SAMPLE CHAPTER from The Secret Universe by Aerik Vondenburg

CHAPTER VIII

THE METAPHYSICS OF HYPERSPACE

In previous chapters, the subject of spirituality and the alleged existence of a spiritual "afterlife" world was referred to; which raises the question: Could such a paranormal world literally exist?

What should be taken into account is that emerging findings in the field of theoretical physics are beginning to detect the possible existence of not only non-physical phenomena but extra dimensions and "parallel universes" that exist within a larger "multiverse," or "pluriverse."

Some of the concepts that are emerging are being produced by the mathematics of super-string theory. String theory takes its name from the concept that subatomic particles resonate due to internal "string" type structures. However, the concept of a vibrating universe is not what makes string theory so significant and so controversial. Superstring theory is unique because it postulates the concept of a multidimensional universe that extends past the four known measurements of space (length, breadth, and depth) and time.

At the present time, a majority of mainstream physicists do not believe that these extra dimensions could have anything to do with extra dimensions of space and time; and yet, the answer that they have proposed: that is, that these dimensions are "rolled up," or "compacted," into "interior spaces" of an atom, is far less unlikely. Indeed, even the physicists themselves admit that the model that they are proposing is not without an unusual share of imperfection and mystery.

It must first be understood that physicists use mathematics to calculate the laws of nature. Before string theory appeared, physicists were having a difficult time uniting the complex equations that are related to the laws of nature into a single cohesive and symmetrical whole. String theory solved some of the problems by allowing more room for the equations to unite. To the discoverers of this novel solution came the realization that a step closer was taken to the elusive Grand Unified Theory—a relative of Einstein's Theory of Everything. Although Einstein himself attempted to solve this ultimate equation, he too was unable to attain this elusive paragon goal. This is because in order to gauge and comprehend the universe, the *entire* universe, including all of its multiple manifestations, must be taken into account.

The first idea proposed as a solution to this conundrum was discovered by the theoretical physicist Oskar Klein in the 1920s. His work began as an effort to elaborate on a theory that was submitted a decade earlier by Theodor Kaluza.¹ What Kaluza did was ad one extra dimension to his calculations, which rendered a very significant result. Kaluza contacted Einstein to present him with his findings, which the revolutionary discoverer of relativity theory was duly impressed by. Einstein even encouraged Kaluza to have his paper published in a prestigious physics journal, which he did in 1919 (published in 1921). Although the mathematics equated on paper, no one could imagine what this extra dimension could be. Excited about Kaluza's theory, Oskar Klein presented the idea that the extra dimension could be "curled up" into spaces a hundred-billion-billion times smaller than that of an atom. To this day, this *ad hoc* proposal is still the primary explanation that is resorted to by most string theorists.

Critics of super-string theory find it difficult to believe that the universe could contain so many curled up dimensions, and for good reason. The curled up theory was a make-shift explanation that was

¹ Theodor Kaluza, Ph.D., was a German mathematician, physicist, and professor at the University of Konigsberg in Prussia.

used in order to enable Kaluza's mathematics to fit into a previously established, or so-called "normalized," physicalist parameter.

However, I propose that the true answer to this enigma will be found in the function of the "string" itself. Just as a string vibrates on an instrument, so does a string-like structure vibrate within the interior space of an atom. These vibrations are resonating in something like pitches that coalesce to form frequencies, or wavelengths of energy. It is a model that recalls the work of the sixteenth-century doctor, artist, and Rosicrucian mystic Robert Fludd, and his illustration of the divine "monochord." This cosmological picture also corresponds with the ancient Greek philosopher Pythagoras's concept of a mathematical and vibrating universe which he also related to a musical instrument (i.e., the "music of the spheres"). It is now known that matter itself is vibrating energy that has been locked up into a particular state (Davies and Gribbin 1992: 14, 235); therefore, the physical world as we know it is just one level of a particular wavelength/frequency, or vibratory plane.

> When the string vibrates in different modes, it becomes a different particle. In this picture, the laws of physics are nothing but the harmonics of the super-string. The universe is nothing but a symphony of vibrating strings. (This, in a sense, fulfills the original dream of the ancient Greek Pythagoreans, who were the first to understand the laws of the harmony of strings. They suspected that the entire universe might be understood via the laws of harmony, but until now, no one knew how this could be done).

-Michio Kaku, Visions

Each wavelength/frequency corresponds to the vibration of a certain pitch; and, just like an instrument, not all of these strings are vibrating at the same rate. Herein may lie the key to comprehending the phenomena of extra dimensions. If subatomic energy is locked up into not only a single note but several, we then have a model that presents the existence of a manifold universe. Science has already proven that energy and light are interrelated, and light has already proven to exist in separate wavelengths—most of which are completely invisible to the human eye. In this case, this same principle would also most likely apply to matter.

One thing that has changed since Kaluza and Klein's day, is the number of dimensions that are being detected. The most common symmetry is obtained within the parameter of ten dimensions (Greene 2011: 266, 271; Zwiebach 2009: 8).

Another component that must be considered is the presence and influence of sound. Along with the energy of light, sound plays both a role in the vibration of the string and the creation of the universe. (This may be related to the divine sound that is manifested in the Buddhist, Hindu, Jain, concept of the cosmic Om.) Sound waves are vibrations propagated as a wave travels at the speed of a certain frequency. Lower frequencies are infra-sound, while higher frequencies are ultra-sound; and, just like light, this form of energy also operates both within and without of the limited range of human detection. It is a fundamental factor that extends out and back to the very same monistic super-force energy that initiated our own particular universe and the wavelength plane that we inhabit.

Critics of super-string theory point out that there is no experimental evidence for the existence of super-strings. However, it must first be taken into account that its mathematical elegance is far superior to other theories that have failed. Furthermore, super-string theory and quantum field theory are significantly related (Greene 2011: 273); therefore, when string theory, or a theory that shares similar characteristics, is eventually proven to be true, this will most likely be done through its relationship with the quantum mechanics. Indeed, the model of a vibrating string universe correlates with the vibrations that are found in mainstream quantum physics.

> As a man who has devoted his whole life to the most clear headed science, to the study of matter, I can tell you as a result of my research about atoms this much: There is no matter as such. All matter originates and exists only by virtue of a force which brings the

particle of an atom to vibration and holds this most minute solar system of the atom together.

—Max Plank²

Where this new paradigm is leading us is outside the realm of the standard physical model of the universe, and into the higher dimensional realm of "hyperspace."

The term "hyperspace" is an appropriate term considering that the vibratory rate of this wavelength field seems to be operating at a higher and faster frequency; while the vibration of the physical world that we presently inhabit operates at a much lower, denser, and slower rate. Therefore, hyperspace is not a compacted, or curled up, or unused space—as if it were nothing more than a mere mistake; but rather, it is a part of a natural space-time continuum that consists of wavelength/frequencies and fields that resonate in separate but parallel band frequencies.

Each distinctive wavelength layer can be referred to as a "membrane," or "brane" for short. This terminology is acquired from unified string theory, or "m-theory."³ The vibration of the strings effects the collective resonance of the entire brane: while all of the branes together within the manifold "brane-world" universe is referred to as "the bulk." When some cosmologists are referring to parallel universes, they are mostly referring to parallel braneswhether they know it or not. Indeed, in regards to the shape of these other dimensions, physicists admit that there must be some missing principle at work that they are not understanding (Greene 2011: 127). In this case, we must differentiate between dimensions, branes, and universes. The brane-world bulk can be envisaged as a mandala (see figure 26). The IEC is at the center, followed by a brane that cannot yet be conclusively defined at this time; although it is likely that this level is the same two-dimensional "boundary" that is being predicted by the holographic principle (more on this subject to come). The second brane can be referred to as hyperspace, followed by our own lower level brane, which can be designated as a sub-space, which is

² 1944 lecture (Schwartz 2015: 253-254).

³ M can stand for either magic, mystery, or membrane.

most likely the farthest away from the source, in a lower vibrational energy state.



(Fig. 26)

The strings are essentially moving around both on and inside the brane, and thereby effecting the quantum field within its spatiotemporal environment (Greene 2011: 264-266). The reason why we do not see these other parallel branes is because they exist on a separate wavelength. Moreover, this brane-world scenario negates the compacted spaces theory (2011: 118).

A newly emerging "many interacting worlds" theory⁴ postulates that parallel "ghost" universes may explain some of the quantum anomalies that have perplexed physicists for years (Slezak 2014). It

⁴ Michael J. W. Hall, Dirk-André Deckert, and Howard M. Wiseman.

[&]quot;Quantum Phenomena Modeled by Interactions between Many Classical Worlds."

⁽Phys. Rev. X4, 041013, October 23, 2014). Accessed Oct 9, 2015.

http://journals.aps.org/prx/abstract/10.1103/PhysRevX.4.041013

seems that these anomalies are caused by quantum activity that is emanating from parallel brane-worlds that are fluctuating and essentially bumping into our own. However, it may be the case that these other environments are most likely not other universes per se, but rather other membranes that exist within the collective bulk of the same universe. Some physicists postulate that a collision between two branes would result in a violent and possibly destructive reaction (Greene 2011: 120). However, this is unlikely because the other branes are not on the same wavelength. It is more likely that these interactions would result in only minor fluctuations. Indeed, such fluctuations may be related to the short-lived appearances of "virtual particles," which are particles (e.g., messenger photons) that appear, seemingly, from out of nothing, before quickly disappearing.

It is also likely that the regions in space-time where branes often merge is related to what is referred to as energy vortices. Purported examples of this may be: Sedona Arizona in America, Avebury in England, and Giza in Egypt.

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Another significant question that could be explained through superstring theory relates to the issue of dark matter. Physicists were tipped off to the existence of this unseen form of matter when it was discovered that the mass required to keep the galaxies gravitationally bound together was on average ten-times greater than the mass actually observed. The effect of dark matter is observed from the gravitational pull that it exerts on visible matter, as well as the gravitational lensing effect that it exerts on background radiation. Researchers have been unable to explain how a form of matter could not be physically material. However, if we apply hyperspacial spacetime continuum string theory to this problem, we might find that dark matter, along with dark energy, may actually be matter that exists on a separate vibrational wavelength/frequency. (The higher the frequency the shorter the wavelength.) Indeed, according to m-theory gravity is not limited to one particular membrane, but rather is leaked out and felt in various degrees throughout the bulk. The diffusion of gravity (i.e., mass) throughout the bulk might explain its weakness compared to the other fundamental forces (i.e., electromagnetism and the nuclear forces).

Furthermore, inter-brane activity may also explain why disincarnate so-called "poltergeist" entities are observed exerting direct influence on objects in our own vibratory wavelength. In this case, we are most likely looking at a separate but connected type of paradigm.

The concept of this parallel dimensional model is actually not entirely new. This correlates with concept of the parallel so-called "shadow world" that is detected in the mathematics of E_8 symmetry (1992: 256-257):

In fact, the full symmetry of this version of the superstring theory actually involves E₈ twice over, in a package that mathematicians refer to as $E_8 \times E_8$. Some theorists have speculated that this duplication involves a sort of second version of the Universe, a shadow world inhabited by identical copies of the sorts of particles familiar in our own Universe (electrons, quarks, neutrinos, and so on) but able to interact with our world only through gravity. This raises the question of whether we would actually notice the shadow world that interpenetrated our own. It would be possible, for example, to walk right through a person made of shadow matter without feeling a thing. This is because the gravitational force associated with the human body is minute. On the other hand, if a shadow planet were to pass through the Solar System, it could fling the Earth from its orbit. The circumstances would be bizarre, because nobody on Earth would be able to see anything of this celestial interloper; it would be as if some giant unseen hand were scooping the Earth aside. —Paul Davies and John Gribbin, The Matter Myth

It is therefore compelling that a similar eight-dimensional model, in which two membrane levels are postulated (six spacial, two temporal), is calculated in an eight-dimensional metric known as the Minkowski space (Radin 2006: 250), which has shown to be consistent with mainstream physics (e.g., quantum mechanics, Maxwell's formalism, and Einstein's theory of relativity, etc.). This theory (developed by Elizabeth A. Rauscher and Russell Targ)⁵ presents a model in which hyperspacial/spiritual realm phenomena might exist.

It can be posited that the mass that exists in the invisible "shadow" world is what we perceive as dark matter, and the energy that animates it is dark energy. However, this energy is only "dark" to those who are not resonating on the same vibratory wavelength. This parallel world may be effected on a quantum level by what physicists refer to as shadow particles—i.e., super-partner "sparticles."

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It has therefore become obvious that physicists have come upon the threshold limits of their particular field of study. As the name *physicist* itself signifies, their investigation extends only to the examination of the immediate physical wavelength/frequency. Therefore, the reason why they have yet to discover the long sought "Theory of Everything" is because not *everything* is being taken into account!

It is evident that this parallel spatiotemporal membrane model is describing the same realms that have been known throughout the world and throughout the centuries in the mythological and religious traditions of the world as Elysium, Valhalla, Avalon, Heaven; just as it also may be related to the Netherworld, Sheol, Hades, and Hell. It seems that the reality that one experiences in hyperspace is manifested by the vibratory resonance that the individual projects through the energy of their thoughts, actions, and emotions—as well

⁵ Investigation of a Complex Space-Time Metric to Describe Precognition of the Future, by Elizabeth A. Rauscher and Russell Targ at the Technic Research Laboratory

as with others around them who inhabit a shared field. Indeed, this is the essential nature of spirituality. All of these discoveries are leading us to the natural and inevitable conclusion that what is commonly referred to as "the after-life" is actually real.

Empirical experiences in these other parallel branes are reported by people whose psyche has made the quantum leap into this other environment during out-of-body and near-death experiences. One such person is Eben Alexander, M.D. Dr. Alexander is an academic neurosurgeon and former skeptic of this phenomenon. In 2008, Alexander suffered from bacterial meningitis and fell into a coma. During that time, he awoke to find himself inside a murky subterranean environment before he was extracted by a golden white light. He was then lead out into a brilliant world that was similar to Earth, but more clear, vibrant, joyous, and beautiful. He claims that he was met in this world by a relative who communicated to him without words. It was in this other state that Alexander claims that he received profound wordless revelations concerning the nature of a greater multiversal reality that exists beyond the limited lower world that we have become so accustomed to.

> I saw the abundance of life throughout the countless universes, including some whose intelligence was advanced far beyond that of humanity. I saw that there are countless higher dimensions, but that the only way to know these dimensions is to enter and experience them directly. They cannot be known, or understood, from lower dimensional space. Cause and effect exist in these higher realms, but outside of our earthly conception of them. The world of time and space in which we move in this terrestrial realm is tightly and intricately meshed within these higher worlds. In other words, these worlds are part of the same overarching divine Reality.

-Eben Alexander, Proof of Heaven.

Alexander is adamant that this other world was *not* a mere dream or a hallucination. Indeed, he claims that this other environment felt as though it was even more real than the lower world that he left behind. A full account of this experience is reported in his book: *Proof of Heaven: A Neurosurgeon's Journey into the Afterlife.*

Science—the science to which I've devoted so much of my life—doesn't contradict what I learned up there. But far, far too many people believe it does, because certain members of the scientific community, who are pledged to the materialist world view, have insisted again and again that science and spirituality cannot coexist. They are mistaken.

-Eben Alexander, Proof of Heaven

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Another intriguing theory that has arisen in recent times is referred to as the holographic principle. The concept of a holographic universe is so bizarre, so complex, so revolutionary, and, at the present time, so unfortunately nascent, that it is difficult to fully describe. It should first be understood that the comparison between a holographic universe and standard holography is actually only a generalization. Nevertheless, despite its underdeveloped nature, the reason why it deserves to be included in this exposition is because not only is the validity of the theory acknowledged by many of the world's leading theoretical physicists, such as Stephen Hawking—who was once the theory's highest profile critic, but it is compatible with super-string theory.

The general premise mathematically predicts that what we experience as the real world is actually a three-dimensional projection that is emanating from a two dimensional source that exists on a distant "horizon," or "boundary." This is comparable to a hologram, because a hologram can refer to both the encoded material (i.e., "information") and the image (i.e., our universe) that it projects off of a two dimensional surface. It is also interesting that this process is

wavelength based, which concurs with the space-time brane-world model that I am presenting.

It is therefore compelling that if we count the four dimensions of our physical level brane, and the four dimensions of hyperspacial brane, and the two dimensions of this mysterious flat-land of "information,"⁶ we are left with a model that ads up to the ten dimensions that is predicted by super-string theory. I therefore propose that this other fundamental substrate is not projecting from some distant spacial locus, but rather from a parallel brane. Indeed, this so-called boundary is also sometimes referred to as a "membrane" that covers a black-hole. Furthermore, if one more dimension is added to this two-dimensional matrix for time, we are then left with the eleven dimensional model that is predicted by mtheory.

What is also compelling about holographic theory is how it relates to the concept of the implicate order that was postulated by the David Bohm.⁷ In this case, the implicate order may be related to the deeper monistic energy system that is the source of the projection that we experience in the explicate order as the physical universe—which is analogous to a hologram.

In summary, it is amusing that holographic theory is taken seriously by an overwhelming majority of cosmologists, despite its fantastically strange and hypothetical nature. This is because as long as no one relates it to spirituality, the supernatural, or religion, it is considered permissible by the physicalists.

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One of the primary problems that physicists deal with is the problem with "negative norm states." These are calculations that equate and

⁶ The word "information" in this sense relates to a theory proposed by the physicist John Wheeler, who postulated that matter is actually a secondary manifestations of something more basic. In this context, information can refer not only to the fundamental components of nature but what these components do.

⁷ David Bohm, Ph.D., was a theoretical physicists and assistant professor at Princeton University and professor at the University of London.

yet do not yield finite physical deductions. However, if irregular and non-physical massless equations were regarded as being related to hyperspace, a significant break-through might occur. Therefore, in the case of negative norm states it may only be a matter of redefining the norm.

> Negative energies and probabilities should not be considered as nonsense. They are well-defined concepts mathematically [...] Paul Dirac, *The Physical Interpretation of Quantum Mechanics*⁸

It is certainly ironic that the roots of modern-day science can be traced back to the original Greek philosophers, since the original founding-fathers of the scientific movement not only examined physics but metaphysics as well. While many philosophical schools saw the physical world as more of an illusion compared to the eternal state of the spirit, others tend to relegate reality solely to physical sense experience. This type of physicalism (i.e., materialism) is the prevalent view that exists to this day. It is a position that has most likely manifested as a reaction to the dogmatic assertions of religious faith-based fundamentalists, which has, unfortunately, turned many intellectuals away from the subject of spirituality and transcendental metaphysics.⁹

Einstein once said that "mysticism is in fact the only reproach that people cannot level at my theory" (Brockman 2007: 103). Unfortunately, it is now known that this self-imposed limit is what most likely prevented him from attaining his long sought Theory of Everything.

A good scientist freed himself of concepts and keeps his mind open to what is.

⁸ Paul Dirac, Ph.D., was a twentieth-century English theoretical physicist.

⁹ This work will be referring to the word "metaphysics" in more of the Neo-Platonic sense, as opposed to the original Parmenidian and Aristotlian sense, where the term was associated with the ontology, rather than with mysticism. —Lao Tzu, Tao Te Ching

Indeed, meditation, mystical experiences, and developing a deeper sense of intuition can bestow insight into how the universe works.¹⁰

Unfortunately, close-minded cynicism¹¹ is the prevailing response to anything that can be associated with the so-called "supernatural." In an ironic twist, we can now find the same type of rigid dogmatism that has traditionally projected from the religious wing has ironically manifested in the scientific wing as well. True science requires the honest and objective research of data. A scientist must be willing to go wherever the evidence may lead; even if the evidence conflicts with their ingrained belief system. Whether its opposition to extraterrestrials, psi phenomena, parallel worlds, giant humanoid beings, etc., we have seen throughout the course of this examination that the so-called "skeptics" continually search for ways to disregard any evidence that might extract them from out of their ideological comfort zone. Their rigid and in some cases even fanatical disposition must be exposed for what it really is: unscientific bias.

> Scientists are human. We have our blind spots and prejudices. Science is a mechanism designed to ferret them out. Problem is, we are not always faithful to the core values of science.

—Neil deGrasse Tyson¹², *Cosmos: A Spacetime Odyssey*, Season 1, Episode 9. The Lost Worlds of Planet Earth.

¹⁰ Further recommended reading: *The Tao of Physics* by Frijof Capra (Shambhala, 1975), and *The Dancing Wu Li Masters* by Gary Zukav (Harper One, 1979).

¹¹ I use the word "cynicism" here in the common modern-day sense of the word; as opposed to the ancient philosophical definition.

¹² Neil deGrasse Tyson, Ph.D., is an award-winning American astrophysicists and cosmologist. He is the Frederick P. Rose director of the Hayden Planetarium and an advisor to NASA.

The inter-dimensional space-time continuum theory helps to solve the weakness of gravity question; it helps to solve the dark matter problem; it helps to solve the dark energy problem; it helps to solve the negative norm state problem; it helps to solve the ghost particle problem, and it helps to solve the presence of extra dimensions.

Unfortunately, many open-minded scientists may be hesitant to step forward in support of a theory because of the condemnation that it could evoke from their physicalist peers in the scientific community. Such a show of support for such a controversial topic may be perceived by some as detrimental to their mainstream careers. It is an unfortunate situation that will need to be challenged by qualified members of the scientific community if any progress is to be made.

Therefore, what must eventually happen is the re-establishment of pluralistic¹³ metaphysics in the modern-era Academy. What is being proposed is the discovery of a new metaphysics, and what some are already referring to as "paraphysics." It is a field of study that will eventually take over where the limits of physical world inquiry ends, and where the higher dimensional membrane of hyperspace begins.

¹³ In metaphysics, pluralism is the belief in more than one reality.