mathematical formula is a *property* of the ball. But what do we mean by a property of a ball? It makes sense semantically. But does it make sense physically?

How are the ball and its mathematical properties attached physically? Where is some mechanics for this attachment? It is easy to say a formula is a property of a rock, but not easy to analyze what we mean by saying it.

How did Einstein resolve the problem of the gravitational pull of planets? He did the same thing that he did with the speed of light. He created a metaphor. Imagine we are in space. Imagine a rubber sheet stretched at all corners so that it is flattens in suspension like a trampoline. Lay a bowling ball on the rubber sheet. The bowling ball will cause an indentation. When another body (picture a very small marble) rolls into this indentation in the rubber sheet it gets caught up in the indentation, spinning round and round the first body (the bowling ball). Because there is no friction in space, it will roll round and round with nothing to stop it. The rubber keeps the marble from moving out—and inertia keeps it from moving in. Next Einstein imagines this metaphorical sheet in three dimensions, no small feat for the imagination. This, according to Einstein, explains the gravitational orbit of planets.

The materialist has no simple coherent explanation for gravity. He can only describe the law. To say that gravity is a property of a ball or inheres in a ball tells us little more than what we already know. We want more than a description of gravity or a semantic solution to the problem of gravity. What we want is an explanation for activity over distance with no physical connection.⁶

Waves: Every day children are taught that sound waves reach their ears drums. To give them a concept of sound waves, we often show them ripples in water when we drop a pebble or we shake a rope and ask them to observe the curl that snakes down its length. But these visual demonstrations are misleading. When a child sees a ripple in water move away from a dropped pebble, the child often thinks that the water is moving outward, pushed by other water. But actually the only thing that is moving outward is the wave and the wave is not the water. Rather it is energy that is moving outward.



6. like a puppet without strings

If we wanted to give a child a better idea of what we mean by a wave we would take them to a rock concert. Often in stadiums, young people enact what they call a “wave.” In fact this wave that they perform with their own bodies is more representative of what is actually physically taking place in an energy-wave. A small group of kids jumps up and then sits back down. The visual cue of their jump reaching its peak signals the next adjacent group to jump up—and so on. This unspoken instruction is passed from group to group—each jumping up and sitting down in their turn. When we see this from a distance it creates the appearance of a wave.

When a wave moves through air or water or down a rope, the same thing is happening. Groups of molecules jiggle in their turn—group after group—always at the correct moment according to a formula called the *waveform*. The molecules of water do not bump into other molecules to force them to move—just as the kids don’t have to bump each other to move. Nothing actually physically touches the molecules. What is said to move them is passing energy—energy sweeping by and causing them to jiggle at a precise moment according to a precise mathematical formula.

But how does this work. For an influence to exist between the formula and the molecules, one of two possibilities exists. Either the molecules are active or the formula is active. Consider each possibility in turn. If the molecules are actively responding to the formula—how do the molecules “know” when their turn has arrived to jiggle the way the kids at the stadium do? How do the molecules “know” the formula of the waveform and where they exist in it? Since we presume that molecules are dumb, the question is ridiculous. Since the molecules are dumb, we can rule out the idea that it is the molecules that are responding to the formula.⁷

The second possibility is that the formula is what is active. Rather than the molecules responding to the formula, the formula is acting upon the molecules. The question then is—how does the formula act upon the molecules? Normally we think of mathematics as inert (passive). How can it be active? Remember that, under materialism, only matter and energy exist. For the mathematical formula

7. Some might think that it is enough to declare that the molecules *do* respond to the formula. After all, we can observe that they do in fact respond to it. This is naïve. As stated in chapter one, there can be several explanations for the same event. The molecules could be responding to the formula, or both the formula and the molecules could have a common cause, etc. Since there are multiple explanations, it is a misunderstanding of science to think that we have solved a complex metaphysical problem simply by *declaring* what it is metaphysically that we are observing.

of the waveform to be active, we would need to postulate a third metaphysical entity—i.e. active mathematics. Thus, the explanation that the formula is active, beyond being incoherent and adding metaphysical complexity, is incompatible with materialism. We normally say that a wave is energy, causing the molecules to jiggle. But in an earlier scenario we saw that energy has no location or direction independent of perception. There doesn't seem to be any independent substance supporting the formulas of natural law. The formula appears to be all there *is* of energy. Thus our question about the power of the formula itself is a valid one. For the earlier scenario demonstrates that it is meaningless to speak of the power of the energy itself.

Fields: Energy takes place in what are called *fields*. A field is the mathematical map in space that describes where energy, such as gravity and waves, occurs. One way to understand what a field is is to think of a football field. A field in football is the arena in which the game takes place. A field in physics is the arena in which a physical event such as gravity or a wave takes place. While a field can be described in mathematical terms, what a field is in *physical* terms is not clear. How do objects “know” their fields? Or, if they do not know, which seems likely, how does the mathematical map of a field “govern” the objects it contains?

What is common to gravity, fields, and waves, is that they are occurrences of action at a distance. Summarizing the question over natural laws—how can we explain action at a distance materially?

PROBLEMS IN PHILOSOPHY

We have discussed problems in physics. We will now turn our attention to the intractable problems of philosophy, problems of mind. The reader should take note of the fact that these problems we are about to discuss are all, fundamentally, instances of a single problem. The problem is one of genesis.¹ Over and over in philosophy, it is discovered that some concept or principle that we all take for granted cannot be grasped by the mind without first grasping it. How can a concept that requires itself possibly arise in the mind?

The Traditional Problem of Induction: Philosopher David Hume raised a problem that remains unsettled in philosophy to this day. It is called the *traditional problem of induction*. Let's start by saying what induction is. When I say that the sun will rise tomorrow, what principle of reason am I using? The answer is the principle of induction. I induce it from my past experience. While it is not certain that the sun will rise tomorrow, past experience has taught me to expect it to do so. We infer our expectations from our experience. But how did I get this idea that the future has some connection with the past? Is it logical? Actually, as Hume points out conclusively, it is not. There is no law of logic to base it on? While one can assume the future will be like the past, one has no rational justification for assuming it. For no matter how many times the Sun has risen in the past, it remains possible that it will not rise tomorrow.

If the rule of induction is not logical, how do we come to acquire it as a way of thinking? Here is one answer I might give. I have used induction in the past successfully to predict events, so I feel warranted in using it again in the future. Do you see the problem? We are using induction (expecting the future to be like the past) to come to trust induction. If we say that we learned to use induction from past experience, then we are saying we used induction to learn to use induction. We would have to have a sense of induction in order to discover induction from past experience and expect it to be good tomorrow. One needs induction to learn induction. So how does one learn induction?

1. *Genesis*: coming into existence

The Problem of Deduction: The same problem applies to deduction. Deduction is hard logic. The laws of deduction are numerous. But the fundamental law upon which logic is built is called the *law of the excluded middle*, i.e. P or not P (something cannot be both P and not P at the same time). However, this law cannot itself be supported by any law of logic. Even if deductive logic could entail itself, such a derivation would not be valid, for it would commit the logical fallacy known as *circularity* or *begging the question*.² Thus, while we derive truth or falsity with laws of logic, we cannot actually derive the truth or falsity of our laws of logic.

How, then, did we derive the laws of logic? If logic cannot be deduced logically, how did our idea of logic arise in us? We could not have discovered it from observation. We needed at least the law of the excluded middle to begin, for all laws of logic are fundamentally derived from it. How do we know this law is right? Consider the law of the excluded middle. P or not P. Something either is P or it is not P. Nothing can be both P and not P. This seems reasonable. But try to prove it. It cannot be done. One has to have a sense that P or not P is rational to say that P or not P is rational. Look into yourself. Notice it seems logical. How do you know this? You started out with the notion. Where did you get it? It is impossible to determine from observation that something couldn't be P and not P at the same time. It just *seems* that way. How did this feeling arise in us? We'd better know. All logic is based on it.

What is Time? Try to describe what time is without making any reference to time. If we refer to a clock, we are referring to a device that *measures* time, but what is it that we are measuring? Some like to say that time is matter in motion. But the very concept of motion presupposes a sense of time. The question is the same as with induction and deduction. If we cannot explain what time is, except by referring to it, then how does a child come to understand what time is? We don't learn about time. We appear to come into the world with an innate feeling for what it is. Yet we cannot articulate what that is. What can account for an understanding which defies articulation, and thus cannot be learned, yet is shared by all?

2. *Circular Argument*: an argument in which the conclusion is assumed in the premises.
Begging the Question: assuming the conclusion in the premises

What is Space? All that has just been said of time can be said of space. One cannot describe space without referring to space or using spatial inferences like measure, distance, and emptiness, which themselves can only be understood by a person who has a concept of space. How does this sense of space come about in us if we must know what it is to know what it is?

What is Causation? Once again, philosopher David Hume brings our attention to a problem. What do we mean by the word “causation?” When I say that my knocking on a door *causes* the sound I hear, what do I mean by “cause?” Certainly the two events occur at the same time. Perhaps the knock came a moment before the sound. But this is merely correlation.³ What do I mean by “cause?” Once again one must have a sense of cause to know what is meant by cause.

What is Meaning? If I didn’t have any concept of how words mean things (how words in some sense *contain* other words or have a special relationship with other words which we call meaning), how could you explain to me what meaning is? I would need a sense of how meaning works to put your definition together with the word. In fact I could not speak or think without this innate sense of how words contain meaning and are more than the mere sound or the mere symbol. For a sense of what words are and a sense for how they contain their meaning is essential to language. Therefore, if an understanding of meaning is essential for understanding meaning, how does the sense of meaning arise in us?

One answer is a behaviorist answer. We learn to understand what meaning is by watching it practiced by our parents, etc. Certainly no behaviorist concept is workable, since learning meaning from observation of the use of meaning without having a sense for meaning would be impossible. One would simply hear gibberish because, in itself, language *is* gibberish. One needs a sense of meaning to learn language.

Some contemporary linguists speculate that language is “hard-wired” in the brain. But this is not an explanation. For no mechanics is offered for how this is done. We can assume that the “hard-wiring” is not literal (there are no wires in the brain), thus the reference must be to a binary code or pattern stored electrically. What would this brain-code look like that stored our *sense of meaning*? Wouldn’t a *sense of meaning* be required to decode the meaning of this code? Is not the code itself language? Such explanations are shallow. They fail to recognize the essential sense of language that is required for language to make sense.

3. *Correlation*: two events occurring together

MATERIALISM UP CLOSE

We have seen that there are significant features of observable reality that materialism cannot explain. There is one more worth discussing. But it requires a closer look at the theory of materialism and what it claims. Most people are not aware of what materialism actually purports. Let's look at the theory up close.

When you open your eyes upon waking, what do you perceive? You see colors. You smell fragrances, hear sounds, feel tactile sensations, and taste flavors. Let's call these qualities that you experience, taken as a whole, your *image* of the room. Is this image (color, sound, fragrance, sensation, and flavor) the actual room? Not according to materialism. Surprised? You should be. According to materialism the image you enjoy is occurring in your brain.¹ It is said that these sensory images are created in the brain *by* the brain to *represent* to you the matter, which exists in the outside world. What does matter look like? It has no look. It is without color, sound, taste, smell, or sensation. You cannot directly see it or even conceive of it in your imagination. So what is matter? Matter is the external *cause* of your internal image. The matter is what really is *real*. The color, sound, taste, smell, and touch that you experience merely represent it. If we can't perceive it, how do we know it is there? We don't. It's a theoretical substance. Materialism is a theory. Matter is the basis of the materialist theory.

You may recall this from high school science. Each pitch of sound you hear is caused by a certain frequency moving through the air and shaking your eardrums. Each color you see is caused by a certain frequency of light radiation moving through the air and stimulating the receptors of your eyes. A sensation of heat on your fingers is caused by a certain frequency at which molecules vibrate, shaking the nerves of your skin. These frequencies, describable only in mathematical terms, are the energy that exists, bringing data from the matter that exists. You

1. So, according to materialism, the room you *see* (the image) is literally inside of your head. It *represents* a real material world that you cannot directly perceive. This materialist principle is the philosophical basis for science fiction movies such as *Total Recall* and *Matrix* in which the implications of materialism are taken to their extreme.

cannot see either the matter or the energy. They are *theoretical entities*,² designed to explain experience. But do they?

How does the materialist say the image arises in the brain? What are the mechanics of this event? He doesn't know.³ While much is known about the apparatus of perception (eyes, ears, nerves, and brain) nothing is known about how something immaterial, such as an image of red, can arise in something material like a brain. No one has ever found the image of perception (the picture you see) in the brain. All that can be said is that when certain events occur in the brain, certain images (like red) arise in the person's awareness.

The question is, if matter is the cause of experience, how does it cause it? Currently, semantic solutions are popular. One, known as identity theory, asserts that the color red simply *is* a certain kind of brain activity. But this makes no sense. All that we have empirical evidence of is an odd correlation. If every time I heard an alarm go off I were to jump, would it explain this correlation to say that the alarm simply *is* my jumping? Identity theory brings us no closer to an explanation of experience.

Another semantic solution is to say that experience supervenes⁴ upon a particular condition of matter and energy. Another way of saying the same thing is that a certain condition of matter and energy gives rise to experience.⁵ But, once again, this is no more than a succinct statement of the theory of materialism. It misses the point that an *explanation* of this supervenience is what is desired, not simply a reassurance that a causal link *does in fact* exist and a description of which direction the causation is believed by the materialist to move in, i.e. from matter to experience.⁶ There is a physicist named Amit Goswami who says that self-

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2. A theoretical entity is any object, substance or force that cannot be verified by observation, but is supported by its ability to explain something that can. A ghost is a theoretical entity designed to explain bumps we hear in the night. See *Materialism is a Theoretical Entity*.
 3. "*Materialism*: the theory that physical matter is the only reality and that psychological states...*will eventually be explained* as physical functions (Encarta World English Dictionary).
 4. *Supervene*: Properties of one kind, F, supervene upon those of another kind, G, when things are F in virtue of being G (Oxford Dictionary of Philosophy). In easier to understand terms, supervenience occurs when a combination results in a startling effect that is more than the sum of its parts.
 5. To *give rise* to something means to cause it to be made manifest. Therefore the assertion that matter and energy give rise to experience is reducible to saying that they cause it, which leads us back where we started. The semantic explanation is merely a reassertion of the belief we are seeking an explanation for.

awareness gives rise to matter. What does this explain? Such declarations of supervenience are not explanations, but reiterations of what it is we are trying to explain.

What is needed is more than a statement of identity or causation. A real explanation requires some description of the mechanics of causation. For example, it is said that the power of an engine supervenes upon its mechanical parts being organized and functioning correctly. But an engineer can describe the mechanics of this supervenience. He can explain why it supervenes in terms of established natural laws and demonstrable mechanical processes. Thus the supervenience of the power of an engine is more than a semantic solution to the problem of how such power arises in an engine. We need something like this for experience. Materialism can offer no mechanics for how experience could arise from matter and energy, not even in the most basic terms.

We see *only* the mental image. Matter is not seen. Matter is a theoretical entity designed to explain our experience. It is an invention of the mind. It may turn out in time that the concept of matter maps to something real. But until the existence of this substance can be verified by observation or instrumentation, and the results of such observation cannot be explained any other way, then matter is no more than an idea.

There are two ironies in this. One is that matter, the sole justification of which is that it can explain experience, has, after hundreds of years, not yet explained experience. Second, it is ironic that the materialist believes in the independent reality of matter, but not in the independent reality of experience. The belief in matter is derived from experience. That is where all derivation begins. The belief in experience is also derived from experience, i.e. itself. The bedrock upon which the belief in matter is built is experience, yet the materialist has come full circle to deny the substance of the bedrock upon which he has built his theory. This is like a man denying the existence of the ladder he is standing on. That perception is happening is self-evident. It stands as its own proof. We have no proof of matter. Yet we believe in matter in the name of reason.

In summary, materialism, a theory designed over millennia to explain everything, explains nothing at all. In addition the explanatory power it claims to have relies upon multiple theoretical entities that cannot be observed or verified such

6. About the use of supervenience to explain events, the Oxford Dictionary of Philosophy warns, "The value of this...depends on how well we understand the supervenience relation itself. If it is a dangling, inexplicable, metaphysical fact that the Fs relate in this way to the Gs, then supervenience inherits rather than solves the problems of understanding the various areas."

as a material substratum, curved space, and compressed time. Contemporary theories that attempt to pull together even more phenomena, theories such as superstring theory, have added strings and multiple dimensions of reality to the list of theoretical metaphysical entities. Materialism is rapidly expanding in complexity to keep pace with what scientists are coming to realize about our world. This happened once before. Five hundred years ago another theory began to increase in complexity to maintain its explanatory power. It was called the Ptolemaic system of astronomy, the earth-centered solar system. As an outdated map of the heavens diminished in its power to explain new data, a simpler explanation of solar and planetary events emerged. This small change, the movement from a complex model to a simpler one with the sun at its center, caused a revolution of thought in nearly every sphere of inquiry.⁷

Here we will offer a similar shift in paradigms. The new theory of everything relies upon no new metaphysical entities, but commits itself to removing many. It is thus metaphysically simpler than materialism. Cleared of such inconfirmables, it surprisingly solves the problems we have outlined. For, unbeknown to us, as we were creating more and more metaphysical entities to save our assumptions, we were creating our own metaphysical conundrums.

7. This is not the first time such a comparison has been made. Eighteenth century philosopher Immanuel Kant announced a “Copernican Revolution” in philosophy. But Kant did not escape representational realism. He simply supplanted matter (a theoretical entity beyond empirical experience) with yet another which he called *noumenon*, leaving the world of our experience still exiled from reality. In the theory presented here, we will not be exiled from the world as it is, but will be reunited with it. The world of our experience (color, sound, taste, smell, and feel) will again be the actual world, in conformity with our common intuition. Such direct realism, which conforms to our intuitions, has been attempted before, but no one has ever proposed a mechanics to support it. For a theory of direct realism to operate coherently, we must radically alter our methodology. The differences between this system and Kant’s *transcendental idealism* are many. Kant retains a *noumenal* subject and object. Kant presupposes logic as a given, thus presupposes mind and thought and the foundations of language as givens. Kant’s is a steady-state system, less concerned with explaining the genesis of the faculties and dimensions of perception than with describing the mechanization of understanding the object through the intuitions of time and space.

CLARIFYING OUR LANGUAGE

Before we present the new theory, we need to clarify some of the language that will be used in the remainder of this book. We will also introduce the working parts of the theory, giving them name and definition.

Perception and Image: It is easy to *equivocate*¹ when using the word “perception.” Sometimes, by “perception,” we mean the act of seeing or hearing something, (“I perceived the oasis.”) while at other times we are referring to the image that is perceived (“I am sure the perception was a mirage.”). Here we will use the word “perception” only to mean the act of perceiving an image, and will use the word “image” to denote that which is perceived.² We will use the word “image” to denote many different kinds of perceptual phenomena—not simply visual—and these include sound, taste, touch, and smell, as well as mental imagery and the understanding of language (as in the expression, “I perceive the meaning of your words”).

By the word “perception” I am referring to the five traditional faculties of sight, hearing, smell, taste, and touch, as well as four other faculties. These other faculties include the experience of the images of imagination (dreams and fantasies), the experience of one’s emotions (joy, sorrow, anger, etc.), the experience of one’s internal verbal monologue (“hearing” one’s thoughts), and the experience

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1. *Equivocate*: to speak vaguely. to use a word in two different ways in the same passage.
 2. The English language does not have a common usage word to denote *that which is seen in the event of perceiving*. The word *image* was only the final choice after deliberating between *impression* (from David Hume) and *percipians*. These words made reading confusing. For instance, the phrase, “my impression of experience” seems to denote my *opinion* about my experience. The least ambiguous word would be *percipians*, but it renders reading too cumbersome. The word *image* has the limitation that it usually denotes only a visual impression. Here the word is generalized to include any object of experience.

of comprehending the meaning of words as well as the relationships inherent in mathematics.

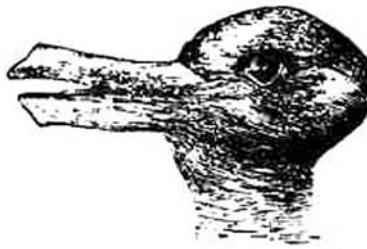
It is unorthodox to categorize comprehension of language as a perceptual faculty.³ However, consider the following experiment. Say to yourself, either in your thoughts or out loud, the word “necessity.” In the period of time you hear the word you perceive what it means, i.e. you comprehend its meaning. But the instant that the sound of the word ends, you cannot recall the meaning you just perceived. You can recall it only by repeating the word, and again the impression of the meaning of the word persists only as long as it takes to repeat it. Try this now several times, using the word “necessity” until you *see what I mean*.⁴ Because the impression of meaning is fleeting, it seems more like an image than knowledge. Based on this reflection, I have classified language comprehension as a form of perception with meaning as its image.⁵

Perception and Experience: I use the words “perception” and “experience” interchangeably. This is because I believe no one can speak of an experience without denoting some kind of perception, and vice versa. As with the word “percep-

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3. It may be somewhat unorthodox to use the word “perception” to denote understanding, but it *is* part of the definition of the word. *Perceive*: to understand something in a particular way (Encarta® World English Dictionary) The only difference between Encarta’s definition and our own is that—rather than describing perception as a way of understanding, we describe understanding as a way of perceiving. This small shift in thinking is critical to understanding how the new system accounts for mental activity. Thinking is nothing other than a more complex manner of perception. Consider Kant’s somewhat eerie foreshadowing of this idea that both the senses and the understanding spring from perception: “...we need only say that there are two stems of human knowledge, namely *sensibility* and *understanding*, which perhaps spring from a common, but to us unknown, root.” (Critique of Pure Reason, A15, B29).
 4. The reason the word “necessity” was chosen is because it has no visual corollary or associations. After you say a word that denotes or suggests a visual image, like “deliver,” part of the meaning may persist as long as the image persists in imagination. This, however, is the same phenomenon, but more difficult to observe in a thought experiment due to its dual nature of the word—both visual and analytic. So “necessity” was chosen for ease of demonstration.
 5. Note that this does not require a new metaphysical entity, but is merely a reclassification of a recognized psychological phenomenon, comprehension. This phenomenon of “seeing” the fleeting image of the meaning of a word is discussed further in the chapter *Testing the Theory*.

tion,” the word “experience” will only be used here to denote the *event* of experience and never its image.

Perceptual schema: We are going to coin and describe a new concept. The concept is a *perceptual schema*.⁶ This is the hub, the working mechanism, of the system being introduced. Therefore, it is vital to understand what it is intended to denote. A perceptual schema is a way of perceiving. It is the way that one perceives what one is looking at or listening to or thinking about. Another way to say this is that the way one sees something is the result of the perceptual schemata through which one is seeing it. A good analogy of a perceptual schema is a pair of rose-colored glasses. If you look at a white piece of paper through them, the paper will appear rose colored. The color is actually a property of the glasses, though it shows up in the image. Can we see a perceptual schema? No. As with the rose colored glasses, we only see its effects. We can actually see the effects of our perceptual schemata all around us. Let’s see one in action in our own perception. Try this experiment. The image below can be seen either as a duck or as a rabbit.



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6. *Schema*: n. *Schemata*: plural an organizational or conceptual pattern that we use to shape our experience. The sense of the word *schema* as it is used here is close to Immanuel Kant’s *pure intuitions* of space and time and his *schema*—a method that allows the understanding to apply concepts to the evidence of the senses. Kant argued that notions such as space and time cannot be derived either from experience or reason, thus he offered a special new category of knowledge which he called intuition. (See Kant’s *Critique of Pure Reason*.) Kant’s system winds up being unnecessarily complex, relying on multiple entities such as *the noumenon*, *the understanding*, *the imagination*, and *the schematism*. Much of this has been condensed in this system in the single device, the perceptual schema. While Kant influenced this system, it is also influenced by modern research in perception, Gestalt psychology, and process theory.

What change occurs that makes this alteration of the interpretation of the image possible?⁷ The change that occurs in the image is the result of a switch in one's way of seeing it. What one is switching is one's perceptual schema. It is formative in that it brings the duck or rabbit interpretation *to* the content. In this case you can choose which perceptual schema you wish to look at the picture through. In most cases you cannot because perceptual schemata are subconscious.

I can abstract from the image the perceptual schema that I am using to produce it. In other words, if I am using my duck schema, I can abstract duck-ness from my image. But the duck-ness I am abstracting from the image is most fundamentally a condition of my perception. Duck-ness is not a property of the image *unless and until* I bring this organization *to* it through the device of my perceptual schema. The duck property does *not* originate in the image. The duck property originates in the act of perceiving. The presence of the property in the image is a side effect of seeing duck-ly.

7. Such shifts in perception are inexplicable under materialism. There simply is no mechanical explanation for this switch in experience. Discussion of such shifts in perception belong entirely to the domain of psychology, which, however, can only *describe*, but not explain, them. It is our contention that the shift in perception is not physical at all, nor psychological, but that such shifts are fundamentally perceptual in nature and spontaneously create both the physical and mental.

POSTPONING OUR ASSUMPTIONS

When you wake up in the morning and open your eyes, what happens? An inexplicable event or process takes place. We call it experience. Colors, sounds, fragrances, emotions, and internal dialogue appear. We look in the mirror and see that we too are in this kaleidoscope of impressions.

Long ago, before he had the complicated metaphysical theories that he has today, man had his experience to explain. Over time, he invented theoretical entities to explain his experience. He invented gods, the *logos*, forms, matter, *monads*, *noumenon*, minds, spirit, the *ether*, spacetime, superstrings, dimensions, etc. Gradually these invented things became the things which required explaining. Great arguments were generated to explain them, to prove the existence of the entities he had invented to explain experience. Gradually man began to question experience itself, since it no longer seemed compatible with his theories. Experience, that event which had once been beyond dispute and the starting point of man's inquiry, was now the theoretical entity, and his invented entities, such as matter and energy, for which he had no direct evidence, were reality. The world was finally totally upside down.

Here we are going to return to the original question. How do we account for our experience? Is there a simple logical theory that can explain it? To explain all of the phenomena that we experience simply and completely we must begin by doing something painful. We must let go of our favorite inventions—all those theoretical entities—*monads*, *noumenon*, etc. as well as mind, matter, and energy. How can we eliminate mind, matter, and energy? Aren't these primary entities of reality? Remember that they are theoretical entities. For a moment, at least, let them go. Stop thinking of thoughts as things that fit in a box called a mind. Stop thinking of a mind as a box that contains thoughts. Stop thinking of matter as a substance analogous to the substances of our experience, like cement and plastic. Stop thinking of energy as a kind of magical liquid, with location and direction. Stop thinking of natural laws as independent mathematical descriptions floating about inside or outside of space. Stop thinking of space as a kind of foam and

time as a kind of fabric. Stop thinking of spacetime as something other than a mathematical tool. In short, attempt to refrain from the age-old habit of imagining the fundamental components of nature as something analogous to the things found in nature that they produce. If the only verification we have for our theoretical entities is the explanatory power they are purported to have, then let go of the dogma that they exist. Let us begin a system again, in other words, without objects. What is important is that we *wind up* with objects—with the world as we find it—not that we begin that way.¹

All metaphysical theories have an *axiom*. An axiom is a basic proposition of a system that, although unproven, is used to prove the other propositions in the system. Often this first proposition cannot be fully analyzed. For instance, materialism begins upon the premise that matter and its corollary energy exist fundamentally. Yet no one can analyze exactly what matter and energy are, beyond that they exist and are fundamentally real.²

The system being presented also has an axiom. It begins upon the axiom that *perception is fundamental*.³ This is meant literally. Perception is basic and original. Perception, a continuous process, is the fundamental building block of the universe. In the next chapter we will flesh out the theory of the evolution of perception. The following propositions will help to understand it.

1. Perception alone is occurring.
2. Perception is all that ever was or ever will be occurring.⁴
3. Before there was a perceiver or anything to perceive, perception was occurring.
4. In the beginning, before distinction and number, before time and space, before motion and location, before cause and effect, before color and sound, before induction and deduction, before reference and meaning, before language and thought, before good and bad, happy and sad, up

1. See the chapter *The Psychological Fallacy*.
 2. Matter is believed to be independent of perception and not directly experienced. Thus matter is not the image of our experience. But the *mathematical qualities* that we abstract from the image, according to materialism, *are* properties of the matter. A more obvious conclusion would be that since the mathematical properties are abstracted from the image of our experience, they are the properties of the image of our experience.
 3. Another form of this axiom would be, “The image of experience is clear and present.”
 4. Same as the first premise, but emphasizing the permanence of this ontological status.

and down, rich and poor, beautiful and ugly, perception was, and continues to be, occurring.

5. Perception is indivisible for it creates, and thus precedes,⁵ the schemata of distinction.
6. Perception is not analogous to anything in the image, for it precedes the image, producing it in the complex act of seeing it.
7. Perception cannot be analyzed because perception precedes the tools of analysis, producing them in the complex act of seeing them.
8. While perception cannot be analogized or analyzed, it is not remote for it is all that is.⁶
9. The universe is the result of an evolution of perception.
10. The evolution of the *image* of our experience, composed entirely of things and events that we see, hear, smell, taste, touch, and imagine, as well as concepts that we comprehend, is merely a side effect of the more fundamental evolution of the process of perception itself.

5. By “precede” we mean, “to come before something else in an order, sequence, or procession.” Perception forever precedes the attributes it produces. Thus it does not come under the influence of those attributes.

6. Most systems have some remote fundamental entity such as matter or *noumenon* that we take for granted. By saying it is “remote” we mean that we are not in immediate experiential contact with it, and thus cannot be said to have knowledge of its existence by direct experience. That experience is occurring, however, is not a theoretical conjecture. It is an inescapable reality that cannot be coherently denied.

THE NEW THEORY: THE EVOLUTION OF PERCEPTION

The theory of the evolution of perception is a system for understanding reality. It cannot be tested, neither proved nor disproved. Neither can materialism be proved or disproved. What we are looking for, instead of proof, is a comparison of the virtues of each system, i.e. their explanatory power and simplicity.

The essential idea of this system is easy to summarize, and it will be helpful to go ahead and do so before describing it at length. The idea is that the perceptual schemata (distinctions like the duck-rabbit example) can account for *every single attribute* of our experience, from the mathematical to the physical, to thought, language, identity, and culture. No other entities are required. Taken together as a whole, the evolution of perception and its perceptual schemata (seeing and ways of seeing) can account for these things with a single mechanism, making it simpler than any previous theory of reality.

The process of the evolution of perception accounts for the metaphysical components of life such as time, space, natural laws, substance, and thought. It is not intended as a substitute for other well-established processes, such as plate tectonics, biological evolution, or psychology. It is the process that created the *raw material* that these other processes manipulate. It is the *underlying* process.

What begins as a story, a telling of chronological events over the course of time, is in fact most fundamentally a description of a process, rather than a temporal chronology. It is best to understand those events that are described as occurring prior to the schema of time as being events that occur in purely logical sequence. Events described as occurring after the rise of the schema of time can be understood as events occurring *in* time or in temporal sequence.¹

1. This is because the schema of time gives rise to the impression of things being *in* time. Thus time does not exist prior to the rise of the schema of time.

Finally, the precise order of events in this account of the evolution of perception is *ad hoc*.² The point of giving it is not to convince the reader of every detail, but in a more general way to convince the reader of the increased elegance and simplicity of relying on a single device, the perceptual schema, rather than multiple metaphysical entities or substances, to account for the aspects of human experience.

IN THE BEGINNING, before time and space, before language and thought, before logic and number, and before distinction of any kind, there was perception. There was no one doing this perceiving, nor was there anything to perceive, for such a distinction was not yet conceived.^{3 4 5} There was only that which we ordinarily conceptualize as occurring between seer and seen—the activity of perceiving.⁶

The world began to evolve in the moment that there was a small change in the manner of perception.⁷ In other words, the first perceptual schema evolved. The world was, and remains, nothing but the subjective after-effect of perceiving through a congeries of perceptual schemata. A perceptual schema is a way of perceiving, a way of organizing an image. It brings content to the image of experience by means of perceptual organization. A perceptual schema is not a linguistic thought, nor is it a picture, but rather it is what begins to make such impressions possible. When a new perceptual schema emerges in perception,⁸ it brings a new dimension to the image and a new overall image is formed called a *gestalt*.⁹ How-

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2. *Ad hoc*: done or set up solely in response to a particular situation or problem (Encarta World English Dictionary).
 3. It was inconceivable because the conceptual devices for conceiving of such a distinction as seer and seen, such as the device of distinction itself, had not yet occurred in perception.
 4. Perception precedes the conceived distinction of subject (seer) and object (seen). Some will argue that it is not possible that perception could take place without someone doing the perceiving. From a purely logical point of view it *is* possible. Consider Descartes' cogito, "I think; therefore I am." Descartes is not deriving his existence as he claims to be. Rather he assumes his existence in his premise, in the word "I" in "I think." Strictly speaking, the only logical conclusion Descartes could have derived from his immediate experience would have been, "Experience is occurring; therefore experience is occurring." Descartes did not guess that perception might be occurring independently of its subject and object, forming the impression of both through the power of complex evolved schemata. Descartes could never have guessed that an evolution of perception gave rise to subject and object, for concepts such as process theory and evolution were not available to him.

ever, when the very first schema evolved in perception there was no image to be schematized.¹⁰¹¹

The first perceptual schema to evolve was the schema of distinction.¹² We could just as well use the word “separation,” “duality,” “two-ness,” “binaries,” “opposition,” or “polarity.” We can verify that the schema of distinction survives in our perceptual faculties to this day. Look at the room you are in. Can you distinguish the floor from the ceiling, the furniture from yourself? How can we explain this conceptual ability that we so take for granted?¹³ If you could not make these distinctions, and had no ability to distinguish between things whatsoever (due to a cognitive dysfunction), you would be in a waking coma. One must make distinctions to pull things into conscious awareness.¹⁴

The conception of distinction automatically gives rise to a conception of mathematics. Mathematics is entailed by distinction. Once distinction is conceived as a theoretical possibility all that remains is to conceive various ways of distinguishing, i.e. mathematical qualifiers.¹⁵

Thus, infinite mathematical potential existed automatically with the rise of the first schema of distinction alone. But this mathematical potential could not man-

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5. Isn't an image a necessary part of what we call perception? Can we see without seeing something? There are several ways to demonstrate that it is indeed possible. Imagine you are asked to enter an isolation tank to determine if there are any light leaks or sound leaks. You enter the tank, look, listen, and then exit to report that there are none. How could you make this determination without *perceiving* this absence of stimuli? Aristotle made an analogy that may be helpful. He said, “If the eye had a soul, it would be sight, not seeing” (Aristotle, *On the Soul* 2:1:20). Consider what Aristotle is saying about the difference between sight and seeing. If you blow out a candle in a dark room, you stop seeing anything, but you retain your faculty of sight. On the other hand, if your eye becomes blinded in an accident, more than seeing is lost—your sight (the essence of your eye, its life) is lost. We are saying that in the beginning there was sight, but no seeing. It is an axiom of this system that perception is a process that is independent of any image.
 6. There is nothing illogical about this paragraph. It is a first premise or axiom of a system that builds upon it. That an invisible substance called matter existed before the things that it conspired to produce is also a first premise or axiom. Neither can be derived logically or verified. Both are mere metaphysical starting points that originate in human imagination. They must be guessed because experience itself entails no metaphysical conclusions about its origin. *Axiom*: a basic proposition of a system that, although unproven, is used to prove the other propositions in the system (Encarta World English Dictionary).

ifest in the image for it had no medium to which it could be applied.¹⁶¹⁷ Such a medium required a second perceptual schema.¹⁸

The Quantum Era: The second perceptual schema that evolved was time. Time, like distinction, is nothing more than a way of organizing an image. We don't see time *per se*. Rather, we see things temporally. Because there was no dimension of time prior to the evolution of the schema of time, time followed distinction only in logical succession. Reflecting upon the rise of the schema of time through the organizational power of time, we would say that time came into being simultaneously with the schema of distinction.¹⁹

Now stop and think about time. Like its predecessor distinction, time survives in our perceptual faculties. Can you distinguish today from yesterday, this moment from one that has not yet occurred? How do you do this if not through the schema of time? Think of two plus one. You are able to separate these numbers in sequence.²⁰ What kind of sequence? A temporal sequence. With the emergence of these two perceptual schemata, distinction and time, distinction could be applied to the sequence of time. Perception of the endless potential of mathematics that was made possible by the evolution of distinction, through the newly

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7. The epiphany of the first perceptual schema corresponds with the moment of the Big Bang. However, this moment is only a moment in hindsight, when it is reflected upon through the evolved schema of time. It also corresponds with the *location* of the Big Bang, which is a location only in hindsight, imagined through the evolved schema of space.
 8. Original schemata emerge suddenly, much like epiphanies (sudden intuitive leaps of understanding).
 9. *Gestalt*: a set of elements such as a person's thoughts and experiences considered as a whole and regarded as amounting to more than the sum of its parts (Encarta World English Dictionary).
 10. Someone might ask *why* all this happened. Materialism cannot account for *why* the universe began. While such teleological concerns are part of this theory, they fall outside of the scope of this book. Here we are merely comparing its simplicity and explanatory power with that of materialism.
 11. It seems strange to talk of a way of perceiving, such as perceiving distinctively, arising prior to any image to perceive through that schema. However, there is nothing logically inconsistent about this conception.
 12. Properties seen through the intuition of distinction tend to be polarized, understandable in terms of a set of opposites. For instance, up is understood in contrast to down. Good is understood in contrast to bad. No property is conceivable in isolation from some contrast, either its opposite or its negation.

evolved schema of time, made the rise of complex mathematical formulas possible.

The rise of the distinction of time marked the onset of the first major era in the evolution of the universe—a universe that was nothing but a conceptual mathematical image. This era, which took place billions of years ago, was the era in which subatomic laws evolved, the pure mathematical formulas that govern subatomic structures. We can call this the *quantum*²¹ era. Subatomic particles such as quarks and electrons existed in this era only in their most abstract mathematical condition. The subatomic quantum image is what materialists call the “material substratum,” i.e. that which we are seeing at its most fundamental level. This quantum world (or stratum of the perceived image) arose prior to the evolution of the perceptual schema of space. Therefore, it does not conform to our spatial intuitions. In the subatomic quantum world, things disappear and reappear, etc. Subatomic events do not conform to our common sense notions of finite²² location and motion. These dimensions emerge only with the rise of the next schema.

The Rise of Natural Laws: The third perceptual schema to evolve was space. The schema of space brought still more organizational content to the original mathematical quantum image.²³ The dimension of space was thus added to the overall gestalt. Motion was now an abstract possibility. The schema of space made finite mathematical formulas possible, formulas that apply to the dimensions of

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13. Most people would say it is simply obvious. This is a given. It *is* obvious. But the question is *why* is it obvious?
 14. When you abstract any distinction from the image you perceive, you are, according to this theory, exposing a property of your own perception. Without the ability to make distinctions of any kind, the human being would not be able to separate himself from his environment, thus would not be aware of his own existence.
 15. Later, the application of the schema of mathematics to language gives rise to logic.
 16. Before the first schema there was no image. Therefore, the first way of perceiving (the first schema) preceded anything that would be perceived in terms of it. This entails an entirely novel way of looking at metaphysics, a complete inversion of thinking.
 17. Without any dimensions (like time), mathematics is too abstract to manifest in the image. Time brings the first variable to mathematics. This system works by beginning with subtlest impressions and developing toward the more substantive and definite. It is this sense of progression and not the details presented, which probably are inaccurate, that I am trying to convey.
 18. For distinction to entail more than mere mathematical potential required the dimension of time.

space and time. We find the result of this evolution of finite mathematical formulas all around us in the form of natural laws such as gravity, electromagnetic fields, and the constant speed of light.²⁴ These laws are, in fact, inherent attributes of our perception. This is why we can find no external cause for them. We can see that these formulas survive in our perceptual faculties today. Pick up an object and drop it. Watch it fall to the floor in accordance to an exact formula, whether or not you are aware of that formula. This is the perceptual schema of gravity operating in your experience.

Thus, the emergence of the schema of space marked the beginning of the second era in the evolution of the image (world), i.e., the evolution of its mathematical natural laws. Natural laws, when applied to the quantum substratum, eventually, and over the course of time, gave rise to molecules, planets and suns. Note that this world, like that of the quantum era, was a purely mathematical world entirely devoid of any substantive concrete impression. The evolving mathematical image *was* the object of perception—in a sense a purely conceptual image.²⁵

During this era, mathematical laws evolved prior to the objects they later governed, gradually giving rise to those very objects.²⁶ This is the opposite of what

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19. To get a clearer sense of why this is, consider the following analogy. Imagine a world in which time does not exist. Now, let's say you invent a pair of glasses that allows you to perceive things in terms of the dimension of time. Putting on these glasses time is suddenly an apparent reality. Reflecting upon your memory of placing the glasses over your eyes for the first time, you would perceive this act to be the original event. For, in fact, it occurred in the instant of the emergence of time...time being nothing more than an effect of the glasses.
 20. *Sequence*: *n* a number of things arranged in a particular order or connected in some way, or a number of actions or events that happen one after another. *v* to arrange things or perform actions in a definite order (Encarta World English Dictionary).
 21. The quantum world is the world of very small objects such as subatomic particles. Subatomic particles behave oddly and do not conform to our common sense ideas of definite location and motion.
 22. *Finite*: subject to measurable limitations (Encarta World English Dictionary).
 23. The mathematical quantum image forms a matrix upon which all else is constructed simply by adding properties, i.e. imagining new qualities in the matrix. *Matrix*: a situation or set of circumstances that allows or encourages the origin, development, or growth of something (Encarta® World English).
 24. In all of these laws, mathematics is applied to the dimensions of space and time.
 25. Remember that the word "image" in this system includes concepts. In this case mathematical concepts are perceived. They are the image of perception, the object of experience at the beginning of time.

our intuitions tell us should have occurred. Objects, it seems, should have evolved before the laws that govern them.²⁷ But introspection will reveal that this second scenario is logically impossible. It is the strong forces (such as electromagnetic forces) that pull subatomic particles together to form molecules. And it is the weak forces (such as gravity) that pull molecules together to form planets. Therefore, it is impossible that molecules or planets evolved prior to those forces.

Inorganic Evolution. In this primal²⁸ mathematical world (image), inorganic compounds (albeit mathematical) began to evolve. Things like minerals (compounding and degrading by natural laws) and water (forming into lakes, rivers, and streams by natural laws) manifested without sensorial qualities such as color, sound or texture—qualities that would eventually give them their appearance of solidity or tangibility. Gases, suns, planets, and moons, evolved in this pure mathematical era. Barren²⁹ galaxies evolved without color³⁰ or sound. If one could perceive the world today in this present moment only through the perceptual schemata of the era of its origin, one would see a world replete with plants, animals, and sentient human beings moving about, all composed of nothing but mathematical laws and quantum probabilities. On one level, the world remains that way. The only difference is that today our perception is evolved to the point where we have added qualitative schemata such as color and sound, connecting quantitative and qualitative qualities the way colors are connected to numbers in a paint-by-number set—only we do so through our perceptual organization.

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26. All of life can be reduced to natural laws if we include all laws of cause and effect, thus the world is essentially comprised of them. In this sense the evolution of natural laws gave rise to the objects that they would, over the course of time, come to govern.
 27. This theory challenges the assumption that substance is fundamental, and posits the notion of a substance that arises as the result of a process. (See the chapter, *The Psychological Fallacy*)
 28. *Primal*: first or earliest, and often basic (Encarta World English)
 29. *Barren*: with no trees or other plants growing (Encarta World English Dictionary).
 30. There was light in its mathematical condition. But color (which is how we represent light visually) was not there. To get a picture of a world without color or sound, but just math, imagine a photograph scanned into a computer and converted into its binary code. Any change in the picture would be represented by a corollary change in the binary code. This concept is represented in the movie “Matrix” where someone monitors the world in a green computer screen where ones and zeros flow down the screen representing the world. Color is a quality of experience. Red is an experiential representation of a particular frequency in the spectrum of frequencies that we call “light.” Such frequencies can only be described mathematically.

Organic Evolution and The Rise of Substance: In the third era in the evolution of perception, organic life forms began to evolve such as plants, worms, etc. Simultaneous with the emergence of such organic life forms a new class of perceptual schemata also arose. We can call these *sensorial schemata*. Over time sensorial schemata came to include touch, smell, taste, sound, and eventually color—the five senses.³¹ The sensorial schemata are important, for out of them arise our sense of *substance* that we currently enjoy,³² i.e. the sense of physicality that we feel with our hands and see with our eyes. Color is an example of a sensorial schema. The color spectrum arose in perception as a new and more interesting way of perceiving an otherwise colorless mathematical image, i.e., the mathematical wavelength of the light spectrum.³³ Similarly, the evolution of the schema of sound brought the dimension of sound to an otherwise silent mathematical image, i.e. frequencies of vibration.

Once again, we can test whether these sensorial schemata survive in our perceptual faculties. Look at an object in the room you are in. You see it has a color. This color corresponds with a purely mathematical frequency of light. Feel it. It is either cool or warm. This sensation corresponds with a molecular frequency.

The rise of sensorial schemata gave the image its substance or its substantive quality. This is opposite from the way we traditionally think about substance. Normally we think of substance existing from the beginning, even before evolu-

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31. The schema of induction also evolved in this era as a way of organizing stimuli. The roots of a plant will grow in the direction they have previously encountered water. The plant has begun to presuppose that the future will be like the past. Incredibly, the plant is beginning to evolve a sense of induction.
 32. *Substance*: physical reality that can be touched and felt (Encarta® World English Dictionary).
 33. It is easy to forget what physics teaches us, that we don't actually see light directly. (refer to the later chapter, *Comparing Theoretical Devices*) We perceive only color (if we include as colors black, white, and gray). Light itself is not colored, but is describable only in mathematical terms. So what is color? It is a perceptual representation of the mathematical condition of light. How does color come about in the brain according to the theory of materialism? As of the date of this publication, materialists have not resolved what color, or any other aspect of experience, is. See modern research on *qualia*. There currently is no materialist mechanics to explain the rise of experience. Resolving what experience is is considered by many to be the last intractable mystery of science. In this system we needn't explain it for we begin with it as the fundamental unexplainable phenomenon out of which we erect the edifice of perceived reality.

tion began.³⁴ Here substance arises out of a process of evolution. It is the result of an evolution of perception that gradually adds perceptual³⁵ qualities, such as weight, color, thickness, and mass, to the image. These schemata create the gestalt of solidity and form. Objects seen through sensorial schemata are stable and reliable because they are schematizing stable and reliable natural laws. Objects that one experiences in terms of them are tangible because one can touch them. They are empirical³⁶ because one can see them. In every conceivable sense, the otherwise non-substantive mathematical image, when seen through the sensorial schemata, is entirely substantive.³⁷

The complete mammalian experience: Let's now look at the world through the senses of a rabbit to understand what has appeared and why it has done so.³⁸ The rabbit has a fully evolved set of sensorial schemata—as well as the apparatus (eyes, ears, brain) to organize them. When it looks at a tree, it not only sees (sub-consciously) the mathematical state of the tree, it sees this mathematical state through the evolved schema of color. The perceptual schema of color adds color content to an otherwise colorless mathematical image of a tree. These two perceptual dimensions (mathematics and color) overlay one another and fuse³⁹ to form a unified gestalt of a tree. A mathematical image of a tree, seen through the schema of color, entails the rabbit's perception of green, brown, black, etc.

Each sensorial schema corresponds to a frequency that can otherwise only be described mathematically. For instance, each color corresponds to a particular frequency in the spectrum of light. Each octave of sound corresponds with a particular vibratory frequency. Each degree of heat corresponds with a particular frequency of vibrating molecules. Each taste and smell corresponds with a particular

34. Materialism includes the belief that matter (substance) is basic, and thus always existed. In the new theory, perception is basic and is always occurring.

35. Some might question why the phrase “*perceptual* qualities,” as opposed to “*perceptible* qualities,” was used in this instance. This is not a typographical error. We do not perceive qualities. Rather, that which we perceive *is* the quality of our experience—not its object. Thus qualities are not *perceptible*, but rather *perceptual*. Many contemporary philosophers of mind are attempting to classify the qualities of our experience, like color, as a class of entity and have therefore coined the appropriately entity-invoking name *qualia* to denote that which we see. From the standpoint of this theory, the invention of *qualia* as a very late 20th century theoretical entity is an example of the exact habit described in the previous chapter, *Postponing our Assumptions*. “Perceptual qualities” was used instead of “perceptible qualities” because it invokes the sense of a class of *quality* instead of a class of *entity*.

36. *Empirical*: known by direct experience.

geometric molecular structure. In short, for every mathematical state there exists a corresponding qualitative state. The mathematical properties of objects (their size, shape, weight, etc.) are the result of their quantum states being perceived through mathematical schemata. The sensorial properties of objects (their color, sound, scent, etc.) are the result of those mathematical states being perceived through sensorial schemata.

The rabbit sees the mathematical condition of the tree, but lacks the schemata necessary to abstract (pick out and describe) such qualities from the image. Nor can the rabbit abstract the green color from the tree or even that the tree is a tree. The ability to conceptually break the image back down into its constituent parts (analyze the image) comes later with the rise of human perception. Humans, due to more complex schemata, can easily abstract both kinds of properties (mathematical and sensorial) from their unified experience.

The human experience: The rise of human experience is marked by three unique abilities—the ability to be self-aware, the ability to think, and the ability to create culture.⁴⁰ These abilities are the result of four schemata unique to human beings. We will discuss each of these four schemata and see how they contribute to these abilities.

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37. Some would argue that the word “substance” denotes something to do with being real. Yet, these same people would have a difficult time saying exactly what they mean by the word “real” if not tangible, solid, consistent for everyone, and visible. In this system, objects *are* real. The only change is that they evolved into reality. That something has evolved as the result of a process does not entail that it is not real. Since perception is real, and since substance evolved out of a process of perception, it follows logically that substance is supported by a real substratum (underlying base, layer, or element), albeit perception. On the other hand, some define reality as that which is independent of perception. By this definition, absolutely nothing in this system, including perception, is real.
 38. The evolution of perception is contemporaneous with the evolution of forms such as plants and animals. But the evolution of perception is more metaphysically fundamental, giving rise to the substance out of which the forms of biological evolution are evolving. In turn, biological forms are adopting improved receptors (eyes, nose, ears, etc.) with which to take advantage of new forms of stimuli made possible by higher perceptual schemata. Thus the physical and metaphysical are integrated.
 39. We could say they are schematized.
 40. Under the word “culture” we are including the use of tools, the creation and appreciation of art, ethics, religion, philosophy, science, sports, business, government, technology, trade, etc.

The hallmark of human experience is self-awareness. There are precisely four schemata that make this dimension possible. The first two are simply more complex versions of the schemata of space and time. In human experience the schemata of space and time become *three-dimensional*.⁴¹ Rather than simply perceiving one point in space juxtaposed with another, the human being suddenly distinguishes *here* in opposition to *there*.⁴² Notice the self-reference in the word “here.” Similarly, rather than simply perceiving points in time following one another in a sequence, the human being suddenly distinguishes *now* as opposed to *then*. Again, notice the self-reference in the word “now.” Personal location in space and time is a human invention, made possible in part by these two improved schemata, three-dimensional space and three-dimensional time. Taken together and applied to the results of all of the previous schemata, they form a gestalt that partially makes self-awareness possible. Early proto-man took his own presence into account without *entirely* recognizing the special nature of this present entity, i.e. himself. Thus the higher order schemata of space and time are necessary but not sufficient requirements of self-awareness.

There are two more schemata that are required to make the human experience of self-awareness complete. They are *reference* and *meaning*. We will first discuss *reference*.

I may use the word “brick” to refer to *a* brick. But, the sound of the word “brick” has no real connection to bricks. The only connection is one that we *impose*. But in order to impose it we need to have some *sense* of the kind of connection we are imposing. After all, hearing the pitches of the sound “brick” and the colors of the object brick through the older schemata, one could never perceive any connection between the two. That sense of connection that we all perceive is the result of an evolved schema called *reference*.⁴³ Perceiving the world

41. *Three-dimensional*: possessing or appearing to possess the dimension of...depth (Encarta World English Dictionary). Here we are using the term in a special sense to denote the perceived demarcation between one's body and one's environment as a special demarcation. An eagle perceives the precise distance of its prey, but the eagle does not consider what this is the distance *from*, i.e. something especially unique in its environment that it demarcates as its body. This uniquely human experience requires a kind of cognitive depth perception not available to lower creatures.

42. The rise of the schema of 3D space coincides with the evolution of binocular eye placement in the front of the face in primates. Owls mimic this look, but their eyes move independently.

43. Reference actually arises in the higher primates and some highly social mammals like dogs. Reference alone does not make thought possible. Language requires the full set of cognitive schemata of reference and meaning and self-awareness.

through the schema of reference we are able to divide the world into two distinct classes of object, *symbols* and their *referents*. The sound “brick” (or the written word) is assigned as the symbol, and the image of a brick is assigned as its referent. This abstract connection exists purely because we perceive it to exist through the perceptual schema of reference. In a sense we perceive the connection into reality. It is the communal use of the schema of reference in a society that makes rudimentary communication possible. Reference is an evolved perceptual schema. It is a way of perceiving otherwise disconnected objects, some as symbols, others as their referents.

Reference contributes to the ability to self-identify because a person can refer to himself. He can assign himself a unique symbol, i.e. a name. This allows him to single himself out symbolically from other people and things that have other names. But it takes one last evolved perceptual schema to make self-awareness complete and cause the human explosion of culture to occur. It is called *analyticity* or *meaning*.

At some point in the early dawn of man, a new schema arose that would forever change the nature of perception. In a sense it was no more than a development of the schema of reference, applied in a new way. No longer did the word “brick” refer simply to bricks; it was suddenly a word that referred to other words, which in turn had other referents. The referent of a symbol was no longer an object, as with reference, but was other symbols. This leap forward in perceptual evolution is *meaning*. It is the final pre-cultural schema, the schema that not only made self-awareness complete, but culture possible.

The word “necessity” *means* “the condition of being needed or required.” But this connection, the connection between a word and a collection of other words, is artificial. One does not logically *derive* the meaning from a word. Meaning is *assigned* to words. For the connection to exist one must agree that it exists. For communication to take place, many people must agree that it exists. It is the perception of a connection that creates it.⁴⁴ Meaning is an evolved perceptual schema. It is a way of seeing symbols, some as referents and others as their definitions.

What evidence do we have that meaning is a schema? This is an important revelation if it is true.⁴⁵ Meaning must necessarily be an intuition because it cannot, even in principle, be learned.⁴⁶ When a four-year-old child is told that a dol-

44. Some will say that the connection of meaning is created by social agreement alone. But this explanation inherits the problem, rather than solving it. For we are left explaining what it is that society is agreeing *upon*. People have to have the intuition of meaning *before* they can understand meaning and agree to it.

lar is “the same as” one hundred pennies or that it “means” one hundred pennies or that it “contains” one hundred pennies, the child grasps what is meant by these analogies. The question is, how? Reference cannot help, for both the dollars and the pennies are symbols. Observation of physical dollars and pennies will not confirm any connection. From a physical point of view such inferences are plainly false. A dollar is neither the same as, nor does it contain, two pennies. The connection is not even conceptually analyzable, for no one can analyze the connection of meaning except through the conception of meaning.⁴⁷ Yet, every child eventually grasps the sense of these inferences. The child grasps them through its evolved schema of meaning.⁴⁸

The application of the schema of meaning renders self-awareness complete. Through meaning a person can define himself by assigning to himself any number of attributes. This ability to define the self gives vast new dimension to the demarcation of self. For suddenly the person can not only demarcate himself from his environment, but he can demarcate himself in an infinite variety of ways. “I am French.” “I am a woman.” “I am good.” “I am taller than they are.” “I am the person that lives up the hill.”⁴⁹ And so on.⁵⁰

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45. Philosophers have tried to understand the epistemology of meaning (or “analyticity”), which is essential to language and logic. In addition, there is considerable debate in the field of linguistics over how language is possible. This theory brings the two debates together. Language is made possible by the evolution of the schema of meaning (or analyticity). Another way to say the same thing is that *the ability to analyze is an evolved intuition that makes language possible*.
 46. A sense of meaning is necessary to understand *any* abstract concept. And meaning is an abstract concept. Thus meaning is necessary for understanding meaning. Thus, a sense of meaning cannot be learned.
 47. In order to answer the question, “What does the word ‘mean’ mean?” one must first know what is meant by ‘mean.’ Thus meaning cannot be understood without understanding it. How then does such a notion arise in us?
 48. From that time forward the child perceives a dollar as equal to one hundred pennies. But neither child nor adult could explain this perceived connection to a beast that lacked this way of viewing dollars and pennies. The same is true for the perceived connection between the word “necessity” and its definition. It is an ineffable way of perceiving otherwise empty symbols.
 49. In formal logic, this process occurs in two steps. A person assigns a name or symbol that refers to himself. He then defines this symbol. Thus, the statement should really be in two parts, “I am John. John is the person that lives up the Hill.” We do not speak so formally. But this is how perception crunches the concepts beneath the veil of awareness.

But the rise of the final pre-cultural schema of meaning did more than just complete the human intuition of self-awareness. The application of the schemata of reference and meaning, taken together and applied to the results of the previous schemata, made language, and thus thought, possible. This is claiming a great deal, for we are claiming that thought is nothing more than an epiphenomenon⁵¹ of new and original ways of perceiving aspects of the image. So that what we call mind or thought actually evolved out of perception. This is one of the few fully coherent explanations for how thought and internal dialogue could have emerged in human beings.⁵²

Finally, the application of the concept of analyticity or containment understandable through the schema of meaning gives rise to the sciences of mathematics and logic. Through the sciences of mathematics and logic, man can conceptually analyze (deconstruct) and study the image, breaking it back down into its constituent qualities. Ultimately man can conceptually reassemble his own perceptual evolution.

In summary, the perceptual schemata of three dimensional space and time, coupled with the perceptual schemata of reference and meaning, give rise to self-awareness, identity, language, thought, and culture. Previously inconceivable

50. Self-awareness gives rise to self, rather than the other way around.

51. *Epiphenomenon*: a secondary phenomenon resulting from another (Encarta World English Dictionary).

52. Traditional systems, including materialism, do not attempt to account for the evolution of dimensions of reality such as time or meaning, because the dimensions are assumed to be eternal and independent. This assumption is due to the fact that the traditional systems were developed in a period prior to the onset of process theories such as the Big Bang, evolution, and plate tectonics. Before the writing of Georg Hegel, and later Charles Darwin, most conceptions of the Universe were steady-state conceptions. Either the attributes of objects, such as time, space, number, reference, and meaning were not considered to demand any account (however, I have not seen any reason offered for why they wouldn't), or they were considered always to have existed, or their creation was considered a spontaneous act of the deity that could not be understood. These kinds of assumptions gradually led to the emergence of the so-called *intractable* problems of philosophy, such as, "What is space?" and "How do we have a sense of meaning?" By applying process theory to account for these kinds of dimensions, the intractable problems are suddenly tractable. The problems were actually problems of origin, but looking at them through the steady-state lens, they appeared to be epistemological problems, i.e. "How do we acquire knowledge of them?" The question should have been, "How did they arise in us?" The answer is that they are evolved ways of perceiving, and impose their organizational influence upon the images we perceive.

dimensions are added to otherwise simple congeries of color and sound. With the rise of the human schemata, the world as we know it comes into being, the rich human experience. We explain the phenomenon of mental activity without having to postulate a mental substance or the operation of an equally mysterious substance such as *matter*. Thus, the famous *mind-body problem*⁵³ that haunts contemporary philosophy vanishes.

Cultural Evolution: With the sensorial schemata of color, sound, etc. the physical substance of objects is complete. Metaphysically speaking, physical evolution is as complete for the rabbit as it is for the human. With the advent of language, however, a whole new class of perceptual schemata is made possible. These are called *cultural schemata*. Cultural schemata are ways of perceiving the world through the influence of language. Looking at the world through a particular set of cultural schemata gives rise to a particular culture.

Once man finds himself in the world through the rise of self-awareness, he goes about organizing his world culturally, using language to assign it qualities of his own invention. In this way he forms cultural schemata (ways of perceiving objects and events). Cultural schemata differ from physical schemata, such as natural laws and the five senses, in that cultural schemata are applied consciously.⁵⁴ Because they are consciously applied to the world, the cultural schemata raise ethical considerations. Humans have conscious influence over their cultural environment, an influence that is missing with the physical schemata that evolved prior to self-awareness. Therefore, human beings inherit stewardship over the cultures they produce.

All of the cultural attributes that we abstract from physical objects and events are assigned by us. For instance, we say a particular event was fortunate, believing that this fortune we perceive is independent of our seeing it. Is an event, in itself, either fortunate or unfortunate, independent of how it is viewed? Imagine two men flip a coin to see who will take an important prize. The coin lands on heads. The man who wins says that the result was fortunate, but the man who loses sees the exact same result as unfortunate. Which man is correct? In physical reality there are no such qualities. But seen through the cultural schema of luck versus

53. *Mind-body Problem:* The concern in philosophy over the connection between mind and matter. Most contemporary theorists consider mind to be a function of matter.

54. Although it often doesn't seem this way. As conscious as applying cultural qualities like good and bad, beautiful and ugly is, we often are in denial of the fact that we have done it after the fact. We inevitably believe that these qualities are inherent of the objects we see them in.

fortune, the result is, in turn, fortunate and unfortunate. Neither fortune nor misfortune inheres in the result of the coin toss. Rather, such qualities are the result of perceiving the event through the schema of fortune and misfortune.

Consider another example of the application of cultural schemata to otherwise purely physical objects and events. Imagine that a woman accidentally breaks a piece of cheap pottery. Deeming it of no value, she throws it away. Hundreds of years later, an antiquarian discovers the piece. Being extremely rare, he appraises it at a million dollars in spite of the small break. Does either value or lack of value inhere in the pot? No. The value is an assigned property. Both people perceive the same piece of pottery through the cultural schema of value and lack of value, which is determined in reference to their respective environments. Perceiving an object through the schema of value renders the impression of value or non-value.

Imagine a man on a bicycle. Arriving at a yard sale he discovers an old bicycle pump. Perceiving the pump to be of *little novelty* but of *great utility*, he buys it for a nickel. Now imagine that this same bicycle pump appears on another planet where tires do not exist. A native of the planet who discovers this pump might deem it of *absolutely no utility* whatsoever, but of *immense novelty*. The degree of utility and novelty of the pump are assigned in terms of how it is viewed, an assignment that is in turn influenced by the cultural surroundings. Neither of the culturally assigned properties actually inheres in the pump. Now this example raises another question. On the distant planet, is the pump a bicycle pump? No. If you think about it, even the essence of what something is is merely an assigned property, coherent only in terms of the cultural schemata through which it is perceived.

Any attribute that one can abstract from an object or event, one is subconsciously assigning to that object or event via the perceptual schemata through which one perceives it. In the case of cultural schemata, people learn to assign particular attributes to objects and events from their culture. This process is called education. Collective agreement accounts for the sensation we have that attributes we abstract from objects and events actually inhere in the object. We see something as bad, and noting that others agree it is bad, we take badness to be its inherent feature. We ask, "Why would everyone around me agree that this is a property of the object if the property did not actually inhere in the object?"⁵⁵ The feeling of certainty and objectivity that we enjoy is an illusion born of consensus. When we

55. Such a person does not guess that he shares the same cultural schemata with those around him.

abstract the attributes of an object, we are unwittingly abstracting the attributes of our own process of experience, i.e. both our physical and cultural schemata.

Now, imagine a human with fully evolved schemata. He grows up in his culture and becomes a scientist. Looking at the image of his experience through the highly evolved schemata of logic, mathematics, and language, the scientist is capable of abstracting from that image its underlying mathematical properties, from fixed and reliable natural laws to less definite quantum events. What is it that he is uncovering, using his advanced schemata of analysis? He is uncovering the laws of his own perception. The scientist is, in a sense, an archeologist excavating the relics of his own perceptual evolution. The scientist is now the real mystic. Gone is the alchemy of inventing ghosts to explain our experience.

The Rise of Myth and the Human Psyche

The human psyche is a complicated subject that we will not labor to fully unravel. But we can describe the class of schemata that gives rise to it—myth. Myths are not consciously invented stories. They are evolved schemata—ways of reading significance and meaning into otherwise meaningless objects and events.⁵⁶ There are two reasons for believing this. First, many myths are universal stories told in distinct parts of the world where little or no intercultural contact has occurred. Secondly, a myth cannot be derived from experience because the myth is only perceptible in experience through the organizational power of the myth itself. For example, if I saw a man rush into a burning building to save a crying child, I would not recognize him as a hero if I did not already have within me the hero myth. Without this myth as a schema through which to organize my experience meaningfully, I would merely perceive a man entering a building and then exiting the same building holding a child. Myth is a way of perceiving our lives. On a subconscious level we perceive our lives, and live them in terms of, myths. Myth is the psychic matrix that motivates all human responses.

How does the myth arise in us? The myth arises as a pattern of our perception the way all other perceptual schemata arise in us, as sudden intuitive leaps in the maturation of perception. Myths are not *in* the human psyche; they create the human psyche.

To understand how myth and culture work to alter our perception, imagine an adoring crowd watching as a celebrity couple passes by in a parade. What is it

56. By perceiving this meaning, we actually bring it to reality. Stripped of their perceived meaning events follow purely fixed schemata of cause and effect.

that the people in the crowd are adoring in these two strangers? They are adoring the projection of their own cultural and mythical schemata. The couple is beautiful. The couple is romantic. The couple is brilliant. There is not a single adorable attribute in the couple that is not assigned to them in the act of seeing them in terms of cultural and mythical expectations.

Imagine a mob of vigilantes lynching a man for his perceived crimes. “He exudes a presence of evil,” they cry. What is the source of the *evil* that the people in the crowd perceive in this man that motivates them to such violence? The *evil* that they believe they are feeling coming from the criminal is actually the sensation of their own feelings of fear and rage, manifesting in their mental images of the man and his actions as perceived through their cultural and mythical schemata. The evil that they experience as outside of themselves is in them.

TESTING THE THEORY

If this theory can explain the image of our experience, both physical and psychological, no matter how complex we find that image to be, then it has far greater explanatory power than materialism. For, as we pointed out, there is much about our experience which materialism cannot account for. If the theory of the evolution of perception succeeds in explaining these phenomena with fewer theoretical entities—such as an invisible material substratum, theoretical dimensions, strings, or spacetime—then it is also more metaphysically efficient. Thus, it meets the requirements of Ockham's razor, the criterion that science relies upon to evaluate theories.

Let's reconsider the phenomena presented in earlier chapters that materialism cannot explain and see if we can now, in fact, explain them in a simpler, more powerful, and more probable way.

Light: What is the speed of light? It is a perceptual schema. How did this schema arise in us? It evolved. The speed of light is not an attribute of something independent of perception that we call light. Rather the speed of light is an *attribute of perception*. It is an evolved way of perceiving light. Lois and Superman see light move at the same speed because they possess the same perceptual schema, which determines that they will both see light move at 186,000 miles per second in any inertial reference frame.¹

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1. Since Locke, philosophers have reasoned that if a property is constant for every observer, it cannot be subjective—but must be part of the object. (*An Essay Concerning Human Understanding*, BK II, Ch VIII, Section 9,10) Here we propose an alternative explanation. A property is the same for every observer because all people share identical perceptual schemata. There are two ways to understand this sharing. The first way is that each individual, having traversed the same evolutionary hurdles, has evolved the same perceptual schemata, much the way they have evolved the same skeletal system. The second way to understand this sharing is that the mathematical schemata are applied by perception from its original indivisible point of view, i.e. from a point of view prior to the rise of individuality. Thus we literally *share* the same mathematical schemata.

Energy: What is energy? It is a perceptual schema? How did this schema arise in us? It evolved. Remember the billiard balls in space? (Refer to the section on *energy* in the chapter, *Problems in Physics*.) Energy is not independent of perception. The mathematical formula for the transfer of energy is actually a law of perception, a perceptual schema that we abstract from our experience. It governs how collisions are perceived. Two people, perceiving the same collision of objects, share a common formula for perceiving it. The reason that the law remains constant for both observers in spite of their different inertial reference frames is that they possess the same perceptual schema.

Gravity: What is gravity? It is a perceptual schema. How did it arise? It evolved. The law of gravity is a fixed way of perceiving objects, a way of consistently organizing the experience of seeing a ball dropped. Laws of nature are fundamentally laws of perception; they govern how nature is perceived. That the law can be derived from the image is natural. The schema governs how objects are perceived and so the image is seen that way. We see gravity all around us, but it is really a property of our perception.

Waves And Fields: What are waves and fields? They are perceptual schemata. How did these schemata arise in us? They evolved. The mathematical descriptions we normally assign to theoretical entities called waves and fields are actually the properties of perception, ways of perceiving kinetic events. They are evolved perceptual schemata, i.e. constant and quantifiable laws of perception. This explains why no tangible connection can be found to account for forces that act at a distance and so-called “faster than light” activity. The apparent “intelligence” of molecules responding to their fields is actually not intelligence at all, but the static condition of our own evolved perceptual schemata.

Time, Space, and Number: What are time, space, and number? They are perceptual schemata? How did they arise? They evolved. They are ways of organizing experience. We don’t perceive time. We perceive events temporally. We don’t perceive space. We perceive objects spatially. We don’t perceive number, we perceive numerically. Time, space, and number are ways of organizing the image of our experience, i.e. objects and events.

Induction: What is induction? It is a perceptual schema? How did it arise in us? It evolved. Induction is an evolved way of organizing our experience. We

haven't been able to account for it because we haven't guessed that we are its account. It is true of the world we perceive (past events do appear to be reliable) specifically because we are organizing the image through this schema. The world is partially produced through the schema of induction.

Deduction: What are the laws of logic? They are perceptual schemata. How did they arise in us? They evolved. Logic is a way of organizing experience. It is neither true nor false in itself. We make it true by using it. The rule of the excluded middle, upon which logic is built, is really a complex linguistic expression of the schema of distinction discussed earlier. It is merely polarization. But in the case of logic, distinction is applied to the symbols of language.

Causation: What is causation? It is a perceptual schema? How did it arise? It evolved. Causation is a way of organizing the image of our experience, bringing it new significance. It appears that we can see cause because we are seeing causally. We are imposing the organizational concept of causation onto the world by seeing the world through the evolved schema of causation. Without the perceptual schema of causation, two events that regularly correlate are simply combined by a fixed natural law. The relation, for instance between striking an object and its sound is really a biconditional event. It is only through the schema of causation that we perceive that the sound occurs "because" of the striking. Seen without the schema of causation, the events would simply appear to correlate according to a set of natural laws, which are simply mathematical formulations.

Reference and Meaning: Reference and Meaning are evolved perceptual schemata. They combine to form an evolved way of organizing experience that gives rise to thought and language. Meaning does not inhere in the image. But rather it is assigned. This assignment of meaning is made possible by the evolved schema of meaning. It is not possible without it. An animal that does not yet have this schema cannot perceive meaning, and therefore can neither speak nor think. Returning to the thought experiment with the word "necessity" in the chapter *Thought Experiments*, the phenomenon can now be explained. The meaning of the word "necessity" exists only in the moment that the meaning is perceived. This is because the perceptual schema of meaning is being used to relate the word to its definition, a relationship that cannot be grasped except through that perceptual schema itself. When the meaning (the relationship between the word and other words) is not being perceived via the perceptual schema, it ceases to exist for it never really did exist. While symbols are stored in dictionaries these symbols

are merely ink. Similarly, definitions stored in binary code in the brain are, in themselves, meaningless electrical patterns. The schema of meaning must be developed in order to experience these patterns as concepts.

Experience: What is experience? This question does not arise in this system, because experience is the self-evident starting point of the system. To grasp what experience is, one simply needs to stop to enjoy it. It is self-evident, clear and present, and cannot be coherently denied.

CONCLUSION

What does this theory explain? It explains the world of our perception. What else is there to explain? How many theoretical entities were required to explain it? None. All that was required was perception and its schemata, seeing and ways of seeing. Are either of these theoretical objects? Perception and its schemata are not objects at all, for—preceding space and time—they lack spatial and temporal location. Nor are they theoretical. That perception is taking place can be verified simply by opening one's eyes. We do not infer perception; we acknowledge it. And as for perceptual schemata, you can abstract them from your experience at any time. They are not theories. That a cup falls when dropped is not a theory. It is a verifiable part of one's everyday experience. No entity is required to explain the consistency of the observed behavior of cups when dropped. Rather, all that is required is that the observed behavior be metaphysically reassigned. It is the conditioned result of perception. This obviates the need for a second order entity, such as matter—or any other ghost—that we can neither see nor verify, to explain the cup and its descent. Gravity is fully explained when understood as an evolved perceptual schema. Where did these perceptual schemata come from? They evolved. Where are they? The question is confused, for they belong to a process that is not analogous to the things or events found in the image that it produces. Thus, neither perception nor its schemata—both preceding the image the way eyeglasses precede the image they correct—can be fully analyzed. To analyze them would require the tools of analysis, such as language and number, which are their own effect. Perception does not fall into the domain that it produces and thus defies dialectic understanding.

Yet we are not in exile from perception as we are from the theoretical substances we have replaced, such as matter and noumenon. We are in immediate contact with it every waking hour. Perception is not remote, for being all that is, it is what we all fundamentally are and always will be, ever remaining nondual and indivisible. We have, in the evolution of perception, arrived at an explanation of all entities, while postulating none.

This theory has unparalleled metaphysical simplicity, in that it relies upon no unverifiable entities *at all* for its explanatory power. Since it is simpler than the

received view (simplicity) and explains more phenomena (explanatory power) than the received view can, it is the theory that we would choose under Ockham's razor.

ADDRESSING CONCERNS & THE ASSUMPTIONS THAT CAUSE THEM

There are several concerns that arise when people contemplate this idea deeply. These concerns are usually the result of reading into the idea expectations derived from old ideas.¹ Some of these concerns will be addressed here.

One concern is that it seems this system implies that the world is a dream. In fact, it does not. A dream is a representation of a more real archetype, an imperfect copy of something more original. There is no representation in this system. The image that one experiences *is* the original archetype. In this system one's image of a cup is *more* authentic than it is under materialism, in that one's image of the cup *is* the actual cup. The authenticity of the cup is undiminished. It is the cosmology of the cup, and not the cup itself, that is altered. Does the cup have substance? Yes. But the substance evolved out of a process. The result of the new system is direct perceptual realism, not idealism. The thing that you see is the thing in itself, with all of its substance. In the new system, you are in direct contact with the actual world.

A second concern is that this system implies the cup I see is in my head. Not true. Materialism implies that the cup I see is in my head (the image is occurring in my brain). In materialism, the image of the cup I see merely represents a real cup outside my head that I do not see. In the new view, my head is part of the image along with the cup.² Thus, the cup is outside of my head.

Some people, on hearing that perception is the underlying cause of objects, fall into a misunderstanding of what is being said. They begin to assume that what is being said is that when a person exits from a room the room disappears.

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1. See the chapter *The Limits of Intuition*
 2. It sounds odd to say one's head is part of the image that one perceives along with the cups and saucers in the room. But reach up and touch your head. You perceive it with your sense of touch.

This confuses the body and its sensory machinery with perception. The room is not dependent upon the presence of the human body. Rather it is dependent upon perception, which precedes the image that includes all bodies, both human and otherwise. Even the sense of individuality that is experienced is part of the image. So, when a person leaves a room, the room persists in reality in conformity with common sense.

As said before, these kinds of concerns are the result of assumptions left behind by materialism. Let's examine some of those assumptions.

1. It is assumed that perception takes place in space and time. Why do we assume this? Perhaps we reason this by analogy. Perception, being a process, must be analogous to other processes that we observe in nature like wind and evaporation. These other processes are located in space and time. Thus, it seems natural to assume that perception also occurs in space and time. The tendency to make such an analogy comes from the fact that, like processes abstracted from observations of nature, perception is known by its effects in the image (i.e. the effect in its case being that there *is* an image) rather than by being directly perceived. But the analogy between perception and observed processes like wind and evaporation is weak for two reasons. We abstract the process of wind from our observation of *particular* natural events such as windmills, which are located in space and time. Perception, on the other hand, is not abstracted from observation of any *particular* events located in space and time, but from *all* observation of *all* events, a set of entities that cannot be pinpointed in space and time. Secondly, the precise relationship between the motion of molecules and the phenomenon of wind is clearly understood. But the relationship between *perception* and that event that *it* is believed to be a function of, electrical firing inside the brain, is a relationship that no one can describe. The relationship is simply presupposed. Thus, an analogy between perception and other processes that occur in the image is shaky.

2. Because it is assumed that perception is a process in space and time, it is assumed that perception resides *some-where*.³

3. Because it is assumed that perception is in space and time, it is assumed that there are multiple *perceptions*. This entails imagining perceptions (imagined as analogous to things or events in the image) scattered in various places on the earth—one in this brain, one in that, one inside this computer, etc.

3. However, no one has ever located perception, either in the brain or anywhere else. They have located electrical events in the brain that *correlate* with testimony of perceptual events. But correlation does not necessarily signify a spatial relationship.

4. Because it is assumed that there are multiple perceptions and that perceptions reside somewhere, it is assumed that the brain is the location of perceptual experience. As natural as this assumption seems,⁴ it is impossible to establish the location of perception.⁵

5. It is assumed that perception is a faculty *of* something. For instance, it is assumed that either a brain perceives or a mind perceives. In any case, it is automatically assumed that *some-thing* perceives. Yet there is no logical or empirical justification for this belief. Perception may simply be occurring without a perceiver.

6. It is assumed that perception is a form of thinking. For instance, it is assumed that if we perceive an automobile, this is a form of thinking of an automobile.⁶

Most of these assumptions follow rather logically from the first—that perception is in space and time. For instance, if perception has a location in space and time, then the brain seems the best choice. If the brain is perception’s location, then perception is probably a faculty of the brain, etc. These latter assumptions, in turn, lead to concerns such as that objects are in our heads or that a room disappears when we leave it. But is perception located in space and time? There is no necessary reason to think so. The new view offers some alternative assumptions that follow from the assumption that perception is not in space and time, and in fact gives rise to them.

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4. It is natural to assume that perception occurs in the brain for various reasons. First, the sense organs are located in the head and transmit electrical signals to the brain. Secondly, when our bodies move about, our perceptions change. But it does not follow logically from this phenomenon that perception is located in the head. Take a mirror and move it. Each time you move the mirror, the image changes. It does not follow from this that perception is located in the mirror. Correlation does not indicate any particular relationship.
 5. This much is known about the brain. Electrical brain activity correlates with perceptual experience. However, that the brain is *where* experience resides is theoretical. Correlation does not always signify location. The phases of the moon correlate with the tides of the ocean, but the phases of the moon are not *located* in the tides of the ocean, or vice versa.
 6. It is just as possible that thinking is a form of perception, i.e. that perception of an automobile is an otherwise exotic and abstract experience given its order through the schema of the word “automobile.” The assumption that perception is a function of thought, rather than the other way around, is the root of myriad modern philosophical problems. It is the reason that experience cannot be explained.

1. Perception is not in space and time because the schemata of perception are what produce space and time. Perception was and remains forever precedent to the dimensions of space and time that it produces in the act of seeing spatially and temporally. Perception can no more enter space and time than a projector can enter its projection or a battery enter its energy.

2. Perception is not a faculty of anything because, being fundamental, there is nothing but perception to be a faculty of. Perception simply takes place. Perception is certainly not a faculty of anything in the image that it witnesses. That wouldn't make any sense.

3. The connection between perception and the body is one of *identification*, not location. By identification, we mean the assignment of personal identity to a portion of the image. For instance, when I look in the mirror I identify a portion of the image I see as *my* body. I listen to internal dialogue and I identify certain propositions as *my* beliefs. I look at objects I see and I identify certain ones as *my* possessions. All these associations form a composite of me through identification. This is not the same as being located *in* those beliefs, *in* those possessions, or *in* this body. That which is doing the identifying is perception itself, and precedes the image.⁷

7. The connection between perception and the body is identification. We experience the body and brain states and identify with that experience. The brain has no consciousness. Brain states are only physical states. I read and write the electrical condition of my brain through a schema. But I am not located in my brain or my body. I am indivisible perception, preceding space and time. There is no objective soul. There is only subjective soul. What we call soul is, in fact, nothing other than an evolved state of perception that has—through the process of the evolution of sophisticated schemata like time, space, and language—found itself alone and isolated as a body. But the relationship is purely that of identification. This connection between perception and body (identification) is foreshadowed in contemporary research in neuroscience as “body-imaging.” The body imaging is done by perception. The brain is a computer. There is no programmer (homunculus) in the brain and the brain is as unconscious as a computer. Perception is nowhere in its image and its image cannot perceive. It is logically impossible. The myth of artificial intelligence is a byproduct of materialism. The Turing-test mistakenly attempts to extract perception from the spectacle. There is no homunculus—no ghost in the machine. Birth is identification and death is disidentification. They are not the entry and exit of a spiritual entity or piece of plasma. When I am born and when I die, it is not I who come and go from the body, but the world—the image—that comes and goes from me. This implies a third Copernican revolution far beyond Kant's. For now seeing is central, and mind and body—the image—are in its orbit.

To get a better idea of the distinction between identification and location, consider an analogy. When I dream of a crowded cocktail party, I might perceive my dream from the point of view of one of the guests in the dream. It does not follow from this that I physically enter my dream. My relationship with the guest in the dream is not location, but identification.⁸

There is one more concern that ought to be addressed. The idea presented in this book can easily be confused with *mind idealism*, the view that our thoughts produce reality. Thoughts (internal dialogue and pictures) are part of the image and are dumb and inert. They have no direct effect upon physical reality. Perception is the first cause. Thinking is a very late result of the evolution of perception, arising long after the laws that determine the physical image have evolved. Physical conditions are governed by these natural laws (of perception), not linguistic thoughts. Therefore, one's thoughts have no direct bearing on one's physical reality. If one could alter his mathematical or sensorial schemata, he *could* change physical reality. But mathematical and sensorial schemata exist in the collective subconscious⁹ and are inaccessible to the individual. However, one *can* change one's cultural schemata, since these schemata supervene upon language, and thereby alter one's cultural environment. However, to do this one would need to convince everyone *else* in one's society to change his or her cultural schemata as well.¹⁰ Unfortunately, most of our reality is fixed and beyond our limited personal control. This also conforms with common sense.

One could also confuse this idea with the *perceptual idealism* of philosopher George Berkeley. Berkeley believed that images were formed in the mind of God and implanted in human minds. In Berkeley's system, since objects that we perceive are nothing more than mental images, one could say that we perceive

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8. Note also that none of the characters in the dream are conscious. All of them are entirely dumb and inert. It is the single dreamer that animates them, thinks their thoughts, and perceives the spectacle of the dream, although all this is unknown to the dreamer while he is dreaming. The characters in the dream do not have souls in them or minds in them. Nor do the characters in the dream give rise to perception. In fact, it is perception itself that gives rise to the characters in the dream.
 9. *Collective Subconscious*: We are referring to the fact that the physical properties arise prior to self-awareness, so their origin is not accessible to the individual. They are perceived into reality from the perspective of unindividuated or "collective" perception. By "subconscious" we mean "below the level of awareness" or "not immediately accessible to consciousness."
 10. This is what artists attempt to do in their art, change the world by creating images that alter the way people perceive—i.e. their cultural schemata. That is what this book is an attempt to do also.

objects directly. There is no physical world in Berkeley's system. Berkeley presupposes space and time, and assumes that God's mind and human minds are in space and time along with the images they contain. Therefore, Berkeley sees minds as analogous to containers and images as discrete objects in themselves. This idea winds up relying on more metaphysical entities than materialism, and is thus less likely than materialism by the criterion of Ockham's razor. Those entities include God, other minds, and images.

THE LIMITS OF INTUITION

A criticism that is likely to be directed at this idea is that it is “counter-intuitive.” The pervasiveness of this line of analysis in contemporary philosophy demands that something be said about intuition itself.

Contemporary philosophers use the word “intuition” to denote roughly what is known as common sense. Without realizing it, philosophers are often not referring to intuition at all, but rather *derived expectations*. When considering whether a statement is true or false, a person will often consider his personal feelings. A statement either conforms to or does not conform to one’s best hunch of what is right. While such perceptions are sometimes fruitful, they can also lead to false conclusions. Why is this? Consider the following set of sentences. “The fact that balls of different weights fall at the same speed does not conform to my *intuition* of what should happen when I drop them. My intuition tells me the heavier ball will fall faster. However, I know the first is true.” The intuition referred to here is actually a derived expectation. When I *throw* a ball, the greater the pressure I exert on the ball, the faster it will fly. Years of throwing balls have conditioned my mind to expect a similar event to occur every time.¹ When I pick up two balls and one is heavier, the extra tug of gravity coming from the heavier ball reminds me of the extra pressure I exert on a ball when I throw it. My mind is tricked into equating these two phenomena, into believing that they are one and the same phenomenon. The mistake is applying the expectation derived from one kind of event to another kind of event. In such cases we mistake our feeling of expectation for intuition.

Similarly, the fact that the speed of light is a constant for every observer seems counterintuitive because we apply expectations derived from watching things like cars and airplanes to the motion of light. Quantum behavior—the often-bizarre behavior of subatomic particles—seems counterintuitive because we mistakenly apply expectations derived from our experience of large objects to theoretical

1. This simply requires the use of induction—deriving expectations of the future from experience of past events.

objects like quarks. By applying derived expectations outside of the domain from which they were derived, philosophical errors are made.

However, there is another kind of intuition that is, in fact, entirely reliable. The axioms of logic are intuitive. For instance, that the shortest distance between two points is a straight line is intuitive.² It is important to note that the rules of logic and the axioms of geometry cannot be proven. These intuitions are not derived from experience, yet they appear to always lead to true conclusions about the world. Why is this?

The reason that they are reliable is that they are perceptual schemata. I use the laws of logic to organize my world logically. I use the axioms of geometry to organize my world geometrically. The laws and axioms apply categorically to my experience because my experience is organized in terms of them.

So, in reply to the potential criticism that the new theory is not intuitive, we question whether what is being called “intuition” is not actually a derived sensibility. A sense of things that is derived from the old paradigm may be being inappropriately applied to the new paradigm.

2. In traditional philosophy, concepts such as the axioms of geometry are called *a priori* knowledge. *A priori* knowledge is knowledge held prior to experience of the world, i.e. not derived from experience. Today it is popular to call such knowledge “hard-wired.” The new theory discards the concept of *a priori* knowledge. It contends that beliefs that are purported to be known *a priori* are not known at all. Rather, they are dogmas—beliefs held without support of reason or experience. The assumption that they are knowledge is itself a dogma, since it is equally unsupported by reason or experience. In the new system, beliefs that are said to be known *a priori* are the result of perceptual schemata applied to experience. When I abstract these schemata with my intellect, I am abstracting from my experience the schemata that I use to produce that experience.

THE LIMITS OF LOGIC AND LANGUAGE

Analytic philosophy is the dominant school of philosophy in the English-speaking world, including the United States, England, Australia, and New Zealand. It emphasizes logic and language over epistemology and metaphysics. Its fundamental assumption is that the intractable problems of philosophy are actually the result of undiscovered linguistic confusions. It assumes that philosophical problems will eventually be solved by discovering what these linguistic mistakes are and by correcting the syntax. This assumption has been in place since the early 20th century and philosophy is still plagued with unsolved problems one hundred years later.

The problem with this line of thought is that it ignores the simple fact that deductive logic never tells us anything that we don't already assume. This is because the conclusion of every deductive argument is implicit in its premises.¹ Consider a famous argument.

Premise 1: Socrates was a man.
Premise 2: All men are mortal.
Conclusion: Socrates was mortal.

Notice that a person could only believe that all men are mortal (premise 2) if he believed that *Socrates* was mortal (conclusion). If he believed that Socrates was *not* mortal, he would not believe all men are mortal (premise 2). The person writing this argument assumes his conclusion before he derives it. He is simply retrieving what he has implied in his premises. This is like a gumball machine that works by inserting a gumball. If you insert a blue gumball, the same blue gumball falls out the bottom. Thus, the machine can never fail to give you the gumball you are looking for.

1. *Implicit*: not stated, but understood in what is expressed (Encarta World English Dictionary)

Now consider the *cogito* by the modern French philosopher Rene Descartes.

Premise: I think

Conclusion: Therefore, I am.

Notice that Descartes assumes his existence in the word “I” found in the premise. Descartes presupposes that something is perceiving his thoughts and that this perceiver is he. Had he read this book, he would have realized that there is at least one alternative—that perception is independent of subject and object.

Because logic is passive, there is a problem for the analytic philosopher. Just in case he is wrong about his premises, he will never be able to discover this fact. By committing himself to examining only logic and syntax he commits himself to inserting and removing the same gumball again and again, moving in a perpetual circle. If a problem of philosophy is the result of a mistake in a primary assumption, the philosopher will never solve the problem no matter how hard he tries to correct his syntax. This is what has happened in philosophy and why it is not progressing.

To escape this problem, the philosopher must do two things. First he must give up the assumption that he has made no error in his fundamental premises. This assumption itself has no logical basis. Axioms are not themselves derived, but are merely guesses. Second, the philosopher must adopt a technique used in science—the hypothesis. A hypothesis is a conscious guess. Science has few inhibitions when it comes to testing possibilities. The scientist posits several guesses and then tests each hypothesis against the yardstick of logic and observation. If science refused to posit new hypotheses, but simply ran through their assumptions using better and better syntax, it would never progress.

This is not to say that applying logic and proper syntax to our arguments is unnecessary. It is essential. But logic and syntax are insufficient for the job of determining truth. For they test only consistency. Remember that multiple explanations of a single event can have equal internal consistency. We must also test our beliefs for simplicity and explanatory power.

COMPARING THEORETICAL DEVICES

Matter is a theoretical device. Some readers may not understand this. After all, don't we see matter every day? Well, actually no. Here is a scenario that demonstrates this.

Imagine you are in a room sitting in a chair. In your hands you hold a smooth gray ball. You turn the ball over, examining its surface. The only thing you see of this ball is its color, which is gray. However, the *matter*, that which the ball is composed of according to materialism, is not actually gray. If you remember your physics, a certain portion of the spectrum of light that enters the room through the window is reflected off the surface of the ball. The light enters your eyes, stimulates the nerves, and an electrical signal travels along the optic nerve to your brain. Your brain then *interprets* this signal as gray. You don't perceive the ball. You don't perceive the light. You perceive the color gray. But the ball isn't gray. The light isn't gray. The gray is the way your brain interprets the signal that reaches it. The same principle repeats with the rest of your five senses. Your brain translates vibrations in the air into sound, vibration of molecules into heat, the shape of molecules into smells, etc.¹

Here's the problem: The matter of the ball you are looking at isn't gray. Yet, all you see is the gray your brain is creating. So you aren't seeing the actual material ball, only a representation² of it formed in your brain. So, how do you know that the matter of the ball is there if you can't see it—or hear, feel, smell, or taste it? You don't. *Matter is a theoretical substance*. Materialism is simply a theory³ designed to explain experience.

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1. Sound is the brain's interpretation of vibrating air molecules shaking the ear drums, heat is the brain's interpretation of vibrating molecules shaking the nerves of the skin, taste is the brain's interpretation of molecular structures rubbing against the taste buds, etc. In materialistic representationalism we don't perceive the world around us directly, but instead perceive a representation of it created in our central nervous system.
 2. *Representation*: something that stands for something else.

The question may arise, why do we have an optic nerve and a brain at all if not to pull experience into ourselves from an outside world? The eyes are designed to receive *something* coming from *something*—right? This question confuses “outside the head” with “outside of perception.” Certainly light outside of your head is captured by your eyes and imprinted in your brain as electrical data for future processing, much as a computer stores electrical data in its hard drive.⁴ But this says nothing about the color of the ball that is *experienced*. Experience remains entirely unexplained by materialism.

That light enters the window, reflects off the ball in your hands, and travels to your brain is not denied. What we deny is not the physics that we abstract from the image, but that there is a substance to the light that is not given to it by the act of perception. According to the new theory, the color and texture of the ball that you see and feel is its substance—in direct contrast to the received view that your experience is a representation of a substance outside of your experience. What changes in the new theory is what causes that experience of substance. Rather than a secondary substance, we posit a process of complex perceptual schemata. In the theory of the evolution of perception, *how* we perceive produces *what* we perceive.

In this book, we explain everything that we can observe in nature in terms of evolving perceptual schemata. But what exactly are these schemata? Since the new theory rests exclusively upon them, we had better understand exactly what we mean by them. This is not so simple. The perceptual schema, like matter, is a theoretical device. Explaining perceptual schemata is not as simple as pointing to them and saying, “There are the schemata of perception. Do you see?” We can perceive only their effect in the image. We can only say, “That is their effect. Do

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3. *Materialism*: the *theory* that physical matter is the only reality and that psychological states such as emotions, reason, thought, and desire *will eventually* be explained as physical functions (Encarta World English Dictionary) The theory has its roots with the atomists in ancient Greece. Its modern principles were developed by John Locke during the Enlightenment. See John Locke’s *An Essay Concerning Human Understanding*, BK II, Ch VIII, Section 9,10. Materialism hopes to one day be able to explain experience. As of this point in time it still has not. This is unfortunate because materialism is a theory created by philosophers specifically to explain our experience of the world.
 4. On one strata of experience mathematical light comes through a mathematical window, reflects off of a mathematical ball, stimulates the cones in your mathematical eyes, travels down your mathematical optic nerve and lights up your mathematical brain with mathematical sense data. In this sense light (and the rest of the world) is outside your physical head. See the later chapter, *A Few Words on Bodies*.

you get what I am saying?" However, here we will give as clear an analysis of them as possible.

The Encarta World English Dictionary defines the word "schema" as "an organizational or conceptual pattern in the mind." Here we would deny that perceptual schemata are "in the mind."⁵ Instead we would say that they are simply ways of organizing our perceptions, and that they are not "in" anything. They are not *in* anything because they are not things. Rather they are conditions, i.e. conditions of perception, inseparable from perception itself. Any further demand for clarity of what a perceptual schema *is* presupposes that a perceptual schema is an entity distinct from perception—that it can be pulled off by itself and described in isolation from experience.⁶ But by the very nature of what a schema is, a condition of experience, this is not possible.

To better understand perceptual schemata, it might help to construct an artificial one and see how it would affect our experience. I can imagine that whenever I open my eyes I will see all colors that tend toward the red side of the spectrum to be on the left side of my field of vision, and all the colors that tend toward the green side of the spectrum to shift to the right. I can further imagine that colors will line up in descending order of saturation, so that least saturated colors are oriented in the middle of my field of vision. This would create an odd rainbow effect, but all the original colors would still be in my field of vision. They would simply be ordered in a new way, into a new schema.

A question that a person might ask is *where* the information I just described, the rule for how colors will be arranged in the image, is recorded? For instance, the rule is written in the paragraph above. How is this information recorded in perception? Mustn't the rule be symbolized and then contained in some medium for future reference? Mustn't the rule be stored "in" a mind for instance? Again, this line of questioning presupposes that the schema (rule) is something distinct from perception—in this case a distinct body of information. But is this necessary? Where in your hand is the "information" of its shape? Where in the sun is

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5. If one was absolutely determined to include a "mind" in this system, he could say that the perceptual schemata, taken together, *form* the mind. But this seems a misnomer, for the schemata do not think. Personally I find the concept of a mind a problematic philosophical device. Normally it is conceived both as the active thinking apparatus of an individual as well as his container for thoughts. These images seem metaphorical at best. When interpreted literally, they become heavy metaphysical baggage that leads to more philosophical questions than answers.
 6. Perception, like matter, cannot be perceived. Therefore it cannot be described. It follows that what is meant by its conditions cannot be fully analyzed.

the “information” of its temperature? Where in a cone is its geometry? The shape of one’s hand is not information contained in one’s hand, but is an inseparable condition of the hand. It is only in the process of analyzing one’s hand through the perceptual schemata of mathematics and language that these conditions are converted into information. The shape is primarily a condition of one’s hand, and is information only *after* analysis. The condition of the hand is converted into information; information is not converted into the condition of the hand.⁷

Similarly, perception evolves complex conditions. These conditions are the schemata. It sounds strange to speak of something so enigmatic as perception having complex conditions. But this is no stranger a proposition than the proposition that matter, an indescribable metaphysical substance, has conditions. We can neither see nor imagine what matter is like since, according to materialism, only images arising in the brain are ever directly perceived—not the matter itself. How then can we comprehend what is meant by “conditions” of matter? Yet the theory of materialism states that the conditions of matter somehow give rise to our immediate experience. So, in regard to the fact that references to complex conditions of perception remain mysterious, we are no worse off than we are in materialism.⁸

The analysis of the concept of perceptual schemata, like the analysis of the concept of matter, is limited to stating what it accomplishes—the image. When the effects of our perceptual schemata in our own experience have been pointed out to us and we have considered their operation in that experience, we have reached the end of their analysis. The irreducibility of one basic working element is a natural component of all metaphysical systems. In materialism, that one irreducible element is matter. Consider the following cross-referencing definitions.

Matter: a substance or material of a particular kind (Encarta World English Dictionary).

Substance: a particular kind of matter or material (Encarta World English Dictionary).

So, what is matter? It cannot be empirically explained. For it is itself the explanation for all empirical things. Consider the definition of materialism.

7. However, we could, in turn, use the information to create a representation of the hand.

8. Keep in mind that Ockham’s razor states holds that all things being *equal*, choose the simpler of two explanations.

Materialism: the theory that physical matter is the only reality (Encarta World English Dictionary).

So the best explanation we have for what matter actually is is that it is the only reality. But this tells us nothing about what matter is.

Descriptions of matter and perceptual schemata are subject to the same limitations. Both are equally invisible and unverifiable explanations for the same phenomena. What makes the perceptual schema a better basis for a scientific theory than matter is not that it can be more efficiently analyzed, but that it can fully account for all phenomena without introducing any additional metaphysical devices or entities. The same cannot be said for matter. Matter by itself simply is not sufficient to explain all perceived phenomena. Consider lists of working operators required by each system to explain phenomena.

Perceptual Evolution

1. Conditions of perception

Materialism

2. Matter
3. Energy
4. Mathematics, which is neither matter nor energy
5. Some yet undiscovered governing principle that joins mathematics to matter and energy to account for natural laws
6. Spacetime, an entity that can be stretched and compressed but is neither matter nor energy nor mathematics
7. Superstrings
8. Multiple Dimensions

This comparison demonstrates the relative parsimony and elegance of the new view. The perceptual schema is an irreducible theoretical device, just as matter is. But unlike matter, the perceptual schema can single-handedly explain all of the

aspects of ordinary experience. It is the simplicity of the operation of the perceptual schema that marks it as the superior theoretical device.

But the operation of evolved perception as a theory for explaining phenomena also has an impressive epistemological⁹ advantage. Consider the two systems side-by-side.

- *Materialism*: What I perceive (the image) is an effect of something I cannot perceive (matter).
- *Perceptual evolution*: What I perceive (the image) is the effect of a process I cannot perceive (how I perceive).

In materialism perceiving is an inexplicable effect of an inexplicable entity. But in perceptual evolution, perception is very simply its own effect. We simply perceive in various ways, which culminates in seeing various things. What I see is caused by how I see. Perception begets perception. Experience begets experience. Perception is explained by perception.

9. Epistemology: The branch of philosophy that deals with the search for rational justification of beliefs.

THE PSYCHOLOGICAL FALLACY

Twenty thousand years ago, people were hunters and gatherers. Artifacts from that period indicate the beginning of philosophical and religious thought. What did these people have to explain? “How did all this that I perceive come about and for what purpose and where do I belong in it?” These were probably the kinds of questions that people asked. They had to explain the world that they perceived around them.

The first answer was that gods created the world for some purpose. People had to respect and honor these deities, even though they could not see them. This gave people some sense of indirect control over their world.

Several thousand years later, in Athens, Greece, things were not too different. The gods were in Olympus and people did their best to keep them from becoming angry. However, some discoveries had been made in geometry that had certain educated people wondering if there might be something else going on as well. They began to develop theories. Plato wondered how he had the concept of a perfect geometric circle (a principle in geometry) since he could find no such perfection in nature. He decided that there was a perfect circle called a *form* in some other dimension that he could not see directly. He asserted that the world that we see merely represents this other world that consists of ideal forms. This is called Platonic idealism.

The Greek atomists had another theory. They looked at objects like rocks and wondered what these objects consisted of fundamentally. The idea they surmised was atoms. They conceived of atoms as tiny clumps of substance, not unlike the rocks themselves. They believed that the atom was the fundamental building block of all life.

Later people wondered as to what was the substance of which atoms were composed? They gave this substance the name “matter.” Platonism, atomism, and materialism all exist in various forms to this day. These three theories are the major building blocks of philosophy.

Coming to the present day, what do we find? The more we learn about our world, the less our three fundamental Greek theories are able to explain. Atoms turn out to act nothing like the things they clump together to produce. Light has odd wave/particle properties. Forces operate over distance faster than light. And we cannot explain experience at all. This is incredible, for it was experience that we set out to explain 20,000 years ago. What went wrong?

The mistake that was made is called the *psychological fallacy*,¹ i.e. reading into a process something that comes about only as a result of that process. Notice that Plato assumed that other circles cause circles; the atomist that balls are made of balls; and the materialist that a substance causes the appearance of substance. None guessed that all three might be the result of a single process that is not analogous to the things it produces. None guessed that perception might be the process. Here we propose that the world we see is the result of a process of perception that is constantly occurring—occurring prior to the schemas that perception utilizes to produce it.

1. *Psychological Fallacy*: “A set of considerations which hold good only because a completed process is read into the content of the process which conditions this completed result.” (John Dewey in *The Reflex Arc Concept in Psychology*, 1896) More simply stated, we are committing the psychological fallacy when we read into a process that which comes about only as a *result* of that process. Also called “the historical fallacy.”

A FEW WORDS ON BODIES

I wish to add just a few words on bodies. Whether we are talking about a plant or a fully evolved human being, the body is itself a schema. Biological evolution, the evolution of bodies, is actually a second order of the same process that is described in this book. For the body, like any metaphysical perceptual schema, is a lens through which the image is organized. Thus, there is a two-layered complexity to the evolution of perception. First is the metaphysical evolution, described in this book, out of which the dimensions of reality are formed, such as number, color, substance, etc. As these evolve they form the raw material out of which the body is simultaneously evolving.

In the end of this long journey, perception, seeing through the evolved lens of the human body, discovers its existence in the phrase “I am” and finds itself in the world of its own invention. It was for this purpose that it embarked. Yet, taking itself as the body, perception takes itself to be part of the image that never really manifests outside of itself. It is left for perception to rediscover its true identity as the indivisible source of all that it perceives, the alpha and the omega.

AFTERWORD

I discuss a perception-based system. But one could replace the word “perception” with any subjective faculty and still save the paradigm shift I’m after, i.e. process before substance. One could choose “love” or “imagination” so long as one recognized that these faculties are not initially the faculties of anything like a self, but precede the substantive impression of subject and object. The substantive impression comes about later in the process as the condition of the faculty evolves or matures. So evolving love gives rise to the ever-increasing impression of lover and beloved. Evolving imagination gives rise to the ever-increasing impression of imaginer and imagined. Evolving perception gives rise to the ever-increasing impression of seer and seen.

We live in succession, in division, in parts, in particles. Meantime within man is the soul of the whole; the wise silence; the universal beauty, to which every part and particle is equally related, the eternal ONE. And this deep power in which we exist and whose beatitude is all accessible to us, is not only self-sufficing and perfect in every hour, but the act of seeing and the thing seen, the seer and the spectacle, the subject and the object, are one. We see the world piece by piece, as the sun, the moon, the animal, the tree; but the whole, of which these are shining parts, is the soul.

—Ralph Waldo Emerson

Science rightly chooses its theories without regard for ethical and spiritual implications, for ethics and spirituality are not the domain of science, but of philosophy and religion. From the purely impartial perspective of rationality, seeking true answers, explanatory efficiency and probability are the proper criteria for choosing theories.

But we are not purely rational creatures; we are also ethical and spiritual creatures. We have humor and creativity, love and desire. For ourselves we must, if we are to be more than machines, add another criterion for choosing the consensual theory we embrace. That criterion is the real human fruitfulness that might be born of that theory.

The theory of the evolution of perception is not only a rationally viable theory worthy of selection by the criteria of science, but it is a theory which holds out the promise of bearing the kind of ethical and spiritual fruits that materialism has failed to manifest. Rather than divided material entities in meaningless competition for material things, we see ourselves as fundamentally one and the ethical creators of our world.

In the final analysis, philosophy is not a science, but an art. It is no less than imagination that unravels a new idea out of apparent nothingness. We may never be able to fully verify any system, for the truth may be far more transcendental than the mind can hope to penetrate. In the end, how we choose to view our world and ourselves may be as creative, sensitive, and spiritually motivated as the thinking that must produce those ideas.

GLOSSARY

Abstract: *verb.* to develop a line of thought from a concrete reality to a general principle or an intellectual idea (Encarta World English Dictionary). Here the word also denotes determining *unique* properties from observation of a *particular* object, such as an object's size, weight, shape, color, essence (what it is), value, virtue, etc.

Axiom: a basic proposition of a system that, although unproven, is used to prove the other propositions in the system (Encarta World English Dictionary).

Cosmology: the scientific study of the origin and structure of the universe (Encarta World English Dictionary).

Cultural Schema: See Schema.

Evolution: the gradual development of something into a more complex or better form (Encarta World English Dictionary).

Gestalt: a set of elements such as a person's thoughts and experiences considered as a whole and regarded as amounting to more than the sum of its parts (Encarta World English Dictionary). In this system, all of one's perceptual schemata taken together and considered as a whole.

Idealism: The view that things like cups and saucers are in the mind. Presupposes thought, number, logic, distinction, and *a priori* knowledge as fundamental irreducible realities. Presupposes the existence of a mind with perception and thinking as its natural faculties.

Inertial Reference Frame: In physics, the frame of reference from which motion is determined.

Intuition, Derived: Expectations about the world induced from experience. Seeing balls fly in an arch when thrown causes us to develop an expectation that all objects will fly in this way. From these experiences we develop an

intuition—or subconscious expectation. This form of intuition is unreliable, for it is based on induction.

Intuition, Reliable: Intuitions such as logic and mathematics that correspond to perceptual schemata. They are reliable because the perceptual schemata they correspond to are actually organizing the image from which the intuition is abstracted.

Image: The canvas of our experience. That which is experienced. The impression. Includes color, sound, smell, taste, texture, heat, pain, dreams, internal dialogue (self-talk or thinking), mathematical relationships (proportions), and meaning (analyticity).

Materialism: the theory that physical matter is the only reality and that psychological states such as emotions, reason, thought, and desire will eventually be explained as physical functions (Encarta World English Dictionary).

Ocham's razor: The tradition in science to choose the simplest possible explanation for a phenomenon.

Perception: The event of experience, including seeing, hearing, smelling, tasting, feeling, imagining, and comprehending.

Perceptual Schema: *See Schema.*

Physical Schema: *See Schema.*

Platonic Idealism: The view that the image of experience is a representation of forms that exist beyond the realm of human experience.

Psychological Fallacy: Reading into a process something that comes about only as a result of that process.

Schema, Perceptual: The manner in which the image is organized in experience—an evolved way of perceiving. Includes both physical and cultural schemata. Examples are distinction, time, space, number, causation, color, sound, taste, smell, touch, and meaning.

Schema, Physical: One of two kinds of perceptual schema. A way of looking that gives rise to quantitative and qualitative properties out of which physical objects and events are constituted.

Schema, Cultural: One of two kinds of perceptual schema. A polarized way of looking at the results of the physical schemata that gives rise to ideas such as rich and poor, useful and useless, happy and sad, beautiful and ugly, good and evil, etc.

Substance: Physical reality that can be touched and felt (Encarta World English Dictionary).

Supervenience: Properties of one kind, F, supervene upon those of another kind, G, when things are F in virtue of being G (Oxford Dictionary of Philosophy). In easier to understand terms, supervenience occurs when a combination results in a startling effect that is more than the sum of its parts. About the use of supervenience to explain events, the Oxford Dictionary of Philosophy warns, "The value of this...depends on how well we understand the supervenience relation itself. If it is a dangling, inexplicable, metaphysical fact that the Fs relate in this way to the Gs, then supervenience inherits rather than solves the problems of understanding the various areas."

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