



INTRODUCTION

The mind of man is a remarkable entity. Within it, he can calculate the rocket-fuel requirements from Cape Canaveral, Florida to the Sea of Tranquility on the moon, while simultaneously holding a love for and trust in his guardian angel.

This is humanity's paradox: We are at once masters of our world *and* cowering animals terrified of our own impending demise. In the words of the poet, Yeats, "We are eternal beings fastened to dying animals."

Throughout their existence, humans have searched for messages in the arrangement of sticks, animal bowels, and tea leaves; in crystal balls, Tarot cards, Ouija boards, palms of the hand, planetary movements, lumps in the skull; through the wisdom of spirit guides, prophets, gods, sorcerers...even science, for clues to their destiny, their purpose, the meaning of it all—*The Plan*.

What is it about the universe and their place in it that bewilders humans so profoundly?

Humans are enthralled with the magic, the inscrutability of it all. We see ourselves at the universe's center, as somehow integral to the Great Mystery, but at the same time, we distrust what we discover, what we know about how the universe works. We suspect that the world is capricious; randomness, uncertainty, and unpredictability create anxiety in us. Humans need to be assured that their lives are *important*.

The belief that we can somehow control nature is our illusion of salvation. Belief becomes obsession, addiction, because we are ultimately controlled *by* the universe rather than becoming the master *of* it. The need to predict and control our fate causes us to compulsively reduce the universe to fragments—to dissect, categorize, examine our world in an attempt to fashion it to our own will. We invent science to understand our world, to lord over it, to harness it for our own





uses, so that our own destiny is guaranteed. We become slaves to our inventions.

We also seek reassurance in gods and other miraculous processes to guide us, appease our fears of insignificance and loss of control. This drives us to invent order and purpose through magic and superstition, supplanting natural laws. We flounder and prostrate ourselves before our gods and our technology. We then become more miserable than ever because deep down we suspect the success we attribute to our magic are random and unpredictable.

It is our doubt in our universe—and ultimately in ourselves—that incites us to impose impossible conditions on our fellow humans, seek justification of our belief systems through involving others in our rituals and ceremonies. We gather our flocks to *believe as we believe*, that we may continue to believe we are *right*, and therefore *safe*.

It is a deadly and limiting road humanity has chosen to walk. For in our few thousand years as thinking animals, we have failed to achieve our goal: making the universe *behave*. We know on some level that we are at the mercy of natural laws that we do not understand and cannot control. We function on despair, ultimately destroying all that we love.

Why am I here? How has “all of this” come to be? What purpose does it serve? What meaning does my life have in the Great Mystery? What am I supposed to do, or be? How do I matter in the Big Picture?

If you have ever asked yourself—or anyone else—any of these questions, then you have encountered this book to help you understand how you “fit” in the scheme of Everything That Is.

You will begin a magnificent journey—investigating the nature of reality and knowledge, how the universe works, the role consciousness plays in it, and your function as a conscious constituent of the Great Mysterious. May your life begin anew as you grasp the contents of these pages.





NOTE TO THE READER

You will encounter mini-glossaries in appropriate sections throughout this book. This is to ensure that we speak the same language, that we understand the words used to have the same meaning. As it turns out, people do *not* have the same understandings of word definitions—even words we use commonly, such as *love* and *try*. There are emotional *connotations* associated with words that color their lexical *denotations*.

Denotation and Connotation

Words may denote something specific and concrete (the dictionary—lexical—definition) or *connote* something emotional and abstract. “Loaded” words are full of connotation. They contain subtle nuances and carry emotional baggage (a prime reason advertisers and politicians carefully select certain words in their campaigns). Consider the denotation or connotation of these pairs of similar words:

WORD	CONNOTATION	DENOTATION
Compact		fit in a smaller place
Smash	destroy	
Man		a male human
Dude	possibly a low-life	
Recyclables		someone might want it
Trash	no one wants it	
Things		articles of possible value
Stuff	maybe trash...or not	





Consider how the following words can have different connotations, depending on your values:

Evolution:	change in the gene pool over time
or...	humans are descended from monkeys
Catlike:	sleek, graceful, and self-reliant
or...	sneaky, contrary, and territorial
Liberal:	open-minded, unhampered by orthodoxy or tradition, progressive
or...	bleeding-heart, egalitarian, wimp, pinko
Abortion:	termination of a process
or...	murder of an innocent being
Vigilante:	concerned citizen who takes action
or...	terrorist who takes the law into his own hands

Prosody

The accents we place on words in speech—or writing—is known as *prosody*. Prosody is also important to our understanding of language. Consider the following sentence, and how the change in word accent changes the entire meaning of the sentence:

“ <i>I</i> want to buy the red coat.” (No one else wants to buy it.)
“I <i>want</i> to buy the red coat.” (I desire it.)
“I want to <i>buy</i> the red coat.” (I wish to purchase it.)
“I want to buy the <i>red</i> coat.” (No other color will do.)
“I want to buy the red <i>coat</i> .” (I don’t want any other red item.)



Part II
**Philosophy
of Reality**







Chapter 1

PHILOSOPHY AND PHYSICS

We may have heard of quantum physics—the so-called “new” physics. We may know that cosmology is the scientific inquiry into the origins and evolution of the universe. What then, is *quantum cosmology*?

Quantum refers to the world of the very small—subatomic particles—while *cosmology* concerns the largest structure known: the universe itself. The unity of these two disparate worlds gives rise to a new paradigm of reality—an understanding of how the very small and the very large interrelate.

The progression of physics from the classical model to the quantum model, likewise, has necessitated scrutiny and interpretation from outside physics, from disciplines such as cognitive science, psychology, and especially philosophy. While science is proficient at collecting and analyzing data, psychology allows us to understand how our perceptions affect our interpretations of reality, and philosophy and cognitive science have given scientific findings *meaning*. It is the strong interplay of these complementary disciplines that is at the heart of this book. *Everything is connected to everything else*. Nowhere is this more apparent than in the unity of quantum mechanics, cosmology, psychology, and philosophy. Indeed, it will become evident to readers that it is impossible to speak of one field of inquiry without invoking another.

While physics allows us to ask *what* is, philosophy compels us to ask *why* it is. Cosmology permits us to measure the universe, to trace its origins, and to contemplate its possible fate. But, we often find that the greater the knowledge, the deeper the mystery. When cosmology revealed that the universe may have sprung from *nothingness*, science paused,





utterly dumbfounded. Philosophy stepped in and asked, “*Why something from nothing?*”

Nothing

First, it is important to appreciate that the definition of *nothing* diverges among scientists, mathematicians, and philosophers. *Nothing* derives from the two words *no* and *thing*.

Nothing means *zero* to a mathematician—a placeholder for an absent value. It is as important as *something*, as silence is as important as musical notes to a musician. Computer programmers understand that *nothing* really is *something* in binary code, because without zero, *one* has no meaning. Zero—or *nothing*—means “off” or to close a circuit; *one* means “on” or to open a circuit.

To a philosopher, *nothing* has a deeper meaning. *Nothing* may mean something of no consequence. It may mean something that does not exist. (But, if we think of something that does not exist, then it is not *nothing*—it is *something* in our imaginations!) *Nothing* may also be a frightening metaphysical entity devoid of and opposed to being.

To a scientist, *nothing* simply means the absence of something—that is, something *detectable*. But as scientists continually discover, *nothing* may turn into *something* when the tools of observation become more sophisticated. This is the kind of *nothing* to which physicists and cosmologists refer: *Nothing* that may actually be *something* as we refine our observational techniques, extend our perceptions through technology. In physics, *nothing* is frequently a temporary perceptual state.

Another problem we may encounter in our philosophical journey through quantum cosmology is the definition of *is*. Lexically, *is* simply means a state of being actual. However, as we will discover, what is “actual” may not be what we perceive. Again, we are limited—or extended—by the sophistication of our observational tools.





Philosophers construct diverse and provocative visions of the universe and reality. Which philosophy do *you* favor?

PHILOSOPHER	BASIC TENETS
Aristotle	Physics is the foundation of reality, and that information arises from the physical world. We create a model of reality as we grow to understand it.
Plato	Reality <i>is</i> —we simply discover it. Information creates reality. Mathematical truth, aesthetics, and ethics are somehow built into the universe. We just have to tune into it, allow it to guide us.
Benedict Spinoza	The human mind and body are a unity, a perfect fusion of matter and the God force.
William James	The universe is a neutral monistic entity in which all substance is reduced to pure experience.
Wittgenstein	There is no place in objective discourse for the existence of a subjective “I.”
Alfred North Whitehead	<i>Process Philosophy:</i> The fundamental building blocks of the universe are not material objects, but “throbs of experience.” Object-events have both objective and subjective components. Object-events endure only fleetingly—they flash in and out of existence in spacetime. The apparent durability of object-events is due to many collections of entities happening one after another in rapid succession. Each actualized entity has nexus with all other actualized entities. An actualized entity is a product of its own creation. Self-creation involves integration with all other previous entities. The result of the process is one new “throb of experience.”
<i>Perennial philosophy</i>	The great spiritual traditions, despite differences in approach and tenets, lead to the same fundamental truth about the nature of reality: <ul style="list-style-type: none"> • reality is more unified than it appears • reality is better than it seems • reality is more mysterious than anyone can imagine





Mini-Glossary of Some Standard Philosophical Concepts

- **Ontology:** the study of the nature and existence of reality.
- **Logical Positivism:** physics is the model for all of the knowledge of the universe.
- **Objectivism:** there are truths that are valid universally.
- **Pluralism:** there are more than two kinds of reality, or there are many separate levels of reality.
- **Rationalism:** reality is knowable through reasoning and thinking alone, without experience or observation.
- **Transcendentalism:** intuitive reality is superior to experiential reality.
- **Pantheism:** God and the Universe are one in the same.
- **Solipsism:** nothing is real but one's own perceptions, thoughts, and feelings.
- **Personalism:** the personality is the supreme value or virtue.
- **Egoism:** self-interest while benefiting others as a consequence.
- **Epicureanism:** pleasure and happiness as goals; of a mental rather than physical nature.
- **Teleological Ethics:** whether an action is morally right depends on *expected* consequences.
- **Utilitarianism:** all actions are judged for morality based on their consequences.





DEFINING REALITY

What is reality? This is one of the most enduring philosophical questions ever.

Aside from the lexical definition of “the state of actually being or existent,” reality may be more simply defined as *anything experienced*. Well, what does *that* mean?

It means that reality is essentially subjective; that it depends on something—or someone—to experience it. Does that mean that there is no such thing as objective reality—of a reality “out there” independent of someone to experience it? By this definition, yes.

Human material existence—reality—is limited by ideas, not by *stuff*. It is what happens in the mind that constitutes and defines reality, resulting in the experience of it. We know this because there are two different kinds of reality: *consensus* reality and *non-consensus* reality. We can experience both kinds of reality, but for most people, our shared—consensus—experience of reality dominates.

Consensus Reality

The idea that we perceive things as they “actually are” has been refuted by philosophers and other investigators for thousands of years (case in point: optical illusions.) The “mundane” conscious, awake reality most of us experience on a daily basis may be considered *consensus reality*, in that we agree that certain things are actual, and consent to describe them and interact with them in specific ways. We reach a *consensus* that certain things are so, and that other things are not so. We concur on the truth. (However, as we will find out later, acknowledging a truth is *not* synonymous with accepting or endorsing it!)

We are able to enjoy magicians and illusionists, without believing that what they do is “real.” We delight in the understanding that we are being fooled, and are able to grasp that equating fiction with falsehood would be a mistake and





diminish our enjoyment of magic. Indeed, without illusions, a clear grasp of reality is nearly impossible.

Everyone has a *personal model* of reality. Our perceptions structure our understanding of reality; what we think we know may be nothing more than an interpretation of our experiences. Humans have access to only the *manifestations* of reality, not its inherent unity. Reality always appears distorted by the imperfections of our human senses and the filters of our human minds.

Proponents of “perceptual reality” claim that the laws of physics are a mere agreement (consensus) within a community of scientists about how to discuss nature, that physical laws are products of concepts. We experience what we experience because that’s all we *can* experience.

However, as we will see later, mathematics is able to reveal aspects of reality that no one has ever observed or experienced. And just because we can’t see something, doesn’t mean we can’t infer its existence from the things we *can* see.

The most important thing science has learned about reality is the relationship and connectedness of everything. Not one property of reality is fundamental—all properties follow from the properties of other components. The overall consistency of their mutual interactions determines the structure and behavior of the entire web of existence:

Non-Consensus Reality

Non-consensus reality describes any experience that is essentially unshared with the majority of the population. It is unique to specific mind or body states, and there is little agreement as to its character or meaning. Non-consensus reality is internal and personal, and is difficult to convey to others. Four percent of the population—the majority female—experiences non-consensus reality in which spiritual, religious, or paranormal incidents dominate everyday events. Non-consensus reality is commonly attributed to “fantasy-prone” personalities, mental illness, hallucinogens, or exposure to unusual environmental influences, but it may still impart





great meaning for those whose experience it, and therefore has value for that reason alone.

Altered States

Novel mental states are frequently initiated by brain abnormalities and alterations in chemistry, producing a variety of unusual experiences.

An anatomical abnormality may produce perceptual distortions such as *synesthesia*, a rare sensory condition in which the normal five senses become “cross-wired,” generating unusual effects such as tastes that have shape and sounds of certain colors, and may be due to a fault in the sensory channeling area of the brain called the *locus coeruleus*.

External environmental influences can alter perceptions of reality. Anomalous electromagnetic fluctuations—from solar flares, seismic activity, radio and microwave transmissions, and other sources—can produce disturbances in the brain resembling epileptic seizures. Epileptic seizures in the left temporal lobe can generate intense mystical experiences.

Illness, injury, and stress can revise perceptions of reality. Migraine headaches, epileptic seizures, dreams, delirium tremens, high fever, sensory deprivation, hypoxia, and psychosis can all generate visual distortions. (The visual disturbances most commonly reported comprise four geometric patterns—lattices, spirals, tunnels, and cobwebs.)

Hallucinogens such as mescaline and LSD can also produce geometric visual distortions. Drug flashbacks (especially those due to LSD) may produce sensations of “strangeness” and unreality, even physical dissociation. (Habitual drug-users may confuse altered states of consciousness with spirituality.)

Hallucinations and dreams can impart meaningful and true information—even life-altering revelations. Dreaming is a “natural” altered state. It is interesting to note that in dreams, we frequently *observe ourselves as if outside ourselves*. (Sometimes we even see ourselves from the outside when recollecting memories—a sure sign that memory is *not*





accurate; it is constructed and modified!)

Out-of-body and near-death experiences are altered states that usually occur during traumatic events. Many researchers believe that out-of-body experiences (OBEs) may be nothing more than an altered state born of the human compulsion to construct models of the self. The near-death experience is frequently expressed as heavenly, peaceful, and loving, but at least 50% of those experiencing NDEs report them as hellish, like being trapped in a terrifying emptiness. Altered states can even be purposefully self-induced through meditation for purposes of healing and relaxation. However, habitual meditation may also produce adverse effects, such as suggestibility, neuroticism, depression, insomnia, nightmares, dysphoria, anxiety, and psychosis.

Insanity

The ultimate non-consensus reality is insanity—the recurrent or permanent break from consensus reality. The most interesting thing about insanity is that its definition and diagnosis are not static—they change with the decades, with changes in social “norms” and standards of acceptable behavior. Some researchers assert that insanity is merely an adaptation to stressful circumstances, to needs gone unmet for too long; others reason that insanity may be a heightened awareness of a reality above and beyond the one on which we agree. In fact, all great spiritual teachers challenged social norms to the point they could have been diagnosed as insane.

As consciousness expands, so does the risk of insanity (or of being judged insane). Schizophrenia frequently meets three or more of the criteria for mystical experience. Mysticism that persistently places the subject at the center of the action is usually regarded as mental illness. Powerful mystical experiences can retard psychological development and support delusions of grandeur. Frequent mystical or religious experiences may lead to narcissism (to the point of pathology, in which the ego expands to encompass *everything*), fanaticism, even hatred.





The most important thing to know about non-consensus reality is that the current consensus reality paradigm was most likely non-consensus in nature at some time in the past. Most of our accepted truths were once regarded as balderdash, as delusions of twisted minds, before they were accepted as satisfactory representations of reality. This is assuaged by the distinction between belief and empiricism, discussed in “Part III—*How Do We Know What We Know?*”

Something to Ponder

Ultimately, reality itself may be nothing more than metaphor—a description of our experiences shaped by the symbolism and allegory of the times in which we live. Our brains tell us stories about what we experience, and we relate these stories to others, share our experiences through imagery and elaborate translations, such as language. As metaphors vary throughout history and from culture to culture, reality must also vary culture to culture...and mind to mind. In the end, we may each live in our own metaphorical universe. In a metaphorical sense, we may not “really” share the same space or time with others.





Mini Glossary of Some Important Terms

- **Reality:** state of actually being or existent
- **Truth:** real state of things; fact; actuality
- **Perception:** awareness through the physical senses; comprehension; discernment; discrimination
- **Sentience:** perception through the senses; being conscious of one's internal and external environments
- **To Know:** to perceive directly; to understand; understanding gained through actual experience; to be aware of the truth; to learn a truth
- **Philosophy:** critical study of fundamental beliefs; theory; concepts; ideas; convictions
- **Sapience:** wisdom or intelligence through refined discernment
- **Science:** accumulated systematized knowledge; observation and verification of facts
- **Evidence:** outward sign; proof; visible without inference
- **Physics:** study of the motion and forces that govern energy, matter, and space
- **Rational:** having reason or understanding
- **Logical:** ruled by tests of sound thinking and proof of reason
- **Valid:** founded on truth or fact and verifiable
- **Inference:** deduced by what has come before; generalization based on specifics





- **Extrapolation:** to predict, project, or extend on known variables through inference
- **Intuition:** quick insight; belief without rational thought or inference
- **Belief:** to accept as true; faith; to suppose
- **Conviction:** strong belief; opinion
- **Opinion:** a belief stronger than impression but less strong than positive knowledge; judgment
- **Faith:** confidence; loyalty or allegiance to something, as in God
- **Religion:** belief and practice within a group employing ritual and ceremony; worship of the supernatural; devotion to faith



