
Either/Or: Spiritualism and the roots of paranormal science

By James E. Beichler

PART II

The science of an 'Unseen Universe'

Yet another example of the Principle of Continuity can be found in *The Unseen Universe: or Physical Speculations on a Future State* by the Scottish physicists P.G. Tait and Balfour Stewart. It was no coincidence that the *Unseen Universe* was published at the height of the spiritualism movement in 1875. The same historical forces that brought different ideas together to give the world modern spiritualism also affected pure physics resulting in Tait's and Stewart's *Unseen Universe*. This particular work held a peculiar position with respect to the spiritualist movement. It was not as such a work on spiritualism, yet it so closely paralleled the attitudes of spiritualists that they could not ignore it. Nor could scientists and scholars ignore it because it was based on the latest thermodynamical principles and authored by two well-known and respected physicists.

It must be remembered that the movement of modern spiritualism dealt to some degree with attempts to put older forms of spiritualism on a scientific basis. Any work which was spiritualistic or shared common fundamental characteristics with spiritualism, while being authored by so widely known a scientist as Tait, deserved special attention. However, Tait and Stewart left it to no one's imagination that they were not spiritualists even if they did qualify their opposition to spiritualism.

We do not therefore hesitate to choose between the two alternative explanations, and to regard these pretended [spirit] manifestations as having no objective reality.

49. But while we altogether deny the reality of these appearances, we think it likely that the spiritualists have enlarged our knowledge of the power which one mind has on influencing another, and this is in itself a valuable subject of inquiry. We agree too in the position assumed by Swedenborg, and by the spiritualists, according to which they look upon the visible world not as something absolutely distinct from the visible universe, and absolutely unconnected with it, as is frequently thought to be the case, but rather as a universe which has some bond of union with the present. (Tait, p.70)

Tait and Stewart disavowed the physical manifestations sought by the spiritualists, but adopted the same fundamental basis as spiritualism with a unity of the material and spiritual worlds. The unity of these worlds, as well as the mere existence of the spiritual

world, was derived by Tait and Stewart in a logical manner based on the scientific theories of their time.

They claimed that the Second Law of Thermodynamics implied that the heat in the universe would be dissipated so that 'the final state of the present universe must be an aggregation (into one mass) of all the matter it contains' at a uniform temperature. They concluded that the present visible universe had begun and would end in time, so that 'Immortality is therefore impossible in such a universe.' Thus the visible universe must, certainly in transformable energy, and probably in matter come to an end. We cannot escape from this conclusion! nevertheless, they went on, 'the Principle of Continuity upon which all such arguments are based still demanding a continuance of the universe, we are forced to believe there is something beyond that which is visible, and they concluded that the frame of nature contained an invisible realm, the 'Unseen Universe,' which existed independently of and was in communication with the visible universe. (Heimann, p.77)

The Conservation of Energy played an important part in this scheme whereby the aether that permeated both the visible and invisible realms acted as a medium of energy transfer between these realms, allowing the energy of the universe as a whole to remain constant. In this way "the Great Whole is infinite in energy, and will last from eternity to eternity." (Tait, p.172)

Tait and Stewart tried to show that "immortality is strictly in accordance with the Principle of Continuity." (Tait, pp.xxii-xiii) With the immortality of man assumed through the auspices of the *Unseen Universe*, Tait and Stewart concluded "we are led by scientific logic to an unseen, and by scientific analogy to the spirituality of this unseen. In fine, our conclusion is, that the visible universe has been developed by an intelligence resident in the Unseen." (Tait, p.223) While they were not spiritualists, their goals were similar to those espoused by the spiritualists, to bring together religious beliefs and science. But the existence of Tait and Stewart's work in this area refutes Oppenheim's contention that spiritualism was an attempt to bring together Christianity and science by emphasizing an attempt to do the same thing outside of conventional spiritualism. This indicates a common root or underlying need for both that Oppenheim has not considered. This common root lies deeper than Oppenheim's analysis has indicated. It is also quite evident that Tait and Stewart were influenced by Darwinian evolution. In some ways their ideas are not wholly unlike those of Wallace.

The *Unseen Universe* was an extremely popular and controversial book during its day. It was read, discussed, believed, denied and criticized. The latter part of the nineteenth century was a time when the common people had gained enough education to read about and learn some science. According to Barrow (p.55), this may have been one reason for the popularity of spiritualism with the common people. They were educated enough to participate in scientific demonstration, yet science had not yet become so complex and mathematized that they could not follow its progress. The common people

had no problems in experimenting in spiritualism on their own. These people were also affected by the moves to popularize science. One popular lecturer and essayist of the period was John Fiske, who was a critic of the *Unseen Universe*. In his popular essay, "The Unseen World," Fiske's main argument against Tait and Stewart lay in the fact that the Unseen Universe exists beyond our senses.

We are invited to entertain suggestions concerning the peculiar economy of the invisible portion of the universe which we have no means of subjecting to any sort of test of probability, either experimental or deductive. These suggestions are, therefore, not to be regarded as properly scientific. (Fiske, p.39)

And further,

Any hypothesis relating to such a region of experience is not only disproved by the total failure of evidence in its favour, but the total failure of evidence does not raise even the slightest *prima facie* presumption against its validity.

These conditions apply with the great force to the hypothesis of an unseen world in which physical phenomena persist in the absence of material condition. (Fiske, p.64)

Writing in 1876, Fiske's reasoning was based on a strictly Newtonian system whereby any unseen world is strictly separated from a material world that is readily available to scientific investigation. Within the strictly Newtonian context, Fiske's criticisms were valid and thus represented similar criticisms made by other commentators and critics. Tait and Stewart's "unseen world," even though its existence was implied through scientific reasoning and allegedly sound scientific principles, was beyond human senses. This was its major failing and in this respect Tait and Stewart's work paralleled spiritualism. Yet a precedent for the existence of some type of physical reality beyond human sensations could be found at the very foundations of Newtonianism.

For his own part, in 1687 Newton separated the world into that of absolute space and absolute time as opposed to relative space and relative time. Relative space and time completely constituted the realm of scientific investigation. Although he wasn't explicitly comparing mind to the absolute, Newton did associate God with the absolute in his famous "General Scholium" in the *Principia*.

He is not eternity and infinity, but eternal and infinite; he is not duration and space, but endures and is present. He endures forever, and is everywhere present; and, by existing always and everywhere, he constitutes duration and space. Since every particle of space is *always*, and every indivisible moment of duration is *everywhere*, certainly the Maker and Lord of all things cannot be *never* and *nowhere*. ... In him are all things contained and moved; yet neither affects the other; God suffers nothing from the motion of bodies; bodies find no resistance from the

omnipresence of god. It is allowed by all that the Supreme God exists necessarily; and by the same necessity he exists *always* and *everywhere*. (Newton, Vol.II, p.545)

That part of the world, which for Newton was scientifically investigable, was the world of relative space and time. The absolute could only be inferred since certain phenomena, such as centripetal acceleration during circular motion, could not be explained relative to any Euclidean point in space. The absolute must therefore exist to give such accelerations any mechanical validity. The same was true for God. God is everywhere and always, material motion does not affect him nor does his presence offer resistance to material motion. These same characteristics could be said to characterize absolute space, but God was not equivalent to absolute space and time, but instead absolute space and time formed God's Sensorium. Newton surmised that God coexisted with the physical absolute.

So, neither God nor absolute space and time were prone to any scientific measurement, but absolute space, the domain of God, was a logical abstraction from our senses.

And so, instead of absolute places and motions, we use relative ones; and that without any inconvenience in common affairs; but in philosophical disquisitions, we ought to abstract from our sense, and consider things themselves, distinct from what are only sensible measures of them. For it may be that there is no body really at rest, to which the places and motions of others may be referred. (Newton, Vol.I, p.8)

It is quite evident that Newton thought of God, absolute space and absolute time as abstractions from our senses. On the other hand, Newton was seeking a scientific validation of both God and an unseen, scientifically motivated yet non-demonstrable, world. For Newton, the Principle of Continuity would have to be found in the scientific inference of the absolute from the relative. He sought a point of continuity while trying to retain a separation of spirit (in the religious sense of the word) and matter.

Fiske's arguments were strictly Newtonian in that he saw no demonstrable scientific evidence for an unseen world.

But in the nature of things, even were there a million such souls round us, we could not become aware of the existence of one of them, for we have no organ or faculty for the perception of soul apart from the material structure and activities in which it has been manifested throughout the whole course of our experience. (Fiske, pp.64-65)

Fiske found a further weakness in the concept of an unseen universe in that it was "thoroughly materialistic in character." (Fiske, p.47) He developed his arguments against the physical possibility of an Unseen Universe in reference to a rationalistic, Enlightenment style of mechanistic philosophy. Fiske's criticism was essentially the same

as the criticism that Wundt had used whereby he described modern spiritualism as the type of materialism that reduces spiritualism to matter. Fiske denied neither God nor the spiritual, but only their material reduction and the possibility of their measurement in the physical world. Fiske would have been happy to have a complete separation of the spiritual and material with no chance of their ever coming together.

On the other hand, the Scottish theologian Henry Drummond sought to draw science and religion closer together, as had Tait and Stewart. Whereas Tait and Stewart tried to connect their unseen universe to this world, Drummond, as a theologian, was trying to connect this world to the unseen universe. He meant to accomplish his synthesis by showing that Spiritual and Natural Law were the same.

What is required, therefore, to draw science and religion together again - for they began the centuries hand in hand - is the disclosure of the naturalness of the supernatural. Then, and not till then, will men see how true it is, that to be loyal to all nature, they must be loyal to the part defined as spiritual. No science contributes to another without receiving a reciprocal benefit. And even as the contribution of science to Religion is the vindication of the naturalness of the supernatural, so the gift of Religion to science is the demonstration of the supernaturalness of the natural. Thus, as the supernatural becomes slowly natural, will also the natural become slowly supernatural, until in the personal authority of Law men everywhere, recognize the authority of God. (Drummond, pp.xxii-xxiii).

The primary objective of Drummond's notion is that the Principle of Continuity requires the Natural Laws of the physical realm to be continuous with the Laws of the Spiritual realm and further that they be identical.

The conclusion finally is that from the nature of Law in general, and from the scope of the Principle of Continuity in particular, the Laws of the natural life must be those of the spiritual life.... If the Law of Continuity is true, the only way to escape the conclusion that the Laws of the natural life are the Laws, or at least are Laws, of the spiritual life. It is really easier to give up the phenomena than to give up the Law. (Drummond, pp.46-47)

Drummond made two very important points. First of all, if the 'Law of Continuity' is true (here he has changed the Principle to the Law, giving it a greater validity), the ending of thought, mind, soul or whatever is that special characteristic of man above other mechanical configurations of matter, at the time of physical death, would constitute a discontinuity, leading to a logical contradiction. Therefore the non-existence of a spiritual world would be a paradox needing to be answered. Although Drummond used this argument within a religious context, the argument is analogous to Tait and Stewart's use of the Conservation Laws of science to logically deduce the Unseen Universe. The second important point lay in the fact that Drummond explicitly stated that it would be

easier to 'give up the phenomena than to give up the Law' of Continuity. The Principle (or Law) of Continuity had been so thoroughly ingrained in the human mind as the intellectual foundation of culture, that it would have been impossible to give it up. This fact is strictly in accordance with Lovejoy's notion of the Principle of Continuity as a unit-idea in history. The human world, or rather the human interpretation of reality, must be rationalized within the limits of continuity. Outside of these limits reality is meaningless, even to the extent that sensible phenomena themselves might not be real. Drummond's arguments exemplify a conflict of worldviews at the level of what constituted reality and what point of view, religious or scientific, had the right to interpret reality for all of humankind. These questions illustrated the fundamental concept upon which the conflict between religion and science are based. So these questions must be answered before any conflict between science and religion can be resolved.

Philosophical developments as a reaction to the same changes in science

Representing the purely scientific point of view, we have Mach's logical positivistic philosophies of science. The eminent Austrian physicist and philosopher Ernst Mach was notoriously anti-spiritualist, yet the same intellectual undercurrents and paradoxes too affected him. Whereas Drummond would rather give up the phenomena rather than the Law of Continuity, Mach attempted to redefine the physical world we experience in terms of the sensations that our minds receive from the outside physical reality. In so doing, Mach was reacting to the temper of the time no less than were the spiritualists, but he chose to interpret the synthesis of mind and matter in a different manner than either the spiritualists or Tait and Stewart.

In his 1897 book *The Analysis of Sensations*, Mach constructed a consistent philosophy of science based on the cognitive functions of the human mind. Mankind's total knowledge of the world about it had been gained through sensations as interpreted through the human mind. Taking this into consideration, physical concepts were seen by Mach to be nothing more than "a certain kind of connexion of the sensory elements." (Mach, p.42) These elements, which represented the limits by which no further resolution of reality could be made, "are the simplest materials out of which the physical, and also the psychological, world is built up." (Mach, p.42) This interpretation of sensations in the mind formed the common ground between physics, the science of the material world, and psychology, the science of the mind, from which a guiding principle for the investigation of the senses could be constructed. Mach termed this the "principle of the complete parallelism of the psychical and physical" and considered this relationship to be a heuristic principle of research. (Mach, p.60) The parallel itself served as a guide to Mach's philosophy of science.

From this basis, Mach found the fulfillment of the Principle of Continuity in a different direction than others. Instead of seeking continuity completely within the universe external to man, Mach found it as the intermediary between the external physical universe and the internal mind of man, through sensations. Reality beyond our sensations was not legitimately questionable by science according to Mach; therefore any scientific questions regarding either a hypothetical unseen universe or spiritualism were

superfluous to science. Mach's philosophy offered an alternative solution to the dichotomy of mind and matter by circumventing the reality of the physical world and thus destroying any possibility of an unseen universe. Yet his philosophy was a product of the same influences that were driving the spiritualists in their search for an unseen universe on one hand and Tait and Stewart on the other.

Two of Mach's contemporaries, J.B. Stallo, an American Judge and Ambassador to Italy, and Karl Pearson, an English Statistician, shared strikingly similar views of science with Mach. If we were to ask Mach, Stallo or Pearson what constituted science, they would all agree that science deals with the sensations or sense impressions that humanity as a whole derives from the physical world in which it exists. These sensations are grouped, categorized, abstracted and conceptualized in the simplest or most economical terms to give us Natural Laws. But these Natural Laws are products of our minds and cannot be superimposed on the physical world since our sensing faculties limit us in our knowledge of the physical world. In this way, these three men, and especially Mach, differed from Drummond, Tait and Stewart who sought to set up Natural Laws as independent of man's mind in a universe that had both sensible (material and physical) and insensible (spiritual) components.

It is no coincidence that Mach's principle of relativity is noted in the history of science as being a cornerstone in the destruction of the Newtonian concept of absolute space. For Mach there were no absolutes and anything which could not be sensed, or perhaps in a more scientific sense measured, had no reality beyond the human imagination. Thus it seems natural for Mach to have challenged the notion of absolute space. Mach was convinced that all mechanical systems were relative to one another, a view which had earlier been supported by Leibniz against Newton's concept of an absolute space. Although Mach's motivation for criticizing Newtonian mechanism was different from the spiritualists, they shared common philosophical roots. The foundation of spiritualist anti-mechanism lay in the continuation of this mechanical world into the unseen universe of the spirit. For Mach, mechanism explained more than it was capable of explaining, and for the spiritualists it did not explain enough. This fits well with Mach's anti-spiritualist views.

In his *Science of Mechanics* of 1883, Mach added a lengthy [footnote](#) denouncing the use of Non-Euclidean geometries or other mathematical hyperspaces to scientifically explain the supernatural.

The theoretical investigation of the possibilities above referred to, has, primarily, nothing to do with the question whether things really exist which correspond to these possibilities; and we must not hold mathematicians responsible for the popular absurdities which their investigations have given rise to. The space of sight and touch is *three-dimensional*; that, no one ever yet doubted. If, now, it should be found that bodies vanish from this space, or new bodies get into it, the question might scientifically be discussed whether it would facilitate and promote our insight into things to conceive experiential space as part of a four-

dimensional or multi-dimensional space. Yet in such a case, *this fourth dimension would, none the less*, remain a pure thing of thought, a mental fiction.

But this is not the way matters stand. The phenomena mentioned were not forthcoming until *after* the new views were published, and were then exhibited in the presence of certain persons at spiritualistic seances. The fourth dimension was a very opportune discovery for the spiritualists and for theologians who were in a quandary about the location of hell. The use the spiritualists makes of the fourth dimension is this. It is possible to move out of a finite straight line, without passing the extremities, through the second dimension; out of a closed finite surface through the third; and, analogously, out of a finite closed space, without passing through the enclosing boundaries, through the fourth dimension. Even the tricks that prestidigitateurs, in the old days, harmlessly executed in three dimensions, are now invested with a new halo in the fourth. But the tricks of the spiritualists, the tying or untying of knots in endless strings, the moving of bodies from closed spaces, are all performed in cases where there is nothing at stake. All is purposeless jugglery. We have not yet found an *accoucheur* who has accomplished parturition through the fourth dimension. If we should, the question would at once become a serious one. Professor Simony's beautiful tricks in ropetying, which, as the performance of a prestidigitateur, are very admirable to speak against, not for, the spiritualists. (Mach, pp.589-590)

Mach's sarcasm and wit in the above footnote clearly indicates his opinion of the spiritualists who sought to find an unseen universe in the fourth dimension. But Mach's footnote also highlights another type of unseen universe, which had its origins in purely mathematical thought, the hyperspatial universe of non-Euclidean geometries. Not only did Mach attack the use of this new field of mathematics for spiritualistic theories, but he also attacked the use of non-Euclidean and hyperspaces as physical theories of the universe. He thus set a dangerous precedent for the future.

It can be assumed that this footnote was, at least in part, aimed at J.K.F. Zoellner, an astronomer at the University of Leipzig. Zoellner became quite infamous for his support of spiritualism, based on the slate writing tricks and the description of the contents in sealed boxes by the American medium, Henry Slade. In particular, Zoellner stated in his *Wissenschaftliche Abhandlungen* of 1873 that his theories were congenial to the teachings of Mach (Zoellner, pp.lxxxvii-lxxxix). Mach would undoubtedly have disagreed with this endorsement since it went against his basic philosophy of science. English audiences did not have direct access to Zoellner's voluminous work on spiritualism until C.C. Massey published portions of the third volume of his collected works in English as *Transcendental Physics*. After this publication, Zoellner's research gained notoriety among English speaking spiritualists. Elsewhere in the book, Zoellner contended that miracles of all kinds could be explained by the hypothesis of a fourth dimension. It was theorized by Zoellner that,

Slade's soul was, in the first case, so far raised in the fourth dimension that the contents of the box in front of him were visible in particular detail. In the second case, one of those intelligent beings of the fourth dimension looked down upon us from such a height that the contents of the rectangular box were visible to him, and he could describe its contents upon the slate by means of a pencil. (Zoellner, *Transcendental Physics*, p.148)

The supposition of the reality of the four-dimensional spaces stemmed directly from abstract mathematics. In the mathematics of Topology and Non-Euclidean geometry, it could easily be proven that knots could not exist in a four-dimensional space. Therefore, if a medium could produce a piece of untied rope where a previously knotted rope had been, the existence of the fourth dimension could be validated, or so Zoellner had thought. This magical trick would seem to be an experimental proof for a scientist like Zoellner, who had been duped by the magician Slade.

Parallel developments in pure science and spiritualism

As has been stated, it was a characteristic of the modern phase of spiritualism to generate sweeping statements about the nature of reality. As scientists, Zoellner and Tait (as well as Stewart) could not invent a new mathematics or a hypothetical material to explain the spiritual world. There was still a strong taboo on 'framing hypotheses' to fit data and metaphysical explanations of physical phenomena. At the very least, both of these acts were considered scientifically spurious by scientists if not wholly in error. Fortunately, however, the physical traits of both higher dimensions of space and the aether already existed for exploitation by these and other scientists to explain spiritual phenomena. In other words, the new mathematics and an accepted hypothetical material already existed in readily available form in the Riemannian (Non-Euclidean) Geometry and the aether. In both cases, these were ideal for adaptation to the mind-matter paradox in its spiritualist manifestation. Either of these concepts could be used to scientifically explain the "stuff" of "unseen universes." If spirit, soul or the mind were to exist after physical death, they would have to have some reality coexistent with life before death. Yet, they could not be material since it had been known and accepted since Ancient Greek times that whatever matter ultimately was, it was impenetrable, i.e., two quantities of matter could not occupy the same portion of space at the same time. Any unseen universe or world of spirits, if they were to have any materiality or continuity with our material world, would have to be explained without denying this principle.

Scientists through the necessity of explaining specific physical phenomena had implied the existence of the aether. The concept of action-at-a-distance, without some intervening material substance, was abhorred in science. Absolute space, postulated by Newton, had no physical properties of its own, and could not transmit light waves (assuming the wave nature of light) or gravity. Newton's stipulation that absolute space be non-demonstrable was strictly adhered to, making the aether necessary to give space enough of a material existence to act as a light transmitter, while still being immaterial enough to offer no resistance to physical motion while remaining coexistent with each

point of space even where matter existed. At approximately the same time as the rise of modern spiritualism, theories were being considered whereby what we consider to be portions of matter were merely specialized configurations (twists, smoke rings, pulsating spheres or vortices) in the aether. Thus the aether gave space the materiality needed to explain the mechanical universe. Coexistent with space, beyond direct experimental verification, yet implied by several types of physical phenomena, the aether was a strong candidate for an explanation of the physical world within legitimate scientific circles. Those were the same characteristics which any supposed spiritual world would have, so scientists such as Tait and Stewart, as well as Sir Oliver Lodge found physical justification in its use. However, Lodge was a confirmed spiritualist, unlike Tait and Stewart, so he used the physical aether to explain spiritualistic phenomena.

The possibility of a four-dimensional hyperspace was a by-product of the development of Riemannian geometries during and after the 1850's, while the aether in its modern manifestation dated from the time of Newton. Such hyperspaces had some characteristics similar to the aether, which made them ideal for adaptation as a home for the spiritual world. Non-Euclidean geometry, of which Riemannian geometry was but one form, was the branch of mathematics that gave rise to the notions of hyper-dimensional (greater than 3) spaces. Rather than being founded on physical necessity, the Non-Euclidean geometries had first been derived from logical paradoxes within the bases of Euclidean geometry. Until the latter eighteenth century, mathematics and physical theories had progressed hand-in-hand. However, with the advent of negative numbers, imaginary numbers, and Non-Euclidean geometries, mathematics slowly separated from its physical basis. The Non-Euclidean geometries were logically consistent within themselves, but had no analogs in the physical world. This fact raised the question of 'why God would create a system of mathematics without any physical analog.' Mathematics, until the advent of these strange systems, was thought to have been part of God's design and thus mathematical systems were an inherent portion of our physical world. Until this separation of mathematics and science took place, mathematicians "forged ahead in the search for the belief that they, the mathematicians, were the anointed ones to discover God's design." (Kline, p.71)

This notion could be restored to some extent, probably resurrecting a subconscious symmetry to man's view of the universe, if the Non-Euclidean geometry could be shown to have some real existence in our world. Our Euclidean space would only be a special case within our universe just as Euclidean geometry is a special case of Riemannian (Non-Euclidean) Geometry. On a more practical level, as the mechanistic universe was three-dimensional and Euclidean, the existence of a spiritual world which extended in a fourth direction would allow the co-existence of soul, mind, or spirit with matter (just as the aether had done) without contradicting the principle of the impenetrability of matter. So non-Euclidean geometries, as expressed in hyperdimensional spaces beyond normal human sensation or detection, became another repository for spirits. It was this tendency of placing ghosts and spirits in an unseen universe of dimensions beyond our normal three dimensions of space, that Mach so vehemently rejected.

Both of these types of theories made sweeping statements about the nature of physical reality, which befitted the characteristics of a spiritual world. Yet both of these types of theories strictly emphasized the physical or material half of the mind/matter dichotomy. There existed still a third type of explanation of the spiritual world, which dealt with the spiritual world in a different manner. This explanation dealt with psychical phenomena as explained psychologically, emphasizing pure mind rather than matter. Man's mind, or his inherent psychological traits, allowed for a specialized psychic communication. This mode of explanation was undertaken by Frederic W.H. Myers of England, who introduced the concept of 'subliminal perception' to explain psychical phenomena. His explanation was not in the tradition of physical science, but rather in the tradition of the growth of the science of pure mind, psychology, at about this same time. In the ensuing years, this concept has been wholly subsumed by psychology and is no longer part of parapsychology. Many modern psychologists would be surprised to learn of the origins of their prized concept of 'subliminal perception.'

Just as mathematics had split from the restrictions of the physical world, the science of mind was also on the verge of splitting from the science of matter and the physical world. This event marked the birth of psychology from the ashes of questions raised in the physical sciences regarding the role of mind and the perception of reality in the development of physical laws and theories. Even though the study of the mind and perception has been split from its origins in the physical sciences, it cannot be kept separate from the physical laws that it derives. The question of where the human mind fits into the laws of nature has never been solved, since the human mind still categorizes and interprets data from the physical world to derive our physical laws. In these many attempts to explain our physical world, which we call science, the fundamental elements with which scientists, as well as philosophers, religious leaders, and other thinkers work are mind and matter. In physics, matter gives a sense of relative position from which the concept of space evolves in our minds, while changes in position act as a guide for our sense of time. So which is the reality of our world, the mind that perceives, catalogs and interprets the world of matter, space and time, or the world of matter, space and time itself? This is a modern explanation of Plato's shadows on a cave wall. So we have mind and matter as basic elements of reality. Reality can thus be interpreted as mind, as matter, or as a combination of both. In application of these fundamentals to spiritualism, the aether and hyperspace theories represented a world interpreted by matter while Myers subliminal theory relied upon a bias of pure mind.

There can be no doubt that science had progressed to the point where it became necessary to explain the relationship between mind and matter during the nineteenth century. By the end of the nineteenth century, some scientists were so confident that they had discovered 'all' of the correct laws of nature that they felt that all they had to do was add a few more decimal places to their calculations. Meanwhile, just as physical scientists were trying to explain the mind (philosophically) and its relation to matter, a new breed of scientist was attempting to deal with the same problem of mind and matter in a different way. Attempts were being made to explain thought processes and the mind by physiological reduction, such as in Gustav Fechner's *Psychophysics*, as well as through psychoanalysis, which had its foundations at about this same time in the work of

Sigmund Freud and others. These efforts combined with the other factors mentioned in the development of psychology, as we know it today. All of these changes in science are consistent with and intimately related to the movement in modern spiritualism in that they were all attempts to solve questions regarding mind and matter and the relation of the human mind to its existence in the physical world.

[PART I](#)

[PART III](#)

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