

## CHAPTER 1

# The Experiment

The grandest experiment in history comes from Quantum Mechanics, and its results—the *Double Slit Experiment*—are not only astonishing but revolutionary. Everything humans believed about the nature of reality was obliterated with this one, simple experimental result.

First, let us get a little context. Atoms and their constituent parts are the basic building blocks of everything in the universe. Electrons, as well as protons and neutrons that together form the nucleus of the atom, exist in all atoms, and electrons orbit the nucleus in an imprecise cloud of possible locations. It was known since 1801 that light had wave and particle properties. In 1927, Davisson and Germer demonstrated that electrons show the same behavior as light, and that was subsequently extended to atoms and molecules.<sup>1</sup> That meant electrons also had wave and particle properties. Particles are *localized*; that is, they exist as a specific point at a specific time. Waves, on the other hand, are *nonlocalized* and are therefore spread out. It also is significant to note that electrons are the glue that binds atoms together in chemical bonds. These chemical bonds form the physical environment around us—the constitution of matter itself—that we simply term the *material world* (although as we shall see shortly, the underpinning of atoms is invisible energy, so atoms are therefore actually immaterial). In no small way, then, electrons are the basis of the universe and of reality itself.

## Astonishment

In the *Double Slit Experiment*, electrons were shot at a partition with two open slits (there was a screen behind the partition to record the paths of the electrons). What emerged was a wave-like arrangement on the screen when the expectation was two distinct columns of dots representing individual particles. The results showed that the electrons were behaving like waves, transversing through both slits when they should have traveled through one slit or the other. Remember, a wave could pass through both slits, whereas particles would have to choose one or the other slit. Physicists initially thought the electrons were bouncing off each other, forming the wave arrangement. So they reduced the electron stream to one electron at a time. When the electrons were fired singularly and slowly (supposedly ensuring their particle-like nature), each electron also passed through the two slits. What was thought to be a single particle was behaving like a wave by passing through both slits at the same time. This is the famous *wave-particle duality* of Quantum Mechanics since an electron is both a wave and a particle existing as one. To this day, there is no satisfactory explanation for this phenomenon.

Obviously, this baffled early physicists. In fact, these findings were so bizarre that physicists tried to peek at the electrons to catch them in their curious behavior. They used measuring devices to actually see the electrons pass through the slits. Much to their astonishment, when they observed the electron, it behaved like a particle and passed through only one slit. The mere act of observing the electron (called the *Observer Effect*) caused it to assume particle characteristics and abandon its wave-like nature.

So let us get directly to the point:

**Our observation of the electron creates its nature. When we are observing, the electron behaves as a particle; when we are not observing, the electron behaves as a wave. Our observation (Consciousness) determines the electron's properties and actualizes it.**

Then some extremely high-level mathematics was applied, and the calculations demonstrated that an electron in its natural state can go through both slits, neither slit, one slit, or the other slit. All the potentials of the electron exist before observation in what is known as a *superposition*. At once, the electron is everywhere! It does not have a definite state or position. That is also known as the *wave function* of the atom where the electron exists in many orbital positions above the nucleus (behaving like a wave). Yet if we want to observe the electron at a specific point, the electron appears as a particle (as opposed to a wave) in that exact location and ceases its other potential positions. That is known as *collapse of the wave function*. This bizarre collapse is caused by the observation made by an observer where literally Consciousness collapses the wave function and forces the electron into one position with nothing more than the intention of a human observer.<sup>2</sup>

Thus, the *Double Slit Experiment* is the definitive glance into reality. Mind compels electrons to become real things, controlling their characteristics and behavior. Without Consciousness observing them, electrons exist only as clouds of potential and would never become actual things. Again, the same dynamic extends to atoms and simple molecules that form the building blocks of the entire universe, so reality is inexorably linked to observation and Mind. Fundamentally, it is Consciousness that brings things into existence by materializing potential into matter.

## **Implications**

So how can this be? How can a supposedly objective and independent universe exist only through an association with Consciousness? How is it that Consciousness brings the universe to life? How can matter and energy behave in ways that appear so counterintuitive and absurd to our everyday senses? What does the *Double Slit Experiment* say about the nature of reality?

Consider the following:

**The universe is not a real thing in the materialist sense of the term. As Nobel Prize–winning physicist Neils Bohr once famously remarked, “Everything we call real is made of things that cannot be regarded as real.” Physicists have discovered that atoms and subatomic particles are vortices of invisible energy, perpetually spinning and vibrating, existing in a type of physical void with no actual material structure. Things become real only by connection to Mind. Thus, Consciousness creates the universe.**

This puts Consciousness at the forefront as the organizer of existence, arranging innumerable potentials into the one actuality we know as reality. But the question remains—“of whose Consciousness?” Where does this Mind come from? Is this Mind evenly dispersed throughout the universe or located in just one place? We obviously have some of this Universal Mind in us, but we are not its source. Moreover, since the ingredients forming the universe are immaterial and unreal, that fact alone attests to a source that is incorporeal, transcendental, or even spiritual.

Therefore, Consciousness is likely related to Spirit, comprised of the same incorporeal essence. In addition, the Observer Effect noted earlier connotes a *first observer* where an initial observation (or something similar) brought an entire universe into existence. This original observer would possess both mental and spiritual properties, offering considerable challenge to scientific orthodoxy that cannot account for Mind and believes Spirit is ridiculous. After all, science is based on things being physically real, our common sense notion of reality premised on matter as actually existing in material form. The quantum, however, clearly demonstrates that this is false. Consider the following from *Collective Evolution*:

**According to the quantum mechanic laws that govern subatomic affairs, a particle like an electron exists in a murky**

**state of possibility—to be anywhere, everywhere or nowhere at all—until clicked into substantiality by a laboratory detector or an eyeball.<sup>3</sup>**

Think about that. Nothing exists without Mind. That is not the reality we were all taught to believe in. The scientific materialist preference for an objective and independent reality apart from Consciousness literally doesn't exist. Their doctrine that everything is matter and its movements, including all mental processes leading to Consciousness, is eviscerated by the *Double Slit Experiment* and the primacy of Mind. Matter is merely a product of Consciousness.

Scientific materialists hate this fact (partly because it was derived scientifically) and for additional reasons to be explored in subsequent chapters, but consider the words of physicist David Deutsch:

**Despite the unrivalled empirical success of quantum theory, the very suggestion that it may be *literally true as a description of nature* is still greeted with cynicism, incomprehension, and even anger.<sup>4</sup>**

Put another way, some of our greatest minds are struggling to accept reality. That cannot be good for the human future.

Ultimately, what does that mean? Let us consider some indisputable and glaring implications of a reality created by Consciousness as learned from the *Double Slit Experiment* to assist in our embrace of the truth.

**Reality is a structure that appears real but is made of unreal things, coming into its “realness” only through the observational power of Mind. Consider reality as a great painting. Mind creates the art, filling a blank canvas with a visible masterwork. Yet if you remove Consciousness from the equation, the art literally disappears. Consciousness doesn't so much witness the image as actually create it; the prodigious painter of the art we term reality is simply the Mind being the Mind. Without Consciousness, there is no art.**

That causes some troubling questions. Is reality an illusion? Can the universe and, by extension, reality ever truly be understood? As with the *Double Slit Experiment*, perhaps other revelations within Quantum Mechanics might provide answers to questions about the true nature of things. Be warned, however, that every further exploration into the inner workings of the atom reveals more unbelievable truths. Virtually nothing is as we thought. Let us turn to that exploration next.

## CHAPTER 2

# The Incredible World of Quantum Mechanics

The *Double Slit Experiment* is only the beginning of the astonishing truths inside an atom. Nevertheless, much division occurs within science concerning the experimental results of Quantum Mechanics, largely because the findings are so impossibly bizarre. The debate is often heated, and each new, experimental result causes yet more divisive opinions. Seldom is there widespread agreement on what the experiments actually mean. So for our purposes, we will focus on the generally accepted conclusions and develop logical linkages to larger truths.

To further understand the subject, we start with a definition that extends beyond our earlier description. Quantum Mechanics is “the branch of mechanics, based on the quantum theory used for interpreting the behaviour of elementary particles and atoms, which do not obey Newtonian mechanics.”<sup>5</sup> This definition is significant because it identifies the central problem within any examination of reality—the incompatibility of the macro classical physics of Newton and the micro quantum mechanical physics that govern the atom. **Classical physics and quantum physics are radically different, displaying different behaviors and obeying different rules. Classical physics cannot adequately describe the quantum world.** Classical physics is logical and easily deducible, whereas quantum physics is counterintuitive and esoteric. Moreover, there is no grand unification theory that incorporates both into a comprehensive whole.

Thus, physics is stagnant, caught between two apparently incompatible worlds. The classical world exists in a state of astonishment at the inherent outlandishness of the quantum, while a goodly bunch of quantum physicists consider classical physics anachronistically limiting. Simply, the results of the *Double Slit Experiment* are so invalidating that classical physics has never recovered. Its worldview of mechanistic determinism (belief that the universe is reducible to its constituent parts and their interrelations) is destroyed when the constituent parts are immaterial and random.

As a result, Quantum Mechanics rather points to *spiritualistic indeterminism* (i.e., the immaterial and probabilistic nature of things) as the only valid explanation of reality. This perfectly positions the philosophical debate between *idealism* (reality is fundamentally mental and spiritual) and *realism* (reality is independent of Mind); classical physics is naturally *realistic*, whereas quantum physics is naturally *idealistic*. Newtonians, although providing much utility in their understanding and manipulation of the macro environment, are simply unsuited to explore the enigmas of the quantum. It is like asking a whale to climb a tree.

## **Atomic Truth**

An atom is 99.9999999% empty space. You read that correctly. Even the particles that comprise the “matter” within the atom (protons, neutrons, and electrons) are actually just waves of probability. So the universe—and by extension our reality—is comprised of empty space and matter that is invisible. When the ancient sages claimed that reality was an illusion, they meant it.

As mentioned in Chapter 1, electrons are spread out into an electron cloud or superposition known as a wave function. In some respects, this cloud fills the empty space, although since the electron is merely a probability wave, the space in the atom is actually empty (debates on this empty space versus electron cloud rage on, but it is merely a technicality). Fundamental forces of nature bond particles within the atom, and when electrons in atoms come into contact with other atoms, attractive and repulsive forces provide the appearance

and feel of solidity. In this way, a reality made of immaterial and unreal things can appear solid and feel real.

Therefore, things look actual, but underneath there is nothing there. Reality begins to appear as a type of hologram or simulation. As discussed in Chapter 1, measurement (observation) collapses the wave function so all of an electron's potentials manifest at one particular point known as a particle. Without doubt, that ascribes huge significance to the powers of Mind since Consciousness not only collapses the wave function but directly influences or even creates the properties of matter and energy. Mind literally compels electrons to become actual things out of a wavy cloud of potential. To Neils Bohr and Werner Heisenberg, the experimental results were obvious. Their explanation for the results of the *Double Slit Experiment* is known as the *Copenhagen Interpretation* (since Bohr was from Copenhagen) and is the preponderant interpretation of Quantum Mechanics.

Naturally, the Copenhagen Interpretation was challenged by classical physicists who invented twenty-two other interpretations of Quantum Mechanics that supported their belief systems. None of these twenty-two interpretations (Many Worlds Interpretation, Pilot Wave Theory, and Decoherence, to name a few) have ever been proven, but the theoretical landscape is littered with unsubstantiated nonsense so scientific materialism can maintain its belief in a solid, physical reality that doesn't exist. Further on, we will discredit many of these other interpretations, some of which are truly preposterous. Consider the following quote from Nobel Prize winner Max Planck:

**There is no matter as such! All matter originates and exists only by virtue of a force. . . . We must assume behind this force the existence of a conscious and intelligent Mind. This Mind is the matrix of all matter.<sup>6</sup>**

Nobel prize-winning physicist Erwin Schrödinger said in an interview in 1931 that Consciousness is how the world "first becomes manifest." It is made up of components of Consciousness.<sup>7</sup>

And again from Schrödinger:

**Consciousness cannot be accounted for in physical terms. For consciousness is absolutely fundamental. It cannot be accounted for in terms of anything else.**<sup>8</sup>

Since the primacy of Consciousness is experimentally validated, it should be widely accepted; unfortunately, it is disputed without cause. That implies willful intent by the scientific community to deny the primacy of Consciousness in order to fulfill some deeper agenda. So what is this hidden objective? What is so concerning about the centrality of Mind? We may be able to learn the answer by examining a rather famous question by Albert Einstein concerning Consciousness and the state of the moon.

First, let us look at a little context. As previously mentioned, Consciousness, through the act of observation or measurement, collapses the wave function of an atom; obviously, that was an unexpected result, especially for Einstein. It appeared completely illogical for Mind to have a “power” or directing influence over what should be neutral or indifferent material. To Einstein, the experimental results of the *Double Slit Experiment* appeared non-deterministic, without cause and effect, so something undiscovered must describe the impossible behavior of electrons. He termed these “hidden variables.” Unfortunately for Einstein, they have never been found. Nevertheless, Einstein challenged the *Copenhagen Interpretation* of Quantum Mechanics by posing this question: “Are you saying the moon is not there if we are not looking at it?”

Remarkably, we can use Einstein’s question to make the absurd appear logical. Einstein was a realist, while quantum truths are idealist. The question remains—“of whose Mind?” Does the moon exist because our individual minds observe it? Or do our individual minds share a universal Consciousness? Consider a theoretical Realist and Idealist debate using the initial question Einstein posed:

**Realist: You know, Galileo observed the moon hundreds of years before us with one of the first telescopes. So the moon was there.**

**Idealist: Of course. Galileo had Consciousness.**

**Realist: What about the fossil record revealing that 250 million years ago dinosaurs were being affected by the tides of the Earth's oceans? Tides are caused by the gravitational effects of the moon. So the moon was there.**

**Idealist: Sure. Dinosaurs had Consciousness.**

**Realist: So how far in history does Consciousness go?**

**Idealist: To the beginning. The *Observer Effect* demonstrates that Consciousness brings matter and energy into existence. The universe is matter and energy. That mandates a first observer manifesting an entire universe.**

**Realist: That would be a powerful first observer. Who might that be?**

**Idealist: Apparently, a Great Consciousness or God.**

Perhaps the reluctance of scientific materialists to embrace the *Copenhagen Interpretation* and the primacy of Consciousness is because it leads inexorably to God. Scientific materialists tend to be atheists. A First Mind sounds an awful lot like a Creator. Would an atheistic, scientific materialist welcome quantum experimental results that inevitably point to a Divine Being? Of course not. Hence, there are twenty-two interpretations of Quantum Mechanics. The *Double Slit Experiment* provides a direct linkage through time of the observational antecedence of Mind to a Great Consciousness, one who created the entire universe with nothing more than focused intention or observation.

Since experiments demonstrate that observation creates reality, the Copenhagen Interpretation was correct—the moon doesn't exist without the presence of Mind. If one believes in the scientific method, one must accept even those experimental results that conflict with common sense. **Essentially, that is the materialist dilemma—how to accept scientific facts that undermine scientific beliefs.**

## Entanglement

Another bizarre, inner working of the atom leading to a radically new perspective of reality is known as Quantum Entanglement. It occurs when subatomic pairs of particles interact physically. When measurements are made on their spin, momentum, position, and polarization, they are correlated. An effect on one particle immediately affects the other, determining its behavior regardless of distance. That, of course, is also nonsensical, but it has been proven experimentally, the latest being a Chinese experiment of entangled particles separated by almost 750 miles.<sup>9</sup> The math has been worked out, and particles can be entangled even through distances of billions of light years.

Entanglement suggests that the particle “knows” what manipulation has been performed on its equivalent, and because of Einstein’s Theory of Relativity, no “message” that exceeds the speed of light can be sent between the particles. Yet Quantum Entanglement is irrespective of this limitation. Such experimental results are nondeterministic, counterintuitive to all that is logical. Two separate objects behaving as one, regardless of distance? That certainly doesn’t sound like traditional interpretations of reality.

So what does Quantum Entanglement say about the relationship between particles? How can electrons be so incredibly connected as to defy common sense?

Experiments have told the story. Since the speed of light limitation is verified and so are physical distances, the net result is that no message is actually being sent as a form of communication between the two distinct particles; rather, entanglement is simply a fundamental property of nature with two separate objects behaving as one, regardless of the distances involved. The classical speed of light limitation is maintained because there is no movement in the intervening space between the entangled particles and no signal sent between them, nor is one necessary. Although they are two separate entities, entangled particles behave as one system.

The experiments also demonstrate another incredible truth: Quantum Entanglement is a direct assault on the foundations of classical physics because it violates a stalwart of Newtonian orthodoxy known as *locality* where objects

are influenced only by their immediate surroundings.<sup>10</sup> *Locality* dictates that in the case of entangled particles, a communication would have to travel between them in order to bring the message from one particle to the other; essentially, there has to be a physical, real force to cause the influence. Yet no such force exists.

Therefore, Quantum Entanglement also violates the concept of *realism* in physics, the assumption that quantum states have defined properties independent of measurement.<sup>11</sup> *Superposition* has shown that no such defined properties exist. Moreover, a materialist interpretation of reality necessitates a belief in *local realism*, an Einsteinian principle combining *locality* and *realism*. Things are supposed to exist on their own, have defined properties, and only be influenced by nearby objects. Quantum Entanglement, however, violates *local realism* because experiments have shown that matter is naturally *nonlocal* (spread out) and that nothing exists before measurement (observation). Contrary to things being influenced only by their immediate surroundings and thus definitively “real,” quantum realities demonstrate instead that nature is universally connected and physically unreal.

The further we look into the quantum world, the more bizarre it becomes. The next phenomenon is virtually incomprehensible.

Consider when Quantum Entanglement is combined with the classic *Double Slit Experiment* in what is known as *Delayed Choice* and *Quantum Eraser* experiments. Originally, the concept of *Delayed Choice* was formulated as a thought experiment by John Archibald Wheeler portending the actual Quantum Eraser experiments. Be advised, however, that these experiments will challenge the limits of rationality and credulity. First, we shall examine *Delayed Choice* as a thought experiment.

**Imagine a distant star emits light. Between that star and the Earth is a galaxy, but instead of blocking the light, it bends light towards the Earth. It bends light in of [sic] two different ways. A single photon, going from the star, can take one of two paths, to the left of the galaxy or the right of the galaxy. Suddenly, we have a Double-Slit experiment**

**in space. The photons make their way to Earth, and we can observe them. We can observe either exactly where they come from, or we can neglect to see which side of the galaxy they came around. Again, we have a Double-Slit experiment in space . . . and we would get the same results – interference pattern if we do not check the exact origin of the photons, and no interference pattern if we do check the exact origin of the photons.**

**The interesting thing is, these photons would have made “the choice” between going through one path, the other, or both, millions or billions of years ago. There is no way we could have messed up and measured them as they were coming around the galaxy. And yet, depending on whether we measure them, we will have determined whether they passed through one path, the other, or possibly both. Can we determine, now, events that happened millions of years ago?<sup>12</sup>**

Fortunately, this is no longer conjecture. In 2015, an experiment was conducted at the Australian National University that demonstrated that measurements in the present can determine a particle’s past. Consider their following press release:

**The bizarre nature of reality as laid out by quantum theory has survived another test, with scientists performing a famous experiment and proving that reality does not exist until it is measured. Physicists at The Australian National University (ANU) have conducted John Wheeler’s delayed-choice thought experiment, which involves a moving object that is given the choice to act like a particle or a wave. Wheeler’s experiment then asks – at which point does the object decide? Common sense says the object is either wave-like or particle-like, independent of how we measure it. But quantum physics predicts that whether you observe wave like behavior (interference) or particle behavior (no**

interference) depends only on how it is actually measured at the end of its journey. This is exactly what the ANU team found. “It proves that measurement is everything. At the quantum level, reality does not exist if you are not looking at it,” said Associate Professor Andrew Truscott from the ANU Research School of Physics and Engineering. . . . The ANU team not only succeeded in building the experiment, which seemed nearly impossible when it was proposed in 1978, but reversed Wheeler’s original concept of light beams being bounced by mirrors, and instead used atoms scattered by laser light. . . . Professor Truscott’s team first trapped a collection of helium atoms in a suspended state known as a Bose-Einstein condensate, and then ejected them until there was only a single atom left. The single atom was then dropped through a pair of counter-propagating laser beams, which formed a grating that acted as crossroads in the same way a solid grating would scatter light. A second light grating to recombine the paths was randomly added, which led to constructive or destructive interference as if the atom had travelled both paths. When the second light grating was not added, no interference was observed as if the atom chose only one path. However, the random number determining whether the grating was added was only generated after the atom had passed through the crossroads. If one chooses to believe that the atom really did take a particular path or paths then one has to accept that a future measurement is affecting the atom’s past, said Truscott. “The atoms did not travel from A to B. It was only when they were measured at the end of the journey that their wave-like or particle-like behavior was brought into existence,” he said.<sup>13</sup>

We should think seriously about the implications of this experiment. These findings are antithetical to our common-sense notions of reality, specifically the

passage of time. So here is the new reality. **Measurements made in the present can determine the past. The ironclad forward motion of time is not so ironclad after all. Time can proceed into the past, the present, and the future. That contradicts everything we have been taught.**

Next, we can consider *Quantum Eraser* experiments, further extensions of the *Double Slit Experiment* that attempt to find “which path” information for how particles travel through the slits. The foundation of these experiments was the dubiety, even intransigence, of scientific materialists to accept that Consciousness collapses the wave function—that Mind creates reality. They were convinced that some property of the measuring devices or other physical equipment was causing the collapse. They named this physical phenomenon *decoherence*, which has never been proved and is actually disproven by *Quantum Eraser* experiments.

In *Quantum Eraser* experiments, the major difference to the famous *Double Slit Experiment* is that the measuring devices observing the paths of electrons are placed behind the slits. In short, the electrons are viewed after rather than before they pass through the slits. Observation before the slits collapses their *superposition* (wave) and changes electrons to particles; if unobserved, experiments always show that electrons pass through as waves. But in *Quantum Eraser* experiments, observation is made after electrons pass through the slits as waves and are then observed—as particles! Observation changes their nature from wave to particle, even past the point of no return (the two, open slits). **Moreover, a new history is loaded so the particles actually went through the two open slits as particles, even though they first passed through as a wave. History is rewritten. Observation in the present literally changes the past.**

As a result, it becomes obvious that *Quantum Entanglement* not only links particles spatially but also links them temporally (in time). A technique developed in 2007 termed *entanglement swapping* demonstrated quantum correlations across time, but an experiment in 2013 further demonstrated that particles can be entangled, never having concurrently existed.<sup>14</sup>

Although too complicated to discuss at length here, in 1999 a famous experiment known as *Delayed Choice Quantum Eraser* extended even further the exploration of “which path” information. An excellent video on YouTube goes into great detail yet offers simple explanations of the results.<sup>15</sup> Briefly, it is knowledge of “which path” in the present can change the past history of a particle. Choices observers make in the present can change the past, so it proves that time is not set. Time can travel in different directions, and the mere knowledge of “which path” information an observer has can literally change the properties and histories of the particles.

We have been taught to believe that the past determines the present and the present determines the future. In reality, that is true, but so can **the present determine the past, the future determine the present, and the future determine the past**. That is retrocausality, and it is a staple of the quantum world. Hence systems, including the universe and reality, should be viewed as wholes, not just a collection of parts. Moreover, the materialist explanation for the nature of things, what is known as *determinism* where everything has a rational cause and effect, is obviously false. The quantum world makes little sense, at least according to our physicalist sensibilities, yet its outlandish peculiarities form the basis of reality. Thus, scientific materialism is both inaccurate and anachronistic.

So what are the implications of Quantum Entanglement? Consider the following possibilities:

- Everything is connected.
- Since particles are brought into physical existence by Consciousness and everything is associated, the universe is entangled with Mind.
- Since Quantum Entanglement is fundamental in nature, potentially any activity affects everything else.
- Spacetime may result from Quantum Entanglement. The “grid” of the universe may result from the interconnectedness of everything.
- Quantum Entanglement suggests a “one state” nature to reality. If superposition is the natural, unobserved state (all potentialities existing

concurrently), then Consciousness brings single state reality into existence by observation. That does not preclude different levels of reality, only that we share a common one.

- Consciousness allows parts to become separate from the whole so they can be experienced. Without Consciousness, all possibilities exist, but they are not known. Consciousness allows separateness without separation.
- *Determinism*, the concept that everything is determined by previously existing causes and is therefore exceedingly rational, is obliterated. Quantum Entanglement points more toward *indeterminism*, the belief that everything is probabilistic, fundamentally random, and likely unknowable.

Basic applications of Quantum Entanglement exist (the preponderance in early formulation and experimental stages), but the future of this phenomenon is incredibly promising. Possibilities include advanced encryption technologies, teleported information, precision clocks, superior microscopes, vastly more powerful computers, and unfortunately more lethal weapons systems. All will utilize entanglement as the means of transmission, although only information can be transmitted, not actual matter (or what we call matter). The effects on reality as we know it can only be imagined.

## **The Inevitability of Consciousness**

It must be mentioned that some believe the aforementioned bizarre behavior of electrons and other particles is best described by particles having their own Consciousness. This is known as *panpsychism*—that everything, no matter how small, has its own mind. Experiments have shown that when measuring devices are left in place in the *Double Slit Experiment* and turned off (no longer observing), the interference nature of a wave returns (instead of the particle characteristic typical of observation).<sup>16</sup> Somehow, electrons appear to “know” when the detector is off and they are no longer being observed.

Two possible explanations exist for an electron's apparently conscious behavior: (1) the Great Consciousness watches everything and gives electrons the direction required to conform to human observation, or (2) electrons have their own mind. The first is self-explanatory. The second, although it sounds absurd, mandates a new understanding of Mind since electrons have no physical brain yet demonstrate intelligence and choice. Could it be that Mind does not result from physical processes in the brain such as neural networks and synaptic firings? Could it be that brain chemistry is not required in order for Mind to exist?

What are required in order to lend credibility to the notion of electrons having their own mind are other examples from nature of things that demonstrate Consciousness without a physical brain. We digress some here, but since nature consists of atomic structure, including, of course, electrons, establishing this linkage proves the potential of *panpsychism*. We can consider these examples next.

Amoebas, planarian flatworms, starfish, and mold are just some of the many organisms on Earth that demonstrate self-awareness and intelligence without a physical brain. Recently, a plant whose natural enemy, a caterpillar, makes a scrunching sound when it eats the leaves of the plant was placed in a room by itself. In nature, when the caterpillar eats the leaves, the plant emits a chemical that is its defense mechanism against the caterpillar. This time, with no caterpillar on its leaves or anywhere in the room, the sound of the caterpillar munching the leaves was broadcast, and the plant immediately emitted the chemical.<sup>17</sup> Somehow, the plant "heard" the threat with ears it doesn't have and processed the threat with a brain it doesn't have. The plant clearly demonstrated intelligence and intention with no physical brain. How did the plant perform this incredible feat? How does a plant with no physical brain demonstrate awareness and the presence of Mind? Consider another example.

It is common knowledge that mold demonstrates Consciousness. ResearchGate searches identified numerous experimental results, but perhaps we can summarize their collective findings using a representative example. Mold was placed in a dish with four paths ahead of it: white, gold, beige, and grey. As good mold should do, it went exploring all paths for food. Only the gold path

provided food. Immediately, the mold travelled only to the gold path. More impressively, some of the mold in the rear of the dish (that did not explore) was separated and kept in a separate dish for thirty days. Placed into another dish with the same four color paths ahead of it, the mold instantly proceeded toward the gold because it “knew” that meant food. Mold demonstrates high levels of intelligence and awareness and has at least a thirty-day memory. Not a scientist in the world will tell you that mold has a physical brain.

Next, consider another experiment conducted by biologist Monica Gagliano that demonstrates how a mimosa plant can learn from experience. Michael Pollan stated in an interview that because Gagliano used the term “learn,” ten scientific journals rejected her paper before it was published (scientific materialism dies slowly). Below is an excerpt from the article.

**Mimosa is a plant, which looks something like a fern, that collapses its leaves temporarily when it is disturbed. So Gagliano set up a contraption that would drop the mimosa plant, without hurting it. When the plant dropped, as expected, its leaves collapsed. She kept dropping the plants every five to six seconds. “After five or six drops, the plants would stop responding, as if they’d learned to tune out the stimulus as irrelevant,” Pollan says. “This is a very important part of learning – to learn what you can safely ignore in your environment.” Maybe the plant was just getting worn out from all the dropping? To test that, Gagliano took the plants that had stopped responding to the drops and shook them instead. “They would continue to collapse,” Pollan says. “They had made the distinction that [dropping] was a signal they could safely ignore. And what was more incredible is that [Gagliano] would retest them every week for four weeks and, for a month, they continued to remember their lesson.”<sup>18</sup>**

We must remember that plants do not have brains, yet they clearly demonstrate Mind. Finally, consider this example from John Kehoe:

**Seeing this reminded me of being on safari several years earlier where a game ranger pointed out a species of tree that not only reacted to animals eating its leaves, but also transmitted signals to other trees of the same species as well. It seems that these particular leaves were very delicate and tasty favourites of the giraffe. So whenever a family of giraffes would begin eating them, within 15 minutes the taste of the leaves would turn sour. What was so interesting, however, was that it was not only the leaves on that particular tree that turned sour, but the leaves on all the identical trees within a half-mile radius! The tree whose leaves were being eaten was able to somehow communicate with the other trees in the area and warn of impending danger.<sup>19</sup>**

The aforementioned sounds like a tree version of Quantum Entanglement, the strange behavior of electrons extending into macro objects (such as trees) with a level of connectivity that cannot be described through scientific materialism. Mind is firmly entrenched into every living organism on Earth and possibly even into the inanimate. The above examples conclusively point to Mind, not brain, as the source of awareness and intelligence since no other satisfactory explanation exists.

The primary ramification of the experimental evidence reviewed so far is that Consciousness is paramount to existence. Nothing is more essential or causative of being than Mind. Max Planck, the Nobel Prize-winning physicist and father of quantum theory, stated:

**I regard consciousness as fundamental. I regard matter as derivative from consciousness. We cannot get behind consciousness. Everything that we talk about, everything that we regard as existing, postulates consciousness.<sup>20</sup>**

The supremacy of Consciousness necessitates a restructuring of our conceptual foundations. Our worldview is flawed. First, consider the following organization of reality according to physicalism:

- **Big Bang creates the universe.**
- **Matter appears, governed by fundamental laws.**
- **Galaxies form, filled with billions of stars and planets.**
- **Time passes.**
- **On some of these planets, life happens. Evolution begins.**
- **On Earth, after billions of years of evolution, humans emerge.**
- **Humans, having a highly advanced brain, develop Consciousness.**
- **Consciousness is thus born of materialism.**

This framework reigned until the arrival of Quantum Mechanics. What replaces physicalism is a revolution. Consider the correct framework:

- **Matter doesn't exist without Mind observing it.**
- **The history of antecedental observation mandates a First Mind.**
- **First Mind brings the universe into existence.**
- **Mind therefore precedes the Big Bang and all physical processes.**
- **Humans have Consciousness as a derivative of First Mind, not because of a physical brain.**
- **Thus, Materialism doesn't cause Consciousness, rather Consciousness causes Materialism.**

To fully grasp the far-reaching implications of a reality based on the essentiality of Mind, we must first understand the historical attempts of leading thinkers to interpret their world. These sophists provided the classical descriptions of reality that contrast with the emerging truths of our time. After all, a structure must exist in order for a revolution to topple it. Let us consider this traditional framework next in our study.