DEAD SCIENCE: THE CURIOUS RELATIONSHIP

BETWEEN SPIRITUALISM AND SCIENCE

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Douglas K. Fivecoat

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CHAPTER ONE

Spiritualism, Science, and the Story of John Bradley

The unknown and the unknowable have long fascinated mankind. As history shows, humanity's quest for truth and knowledge has been relentless. Philosophy, science, and theology are man's attempts to wrestle with problems and questions that lack easy answers, simply tools used in an effort to pry answers from the universe. Spiritualism was another such tool for divining answers and obtaining knowledge of the unknowable—death.

Spiritualism, the belief that the dead can communicate with the living, dates back to ancient times and was likely a holdover from early ancestor worship. The ancient practice offers believers a glimpse into the unknown, lifting the veil between this world and the realm of death. Spiritualist philosophy and physical materializations confirm the hope for many that there is indeed a life after death and that their existence will continue even as their life ends. More importantly, believers of Spiritualism receive a promise that their loved ones are safe, happy, and waiting to meet them again on the other side—a concept that offers significant peace of mind for the troubled or grief stricken who are left behind.

Texts dating from ancient times contain references to Spiritualistic phenomena. The Old Testament contains many allusions to Spiritualism and spirit contact. For example, in Leviticus, the Lord tells the Israelites to "give no regard to

mediums and familiar spirits; do not seek after them, to be defiled by them."[1] Likewise, the scriptures tell the story of Saul, the King of Israel, who hires a medium to contact his deceased prophet Samuel for advice concerning his impending war with the Philistines.[2]

The Hebrew stories were not the only ones utilizing such themes. Greek mythology also offers examples through their stories of heroes, like Orpheus, Heracles, Theseus, Odysseus, and others. These heroes frequently travel to Hades, the Greek underworld, to confer with the dead and, in a few cases, return the dead to the realm of the living.[3] The Romans acquired many of these same themes replete with mythic symbolism through their long contact with Greek culture. It is not surprising then that the Roman poet Virgil, author of the epic Roman work *The Aeneid*, has his hero visit the underworld. There, Aeneas, the Trojan born hero and mythic founder of the Romans, communicates with his deceased father, Anchises. Through a conversation with his father, Aeneas receives secret knowledge of the future that aids him and his descendants as they build the foundations for the glorious Roman Empire in early Italy.[4]

These varied ancient stories show that Spiritualism and its practices existed prominently in the ancient world. With roots that deep, it is not surprising to find that the practice still exists today. What is surprising however given the modern outlook on Spiritualism, is the popularity that Spiritualism achieved in the United States starting around the middle of the nineteenth century and extending well into the early

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[1] Leviticus 18:31 King James Version.
[2] I Samuel 28:7 King James Version.
[3] See Edith Hamilton's *Mythology* (New York: Little, Brown & Company, 1969) for numerous examples.
[4] Ibid., 220-35.

twentieth-century. In 1860, according to a contemporary source, there were over one and a half million American Spiritualists out of a total population of thirty million.[5] While this figure is certainly disputable, the mere fact that Spiritualists could boast such a large number of members and not be immediately and forcibly refuted gives evidence of the great popularity the movement enjoyed.

During the nineteenth century, many highly educated individuals embraced Spiritualism both as a religion and as a scientific fact. Their conversion experiences and subsequent zeal for Spiritualism prompted them to put their literary skills to use to convey the message of the movement to others. The Spiritualist's message was simple and convincing—death is not the end. They believed that a person's soul, personality, and intellect survived death, transitioning into a new state of consciousness. To early Spiritualists, séances and mediums offered valuable proof that the soul of loved ones survived their transition from life to the realm of death, something that well-established religions, such as Judeo-Christianity, could not provide to their faithful.

The focus on empirical evidence—knowledge gained through the five senses by means of personal observations, experiments, and experiences—was a major theme and the basis for Spiritualism's success throughout the mid to late nineteenth and even into the twentieth century. Science and natural philosophy, especially since the time of Sir Francis Bacon in the 1600s, had increasingly focused on developing scientific hypotheses through hands-on experimentation and the rigorous gathering and examination of empirical data. Bacon's views of natural philosophy and science,

[5] Fourth Annual Spiritual Register (Auburn, N. Y.: U. Clark, Spiritual Clarion Office, 1860), obtained online http://www.spirithistory.com/60regist.html.

emphasizing the abandonment of old, traditional ideas in favor of new experiences and data, became the basis for a new boom in science and natural philosophy in England.

Bacon's beliefs, added to and amended by later scholars, found their way into the core canon of the educated American elites. Not surprisingly, these same individuals show a remarkable spirit of experimentation, openness to experience, and a thirst for knowledge and truth. The same spirit of experimentation and search for knowledge that drove science and intellectual pursuits had an impact on nineteenth-century America's spiritual life as well. In fact, the eighteenth century was a time of heightened religiosity and spiritual revival in America. This period of revival, often referred to as the Second Great Awakening, lasted from the 1790s through the 1860s starting in the east, most notably around the "burnt over districts" in western New York, spilling over into the Midwest in places like Ohio, Michigan, and Kentucky.

The Great Awakening brought about a renewal of spiritual idealism and Christian faith, often in new and unique forms. The Jacksonian spirit of independence and individual power became embedded in the philosophy and ideology of the era and combined with this spiritual focus. The potent blending of these ideals allowed new religions and alternate versions of Christianity to develop. Religious seekers, looking for greater spiritual meaning in their lives and added stability and reassurance in a rapidly changing world, proved willing to listen to new ideas and experiment with new faiths. Mormons, Transcendentalists, Shakers, and many others made use of this spirit of experimentation and religiosity to attract audiences and adherents.

This unique combination of experimentation and religious curiosity allowed Spiritualist philosophy to take solid root in America. It was, however, the empirical experiences offered by mediums, paired with the scientific fervor of the educated, which led to Spiritualism's amazing growth. Physical mediums offered convincing experiences to clients, producing several types of physical phenomena as evidence of spirit visitation. These physical phenomena could include unnatural knocking or popping sounds, table levitation and movement, touching by unseen, spectral hands or musical sounds played from thin air. Physical mediums gave clients a sensory experience that they could not get from meditation and prayer in traditional religions. This empirical experience utilized both their understanding of science and their desire to believe to convince them of the truth of Spiritualism by offering traditionally unexplainable phenomena and providing an ideology that allowed them to explain those events.

Among these well-educated Spiritualists was Hoosier John H. Bradley (1805-1872). Bradley was a well-respected Indianapolis attorney known for his keen and skeptical mind. His long years of sifting through evidence as a lawyer had made him well versed in separating facts from fictitious claims. Judge David McDonald (1803-1869), a friend of Bradley's, had been dabbling in Spiritualism since the loss of his wife and daughter. The impressive evidence offered by the mediums the Judge had visited nearly had him convinced of the truth of Spiritualism. Fearing that he might be losing his objectiveness and succumbing to sophisticated parlor tricks or fraudulent practices, the Judge convinced Bradley to join him in his explorations

knowing, that his friend's sharp mind would offer him a more objective opinion and help him discern the truth of things.

Together, the retired jurists sought out mediums with which to explore the many different facets of Spiritualism. One of the most popular methods used by mediums at that time was slate writing—a technique by which messages from the dead were written to the living using small bits of slate pencils on slate tablets. Spirit mediums acted as conduits for the spirits of the dead by holding slate tablets beneath a covered table in the darkness. While held under the table, the slate received miraculously messages from the departed. Slate messages were typically answers to spoken or unspoken, and sometimes written, questions posed by the client. Mediums also used direct voice, a technique that allowed spirits to speak directly to the attendees usually through a speaking trumpet—a cone-shaped device for magnifying voice; rappings, which are knocking and banging sounds that convey messages in a stylized code; and materializations, where spirits appear and take a physical form while a medium is entranced in a spirit cabinet or behind a curtain.

Early experiences did not impress Bradley and he remained skeptical of Spiritualism and mediums for some time. As the Judge's health began to wane, both men made a pledge that the first to die would attempt to come back and communicate with the other through a medium. In 1869, Judge McDonald passed away leaving Bradley to continue his explorations alone. His next visit to a medium, a Mrs. Keigwin in Cincinnati who specialized in slate writing, was a turning point for Bradley and his thoughts on Spiritualism—one that transformed him instantly into a true believer.

The session began normally with Bradley sitting alone with the medium in her parlor awaiting a spirit contact. She held the blank slate in the darkness beneath the cloth-covered table. Suddenly, Bradley heard the familiar scratch of the pencil upon the slate. As the sounds subsided, the medium withdrew the slate and allowed Bradley to open and read the message the spirits had written for him. There, upon the slate, he saw written the following message. "My old friend, do you remember the bargain you and I made about this thing when we were together in your world?"[6] Bradley, greatly intrigued, replied that he did indeed remember and asked the spirit of his old friend, Judge McDonald, to elaborate further upon their pact. The medium then placed a clean slate under the table and another message quickly began. When the writing stopped, Bradley cautiously opened the slate. There within, he found a message from the Judge that detailed their pact "exactly as it was."[7] From this point forward, Bradley was an avowed Spiritualist.

Bradley, greatly moved by this experience, adamantly denied that anyone outside himself and the Judge knew about their pact. Bradley also claimed that the handwriting used to create the message was certainly the Judge's own "stiff, bold" handwriting.[8] These personal observations and the evidence they provided forced him to accept the notion that the message on the slate must indeed have come from his deceased friend. As a skeptical and intelligent man, however, Bradley continued to wrestle with the tenets of Spiritualism, searching for ways to rationalize them to himself and to others. He found a means to do just that by utilizing science.

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[6] John H. Bradley, *Some Examinations of the Theory of Spiritualism*, (Indianapolis, IN: n.p.,1870), v.
[7] Ibid.
[8] Ibid.

Bradley shared his views and theories on Spiritualism in a series of articles for the State Sentinel, an Indianapolis newspaper. In 1870, he collected these essays into a book entitled *Some Examination of the Theory of Spiritualism*. According to the work, he based his beliefs not only on the empirical evidence he had gathered through experiments with mediums but also on theories that he developed to justify and rationalize Spiritualism using science and natural law. He felt that "all our teachings—religious, moral, and scientific—in this world go to prove that man *is immortal*."[9] He also concluded that the soul and intellect are like a piece of the natural environment, which "continues one unceasing *progress*. Nothing is lost, nothing is annihilated, though everything, nearly, changes and passes into new shapes . . . nothing is lost."[10] His contention, which drew heavily on observations of nature, was that the soul and human intellect are altered and changed in form by death but not destroyed or completely removed. Much like water evaporates and creates rain or dead plants and animals decay and enrich the soil, the soul and intellect, to Bradley, changed state at death, losing their material vehicle, yet maintaining their essence.

Spiritualist writers, like Bradley, used all of their education, reasoning, and persuasiveness to explain and rationalize their beliefs to their readers. Frequently, these Spiritualists used science and natural law as a means to demystify their ideas and make them more palatable to their readership, offering, as Bradley did, convincing images of a sort of metaphysical 'ecosystem' of which the soul and the intellect were immutable parts. This imagery, drawing heavily upon basic, observable natural science and natural law, proved to be quite appealing to an

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[9] Ibid., 20.
[10] Ibid.

educated American public. While the idea of science and Spiritualism being compatible or even complimentary seems strange today, in the nineteenth century this was not the case. In fact, science, until more recently, often bolstered belief in the supernatural, sanctioning it as fact in its theories and philosophy.

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Scholars have shown much interest in the subject of Spiritualism over the years. Perhaps the areas seeing the most scholarly effort in recent years have been the gender and power relations between mediums, their clients, and society. Themes dealing with gender issues are especially popular because many mediums, especially the famous ones in Spiritualism's heyday, were women. Other scholars have looked at the clash between Spiritualists and mainstream religion as well as a number of other themes. Only a few have focused on the topic of Spiritualism and science and how they relate to one another. Probably none has explored those relations more exhaustively than historian R. Lawrence Moore.[11] Moore examines the idea that Spiritualists purposefully used science as a promotional tool in his work, *In Search of White Crows*. Moore believes that Spiritualists borrowed the prestige of science and its methods in order to market themselves more effectively to a public that had a fascination with exploration and new technologies. Moore's contention is that Spiritualists were able to "tailor their beliefs and practices to fit then popular concerns and conventions" in society.[12] Yet, Moore's premise seems a bit too broad and

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[11] R. Lawrence Moore, *In Search of White Crows* (New York: Oxford Univ. Press, 1977).
[12] Ibid., xiv.

cynical. His basic idea, that Spiritualists used science largely as a marketing tool, while certainly true of some mediums and other interested parties, such as managers and magazine writers, does not apply to all Spiritualists who made conscious use of science. In truth, many early Spiritualists, especially recent converts, had experienced things that they could not easily explain and accept; therefore they used the tools that education and intellect offered them to craft rational and acceptable explanations for themselves and others. Those tools were science and natural law. Science was a natural and obvious fit for exploring a topic like Spiritualism because the spiritual explorer, like a scientist or natural philosopher, utilized experiments conducted by a medium to encounter unusual phenomenon offering empirical evidence of life after death.

Unlike Moore, Bret Carroll argues that science was just one among other selling points for Spiritualism. He focuses his work, *Spiritualism in Antebellum America*, on the movement as a philosophy and a religion.[13] Carroll, a student of Moore, believes that his mentor focused too strongly on science and its interactions with Spiritualism, portraying adherents as a group in search of physical manifestations rather than religious experiences and metaphysical answers. Consequently, he largely ignores Spiritualism's intersections with science in order to concentrate on culture, politics, and religion and their influences on the movement. Carroll's work is a fascinating look at the deeper currents underlying Spiritualism. Especially fascinating is his theme of focusing on the interesting mix of both freedom

[13] Bret E. Carroll, *Spiritualism in Antebellum America* (Bloomington, IN: Indiana University Press, 1997).

and order within the movement, which he says is unmistakably an offshoot of the republicanism of the time.

Historian Frank Podmore, writing at the turn of the twentieth century, offers a differing viewpoint from Moore as well. His work, *Modern Spiritualism,* claims that to believers Spiritualism was both a religious faith and a new form of physical science.[14] Podmore, an early founder of the Society for Psychical Research in England, devotes the entirety of his book to gathering evidence to discern whether this idea, that Spiritualism was viewed as both science and religion, is true. Podmore's methodology is commendable. He examines both the philosophy and the physical practice of Spiritualism, offering a look as the general history of the movement and many of its important figures. Podmore also introduces a wealth of sources including personal anecdotes, newspaper accounts, exposes, and even the occasional court record to illustrate his points regarding mediums and their reported phenomena. In the end, Podmore's skeptical roots show strongly as he paints mediums as frauds or offers alternate explanations for their abilities at nearly every turn.

Finally, J. Stillson Judah, author of *The History and Philosophy of the Metaphysical Movements in America*, differs from Moore because he believes all metaphysical movements in the mid to late nineteenth century share a common philosophical core based largely on American Transcendentalism, rationalism, and the freedom of belief.[15] Judah, like Carroll, examines Spiritualism and other

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[14] Frank Podmore, *Modern Spiritualism: A History and Criticism.* Vol. I & II (New York: Charles Scribner's Sons, 1902).
[15] J. Stillson Judah, *The History and Philosophy of the Metaphysical Movements of America* (Philadelphia: Westminster Press, 1967).

metaphysical movements of the nineteenth century calling attention to their links with rational thought and philosophical freedom. To Judah, early Americans were adopting Spiritualism in order to find freedom from more organized religions and to express their own rational thoughts and ideals rather than for the appeal of science. Judah finds strong support for his thesis and does an admirable job of analyzing the nineteenth-century undercurrent of freedom and intellectualism that led to the popularity of not only science but also rational movements like Spiritualism and Transcendentalism.

While these authors all offer insight into the curious relationship between Spiritualism and science, Moore's thinking bears further examination. Moore is largely correct in his assertion that Spiritualism borrowed the language and symbols of science to attract an audience there is, however, much more to that story than is the focus here. As Moore says, Spiritualism once used science and its tropes quite effectively to promote itself; however, it does no longer do so. When did this change occur? And, more importantly, why? This inquiry contends that Spiritualism, due to changes in the state of American academia and the rapid specialization of science as a discipline, lost its ability to use scientific ideas effectively and had to abandon the practice altogether. Instead, Spiritualism, attacked by scientists and skeptics alike, turned to the metaphysical realm, portraying itself more as a religion and carefully downplaying prior claims to its existence as an extended 'natural' science. The change, abandoning science and claims of physical evidence, undertaken by most Spiritualists began in the early twentieth century. To this day, Spiritualism maintains

its position deep within the metaphysical realm and safely out of the waters of science because as the old maps used to say—"here there be monsters!"

CHAPTER TWO

Early Science and the Underpinnings of Spiritualism

As John Bradley's example shows, Spiritualism was more convincing to the public in the nineteenth century because they were closer to it and therefore it enjoyed a greater persuasiveness. According to historian Steven Shapin, science, from the Latin *scientia*, means knowledge or wisdom and referred to "any body of properly constituted knowledge (that is, knowledge of necessary universal truths), while inquires into…nature and into the causal structure of the natural world were referred to…as 'natural history' and 'natural philosophy'."[16] This definition casts a wide umbrella over the modern-day sciences making the term "natural philosophy" nearly synonymous with usage of the term "science." In the early nineteenth century, there was no common use of the word "scientist"; instead, practitioners of scientific inquiry were termed natural philosophers. Natural philosophy concerned itself with exploring and identifying the forces at work in nature, including cosmology, astronomy, chemistry, biology, and other life sciences. Many early philosophers believed strongly in the idea of natural law and naturalism—the idea that nature and its creations are ideal and that natural patterns and systems of life are the most favorable in the eyes of God. This emphasis on nature, as one would expect, led many early philosophers and scientists to observe nature deeply in order to discern its

[16] Steven Shapin, *The Scientific Revolution* (Chicago: University of Chicago Press, 1996), 5-6 footnote 3.

secrets, which, in turn, they felt would ultimately lend them a better understanding of all of creation.

In contrast, science was significantly less specialized and more commonly accessible before the nineteenth century, often pursued by the wealthy as a pastime or hobby. Early natural philosophers were not required to have special degrees or education as scientists are today. In fact, anyone with an inquisitive mind, a liberal education, and a keen eye could attempt the pursuit of natural philosophy. This was because, according to historian Christopher Toumey, the study of science during the late eighteenth century and the early nineteenth century was indeed largely the study of nature.[17]

Toumey's work, *Conjuring Science*, examines the use of science and its symbols as a means to lend authority to causes that science cannot or will not actively support, especially in the modern era. He points out that in early America there were two prevalent perspectives on science. The first, which Toumey calls the "Protestant study of nature," dictated that science was like studying scriptures for greater knowledge. The idea was that Protestants should study the Gospels, carefully exploring them, in order to find the deeper patterns and meanings that would bring them closer to God. Similarly, everyone should look carefully at nature in order to find patterns and systems that would aid in discerning God's plan for the universe.[18] This perspective and its practice drove many early scientists—known as Naturalists at

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[17] Toumey identifies three distinct perspectives on American science. The first two, the Protestant study of nature and the philosophy of useful knowledge were in place prior to the nineteenth century. The third, research ethos, developed in the late nineteenth century and early twentieth century as a result of academic changes and professionalization: Christopher Toumey, *Conjuring Science* (New Brunswick, NJ: Rutgers University Press, 1996), 14.
[18] Ibid., 12.

the time—to take up geology, botany, chemistry, and other natural sciences. Due largely to its religious underpinnings, the Protestant study of nature was also the main frame of reference for the educated regarding science up until the late nineteenth century in the United States.[19] It was this aspect of science that Bradley used after his conversion experience to formulate his theory and justify his beliefs.

The second view of science, called the "philosophy of useful knowledge," existed side by side with the Protestant study of nature and began to take precedence near the mid-nineteenth century. This outlook saw science and the knowledge gained from it in very practical terms, basing its value on what materialistic benefits one could derive from it. Theories were less important than verifiable results. Scientific knowledge and experiments had to be geared to provide tangible, recorded results that would be practical—meaning of use to the common person for survival and prosperity.[20] In accordance with this view of science, Bradley's experiences with the slate writing medium offered empirical proof that provided him obvious personal evidence that the soul survives death and that the dead can communicate with the living.

These two different outlooks largely defined the perception and use of science throughout much of the nineteenth century. These views drove natural philosophers to careful observation of nature, empirical experimentation, and a search for the mechanistic systems and laws they believed ruled the universe. How did these variable perspectives on science develop and how did they relate to Spiritualism and the science of that day in the mindset of the movement's practitioners? Many

[19] Ibid.
[20] Ibid., 15.

Spiritualists believed that scientific theories and philosophies offered support to their basic premises and beliefs. The second portion of this chapter looks at examples spanning antiquity through the seventeenth century in order to establish the basic 'canon' of scientific themes and ideas that allowed Spiritualists to create a natural link between their philosophy and that of science.

Traditional science, as with most academic pursuits, owes much to Classical Greek writings and traditions of thought. Philosophers and naturalists, including Aristotle, Socrates, Plato, and others before them, advanced theories and philosophies on subjects ranging from logic and science to metaphysics and cosmology. While many of Aristotle's works were influential during antiquity, they were largely lost to the West, as the East—and Constantinople in particular—became a greater focus for Greek scholarship, in the early Middle Ages. Starting in the sixth century, however, Aristotle's works began to regain importance in the West, translated into Latin from Arabic by other philosophers. By the twelfth and thirteenth centuries, nearly all of his works were available to the educated elites of Europe.[21] After adoption into the medieval university curriculum, Aristotle's writings had their greatest impact on Western civilization in general and science in particular.[22]

European universities of the twelfth and thirteenth centuries were religious institutions, teaching a program of study inspired by St. Augustine's *On Christian Doctrine*. This curriculum allowed students to study Aristotle and other "pagan"—or

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[21] Stephen Brown, "The Intellectual Context of Later Medieval Philosophy: Universities, Aristotle, Arts, Theology" in *Medieval Philosophy,* Vol. III of the Routledge History of Philosophy Series (London: Routledge, 1998), 190-91.
[22] Ibid.

non-Christian—works, especially early Greek philosophy and science.[23] Augustine in his Book II justified this study of pagan literature and science as instructive and thought provoking when properly combined with study of the Scriptures. Stephen Brown, a historian, adds that universities felt that these studies of ancient science, logic, and philosophy aided "those who read the Scriptures to attain a fuller grasp of the divine message."[24] Moreover, Brown argues that Aristotle's works, like the *Organon*, had a deep influence on medieval thought, evolving from a "sacramental or symbolic form of knowledge to a more scientific discipline through the study of various causal connections."[25]

Augustine's openness to other, less traditionally Christian methods of learning allowed for more unorthodox exploration and experimentation in the university and prompted instructors to look outside the religious sphere for guidance in their thoughts and intellectual pursuits. In this vein, Oxford students attending the first day of class in 1246 heard instructor Richard Fishacre tell them that there were three kinds of wisdom. The first, wisdom written in the book of life, was like the wisdom of God, which allowed one to see God's underlying meaning and plan in everything in nature as far as is possible for man. To reach this penultimate wisdom, man had to pursue the other two kinds of wisdom—the knowledge offered by the book of the scriptures and the book of nature.[26] The belief was that the Bible, as the word of God, and nature, as God's magnificent creation, offered, if deeply and reverently studied,

[23] Ibid., 189.
[24] Ibid.
[25] Ibid., 191.
[26] Ibid., 189-90.

the guidance necessary to lead the student to the wisdom of life—and to the secrets of God's divine plan.

The sermon offered by Mr. Fishacre shows one university's implementation of the Augustinian method of thought and instruction, one in which the students were encouraged to study a wide variety of sources including nature itself as well as non-Christian writers in close concert with the Bible in order to better understand the world and, through it, God. The final goal of Augustinian study and investigation was to come to a greater understanding of God and his divine works thereby becoming, ideally, closer to God oneself. No doubt, this understanding served as the origin of Toumey's later Protestant study of nature. Whether or not this enlightened method of teaching brought students closer to God is not the focus here. The encouragement of scholars to observe nature and to study and experiment with ideas falling outside the traditional fold did lead students closer to pursuing the practice of science as we know it today.

The idea that deep observation of nature would provide better understanding of the divine permeated the practice of science throughout the Renaissance but also well into the early nineteenth century. It was this view of science that many early Spiritualists, like Bradley, used to great effect in their writings and religious tracts. Many mediums and philosophers of Spiritualism, like Bradley, linked their religious tenets to nature and natural philosophy, often employing nature as an analogy for their spiritual beliefs. Similarly, they called upon their audience to undertake their own personal experiments, eschewing any fear of the use of unorthodox methods, so

that they could look deeply at the subject of Spiritualism and discern the truth for themselves.

Through the works of Aristotle and others, medieval students learned to think about the larger questions in nature and life and to formulate their own answers, interpreting events and ideas in new ways yet still largely constrained by accepted theology. Aristotle, like many other authors of antiquity, became a staple in the pursuit of the seven liberal arts comprising medieval university teaching—the trivium (grammar, rhetoric, and logic) and the quadrivium (arithmetic, astronomy, geometry, and music). In *Posterior Analytics*, a major part of the university curriculum on logic, Aristotle writes a lengthy discourse regarding scientific knowledge, logic, and ways of "knowing."[27] In this discourse, the philosopher asserts that mankind truly grasps all events through demonstration only, however that man cannot fully know, nor have scientific knowledge of, an event until the cause and workings of the action are understood. As this premise shows, Aristotle, writing around 400 B.C., had already identified the two major approaches that would lead to an understanding of the natural world—empiricism and rationalism. Centuries later, the differences between those concepts would create a deep methodological rift in science.

Aristotle shows himself to value both the rationalist's deductive reasoning, which favored forming a general causal theory and then looking for demonstrable proof to support it; and the empiricist's inductive, which favored looking at data collected from experiments and then formulating a theory to explain it. According to the philosopher, "some hold that, owing to the necessity of knowing the primary

[27] Aristotle, *Posterior Analytics*, in *Introduction to Aristotle*, Richard McKeon, ed., translated by G. R. G. Murc (New York: Random House, 1947), 11.

premises, there is no scientific knowledge. Others think there is, but that all truths are demonstrable. Neither doctrine is either true nor a necessary deduction from the premises."[28] Aristotle's contention is that a scientist must know the basic origin of an event—the cause of the action—in order for the demonstration of such an event to give complete scientific knowledge. This contention neatly straddled the fence of the latter empirical and rational science debate, offering no definitive support for either to the exclusion of the other. Aristotle, as Richard McKeon points out, "was fond of saying that we have scientific knowledge of something demonstrable when we possess a demonstration of it; and he was no less fond of repeating that we have scientific knowledge when we know the cause."[29]

While Aristotle's theories on logic and science are quite complex, he makes it clear that one part of the equation yielding scientific knowledge and promoting primary premises or theories is determining a causal relationship and another was using an "inductive process by which...premises are derived from sense-perception and experience."[30] Based on Aristotle's and others' philosophies, scientists, like Bacon, later developed an emphasis on empirical demonstration and personal experimentation, as well as the idea of cause and effect. Science and its basic principles evolved greatly through Aristotle's work which solidified the terms and premises for future scientific methods and discourse. Educated nineteenth-century Americans, like their European counterparts, were familiar with Aristotle and his works, often directly but sometimes through the works of other later scholars who

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[28] Ibid., 12.
[29] Richard McKeon, "Introduction to Logic," in *Introduction to Aristotle,* Richard McKeon ed., translated by G. R. G. Murc (New York: Random House, 1947), 3.
[30] Ibid., 4.

built upon his original ideas. The Greek's methods and ideas served Spiritualists just as well as they had natural philosophers. Aristotelian philosophy and its ideas offered Spiritualism a means to derive credibility for their movement because; of all of the existent religions, Spiritualism was the only one that offered empirical evidence in most of its convictions.

Besides his work on logic, Aristotle devised a complex theory of natural science and cosmology that attempted to account for many features and phenomena present in the natural world, including rudimentary concepts of gravity and physics. This theory asserts that matter consists of four primary elements, earth, air, fire, and water. There was also a fifth element, considered unnatural and spiritual, called quintessence or ether, which will be covered in greater detail later. Aristotle concluded that these elements all had a "natural place," a place that the element would consistently travel or flow toward if left unimpeded.[31]

Based upon this idea, rock, soil, and other elements composed largely of earthly matter, would, without fail, move toward the center of the Earth, the natural place for compounds of this element. According to Aristotle, the only thing that would stop this fall toward the earthly core was physical impediment or a counteracting force such as the surface of the Earth itself. Similarly, water, another heavy element, would travel downward in sloped channels and riverbeds, eventually reaching the sea—its natural place. Conversely, air or vapor, whose natural place was the atmosphere, would escape upward into the sky. This idea explained the rise of

[31] Shapin, *The Scientific Revolution*, 22-24.

steam and rush of escaping air under pressure. Fire, likewise, danced and leaped upward while its smoke rose to the heavens—its natural place.[32]

Similarly, Aristotle, like Hippocrates and Plato before him, believed that four "humors" controlled the health of the human body. These humors, black bile (melancholic), yellow bile (choleric), phlegm (phlegmatic), and blood (sanguine), had to be in perfect balance to maintain a body's good health. To these philosophers, physical and mental problems would result if a person's humors were out of balance. For example, Aristotle specifically states in his *Nicomachean Ethics* that people with an "excess [of] choleric are quick tempered and ready to be angry."[33] This system of belief led to practices such as bleeding, which drained excess blood, or sanguine humor, from a patient in order to restore the natural balance of the body.

The Greek philosopher also separated physical matter into categories. The first form of matter, natural matter, possessed the inherent ability to affect change—kinesis, as the Greeks called it—in itself. The second form of matter, artificial matter, had no self-contained ability for change. Aristotle believed that, for example, a living maple tree, which could grow taller and add branches and leaves and generally affect changes in itself without notable intervention was obviously natural matter. A wooden object, however, like a desk made from wood deriving from that same maple tree wood was inert, only undergoing change through the intervention of the crafter's hands, and therefore artificial.[34]

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[32] Ibid., 28-29.
[33] Aristotle, *Nicomachean Ethics,* in *Introduction to Aristotle,* Richard McKeon, ed., translated by G. R. G. Murc (New York: Random House, 1947), 390.
[34] Shapin, *The Scientific Revolution*, 30-31.

Aristotle's vision of both the natural elements and matter invests them with a sort of intellect or will that directs and animates them, either toward their natural places or to undergo changes in themselves as required by nature. As Shapin points out, Aristotle's theory shares some ideas with ancient Animistic traditions that assign soul-like properties to natural objects and processes, thereby placing them in a human frame of reference—anthropomorphizing them—by endowing them with an intellect and will.[35]

These ideas, when taken as a whole, represent a rather cohesive and convincing theory that works to explain some natural cosmology and the origins of physical phenomenon such as gravity on some basic levels. Aristotle's theory offered enough internal consistency and empirical evidence to convince most classical and medieval scholars and, consequently, it became a standard part of the curriculum in universities and church schools.[36] In fact, Aristotle's elemental theories continued to enjoy favor with scholars into the Renaissance and beyond. Aristotle's ideas, carried forward by the Roman philosopher Galen, were so persistent that even early into the nineteenth century physicians still used versions of the theory of four bodily humors as a means of diagnosing and curing ailments. The fact that Aristotle's theories thrived for so long in the scientific and educational communities shows the high regard given to his thinking and his arguments. This regard ensured that students in the nineteenth century had either read Aristotle's great works themselves or been taught many of his philosophical tenets, especially his compelling elemental theories.

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[35] Ibid., 29.
[36] Brown, "The Intellectual Context of Later Medieval Philosophy," 190-91; Shapin, *The Scientific Revolution*, 16-17.

Spiritualist writers, typically well versed in classical philosophy and literature, often drew upon Aristotle's basic theories regarding nature and matter in their theories and beliefs.[37] Indeed, many metaphysical philosophers pointed to the Greek's ideas on matter and its natural places and motions as support for Spiritualistic teachings that natural objects possessed souls or spirit-like intellects that transcended the traditional, Christian belief. William Howitt, a nineteenth century Spiritualist writer, said:

> It is a very striking circumstance that the spiritual body, substantial to the touch of the spirits, seen by the Montanist clairvoyant accords perfectly with the doctrines of both ancient and modern times. It is the vehicle of Plato and Aristotle; the spiritual body of St. Paul; the nerve-spirit of the Seeress of Prevorst; the spiritual man of Swedenborg; the spiritual corporeity of Issac Taylor; the inner being of Davis; and is precisely the experience of all modern clairvoyants.[38]

This use for Aristotle, however, was less pervasive in the Spiritualist movement than the more popular theories that had developed around the mysterious element called *ether*. As scientific theories involving electrical, magnetic, chemical, and atomic elements became more commonplace in the late nineteenth and early twentieth centuries, Spiritualists increasingly based their assertions upon similar properties. Looking to science for inspiration, mediums devised unworldly elements and compounds that made their powers manifest such as ether—Aristotle's immutable fifth element—ectoplasm, or Odic force. The Spiritualist's understanding of Aristotelian cosmology is evident from the naming of ether, the main element

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[37] Andrew Jackson Davis makes significant references to Plato, Aristotle, and Socrates in his works as does Robert Dale Owen: See Andrew Jackson Davis, *The Great Harmonia* (Boston, B. B. Mussey, 1850).; Robert Dale Owen, *The Debatable Land Between This World and the Next* (New York: G. W. Carleton & Co., 1872).

[38] William Howitt, *The History of the Supernatural in All Ages and Nations, and in all Churches, Christian and Pagan: Demonstrating a Universal Faith* (Philadelphia: J. B. Lippincott & Co., 1863), 444.

driving Spiritualistic manipulations, which Aristotle proclaims exists only in heavenly or supernatural bodies.[39]

For these reasons, Aristotle's methods of logic and his elemental and physical theories, as well as those of his followers throughout the centuries, proved useful when pondering the possible truth of Spiritualism. His views also proved useful when explaining Spiritualism's tenets to others who had read the Greek's works because they helped form a common foundation for the spiritualization of the base elements that helped mesh Spiritualist thinking and the scientific worldview.

If Aristotle was the chief non-Christian philosopher in the canon of medieval universities, other more orthodox classical scholars and philosophers also helped to shape the scientific ideas of Spiritualists in the nineteenth century. Cladius Ptolemy, a first and second century Greek astronomer and mathematician worked in Alexandria. Ptolemy furthered the work begun by Plato, Aristotle, and other early Greeks and produced the "geocentric" model of the heavens. Ptolemy's model accepted Aristotelian views on matter and nature but added to it a formal mathematically and astronomically based cosmological design. In Ptolemy's design, the earth, God's most majestic creation, occupied the center of the universe and the sun and planets rotated around it in fixed, nested spheres or rings radiating outward toward an encompassing outer wall. On this outer surface, also called the firmament, God affixed the constellations and the rotation of this outer wall caused the

[39] For Spiritualist works involving ether and like elements see the following: Arthur Findley, *On the Edge of the Etheric* (London: Psychic Press, 1931; Corgi Edition, 1971) and Baron Karl Von Reichenbach, *Researches of Magnetism, Electricity, Heat, Light, Crystallization, Chemical Attraction, in their Relations to the Vital Force* (London: Taylor, Walton and Maberly, 1850).

movement of the stars. Beyond this impenetrable firmament was the celestial Heaven where Christians believed that God and his holy hosts resided in divine glory.[40]

Ptolemy's cosmology, like Aristotle's, accepted the premise of a fifth, unnatural, element called ether within celestial bodies—those residing outside Aristotle's lunar realm in the so-called celestial realm. The presence of ether, an incorruptible and perfect element that was subject to different natural laws than earthly matter, made planets and suns supernatural and unquestionably perfect. Ether also served to guide a celestial body's eternally precise patterns of movement and served as a catalyst for their motions. To the medieval scholar, the perfection of motion and design exhibited by planets and suns was symbolic of God's own perfection. To their mind, however, earthly matter, lacking this perfect ingredient, was inherently inferior and corrupt. Ptolemy's model was accepted by the learned for centuries, because it was able to blend ecclesiastical beliefs and accepted Aristotelian science. This blending made the model not only palatable to scholars, who valued its scientific approach to physical and natural laws but also acceptable to religious minded individuals because it accounted for the physical presence of God and heaven and placed God's creation, Earth, at the heart of the universe. In fact, it is a testimony to the geocentric models many attractions that even as late as 1600, only ten natural philosophers in Europe were willing to commit to a heliocentric model for the cosmos.[41]

Spiritualists seized upon many of Ptolemy's ideas as they produced their own writings depicting the spirit world. Ptolemy, like Aristotle before him, had used ether

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[40] Shapin, *The Scientific Revolution*, 22-23.
[41] See footnote 3; Stephen Gaukroger, *Francis Bacon and the Transformation of Early-Modern Philosophy* (Cambridge, UK: Cambridge University Press, 2001), 168.

as a basis for celestial animation. This fit Spiritualism's need to illustrate or account for a means that could propel or animate the spirit after death. Many Spiritualists, extending Aristotle and Ptolemy's reasoning, asserted that the intellect and mind were ethereal in nature and not material; as such, they were impervious to physical death. This theory neatly explained the Spiritualist's perception of an immutable soul and intellect that transcends death, continuing on to another, ethereal realm where it maintains and animates itself. Spiritualist thinkers also appear to have gained inspiration from Ptolemy and his use of physical spheres in his celestial model. Many, like Swedenborg, pointed to the use of hierarchical 'spheres' of heavens or hells—often seven in number like Ptolemy's.[42]

With the coming of the Renaissance, scholars began to leave the traditions of the old medieval university behind. More and more Renaissance thinkers were freeing themselves from the burdens of scripture in their pursuit of science and philosophy, seeking knowledge on their own terms. Technological advances in the arts allowed scholars to craft a greater variety of increasingly precise instruments with which to conduct their experiments. Those experiments were producing amazing results. Ptolemy's model, widely accepted throughout medieval Europe, met with difficulty as astronomy and mathematics advanced science, allowing others to gather better data and refute his cosmology. Nicolaus Copernicus was the first to do so successfully.

Copernicus, a Polish astronomer and mathematician, published a new cosmological model in 1543 based upon his observations and calculations. In his model, Copernicus argued that the sun lay at the center of the universe and the earth,

[42] See diagram of Ptolemy's model; Shapin, *The Scientific Revolution,* 23.

like all of the planets, revolved around the sun. He also believed that the earth rotated on its own axis and even theorized that it possessed a strange wobble due to calculated abnormalities in his observations.[43] Copernicus designed his model to explain the twenty-four hour day, pointing to the rotation of the earth itself upon its axis; and the length of both the seasons and the year, identifying the systematic rotation of the planet around the sun.[44]

In many ways, Copernicus' model marked a turning point for both science and humanity. One drastic change was that from this point forward, there would always be doubt as to man's place at the center of the universe, an accepted belief beforehand. This doubt haunted the church, threatening to undermine its ecclesiastical authority and infallibility—just the start of a trend science continued for centuries. Copernicus ushered in yet another future change by his practice of gathering substantial empirical evidence, in his case a myriad of astronomical observations, before creating a theory then presenting it fully formed with the supporting data. In this, Copernicus used an inductive approach to science, which, as evidenced by Aristotle's *Posterior Analytics*, was a known but not often practiced method in the world of science. Instead, early scientists frequently offered their unproven theories to other intellectuals with little empirical data, in a more deductive style. In doing so, they often explained a few single components of complex systems but did not tackle the entire breadth of the subject, which left room for others to build upon and experiment with the work. Accordingly, Copernicus offered a more complete, well reasoned and documented model than had Ptolemy, although as critics

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[43] Ibid., 24-25.
[44] G.H.R. Parkinson (ed.), *The Renaissance and Seventeenth-Century Rationalism,* Vol. 4, *Routledge History of Philosophy* (London: Routledge, 1993), 110.

pointed out it still had problems. Though Copernicus' heliocentric theory met with considerable skepticism from the philosophical community, astronomers admired his *De Revolutionibus* for its excellent astronomical observations and calculations.[45]

This model, in many ways, raised the bar for future scientific theories, challenging scientists to take careful measurements and develop holistic explanations before putting forth an unsupported and therefore easily refuted premise. Copernicus' legacy hindered Spiritualist's quest to utilize science to probe their movement's beliefs because so many of a medium's manifestations and abilities proved impossible in controlled testing situations. As these failings grew, Spiritualists found themselves ignored by science and scoffed at by scientists as frauds, as we shall see later.

Copernicus' ability to observe astronomical bodies and derive radically different theories of cosmology changed the outlook of many natural philosophers. The success of Copernicus' model, at least in basic principles, inspired many to look at the universe as a great machine, served by measurable and constant systems to perform its necessary tasks. In fact, natural philosophers in the seventeenth century, like England's Sir Francis Bacon, "often spoke of 'new learning,' the 'new philosophy,' the 'new experimental philosophy,' or the 'new mechanical philosophy'" in their works, indicating their belief in a mechanized natural philosophy—one that abandoned many of Aristotle's theological underpinnings.[46] These "new mechanical" philosophers believed that nature was a series of machine-like systems that one could study, dissect their design, and eventually understand their

[45] Parkinson (ed.), *The Renaissance and Seventeenth-Century Rationalism,* 113.
[46] Marie Boas Hall, *Nature and Natural Laws* (New York: Walker and Company, 1970), 97.

purpose—often comparing the workings of nature to those of a mechanical clock. This idea strongly clashed with previous philosophies that considered it "immoral" for humans to consider their imperfect works, machines and the like, the least bit comparable to the workings of the divine.[47]

Sir Francis Bacon, father of the empiricism movement in science, speaks to this directly: "The artificial [human creation] does not differ from the natural [divine creation] in form or essence . . . nor matters it, provided things are put in the way to produce an effect, whether it be done by human means or otherwise."[48] Bacon's later rival, the rationalist Descartes, agreed stating, "there is no difference between the machines built by artisans and the diverse bodies that nature alone compose."[49] Many of these mechanical ideas and theories were based on earlier Greek versions of atomism and elementalism. According to historian Marie Boas Hall, "underlying all the mechanical philosophy of the seventeenth century was the conviction that matter existed primarily as small, discrete, invisible, individually indiscernible particles."[50] She adds, "ancient atomism was widely read in the sixteenth century and in the seventeenth century was crudely grafted onto existing theories of matter."[51]

Sir Francis Bacon, living from 1561 until 1626, strongly promoted a new method or approach to learning science in his works, which he called inductive reasoning. In natural philosophy and science, this meant the gathering of specific, detailed data from experimentation and the subsequent formulation of general principles or theories to explain the results. Bacon opposed the more prevalent

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[47] Shapin, *The Scientific Revolution,* 30-31.
[48] Ibid., 31.
[49] Ibid., 32.
[50] Hall, *Nature and Natural Laws,* 284.
[51] Ibid.

deductive reasoning that formulated a theory or general principle then sought out data and experiments to prove it.[52] In many respects, Bacon was perhaps the most important early figure in science to Spiritualism because he so strongly advocated the importance of empirical experimentation, abandonment of old, traditional dogma, and openness to new knowledge—important ideas that Spiritualists frequently used to support both philosophical Spiritualism and material Spiritualism.

Historian Marie Boas Hall states unequivocally that Bacon "believed that a better world—a utopia such as he described in *The New Atlantis*—would arise when all men, discarding the trammels of the past, sought knowledge of nature through observations and experiment . . . [But] above all he stressed the importance of experimental science."[53] Stephen Gaukroger concurs noting Bacon's strong advocacy to push the boundaries of traditional inquiry and abandon old philosophical standards. Bacon, as Gaukroger illustrates, railed against those who would "offer too great a restraint to natural and lawful knowledge, being unjustly jealous that every reach . . . should be too high an elevation of man's wit and a searching and raveling too far into God's secrets."[54] Bacon, according to Gaukroger, saw the "pursuit of natural philosophy neither in terms of knowledge for its own sake, nor in terms of particular useful ends, but in terms of the restoration of human dominion over nature."[55]

Bacon and other empiricists recognized that empirical experimentation had one serious problem—the unreliability of the individual and their senses. Deception, intentional or unintentional, could and did happen. To this end, they felt that

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[52] Shapin, *The Scientific Revolution*, 92.
[53] Hall, *Nature and Natural Laws,* 98.
[54] Gaukroger, *Francis Bacon and the Transformation of Early-Modern Philosophy*, 78.
[55] Ibid.

philosophers "needed to be methodically disciplined" if they were to yield authentic factual data. This ostensibly limited the pool of prospective philosophers to those who possessed high education and training and were of a respectable class. Empiricists had little trust in the testimony of common people as evidenced by Sir Thomas Browne, a fellow empiricist. Browne wrote, "the erroneous disposition of the people makes them credulous and readily deceived by fortune-tellers, jugglers, [and] geomancers."[56] As Shapin points out, useful experiences had to "emerge from those sorts of people fit reliably and sincerely to have it, to report it, or, if it was not there own, to evaluate [it] . . . Undisciplined experience was of no use."[57] This made the empirical exploration the realm of the well educated and wealthy—the only ones possessing the leisure time necessary to perform the required tasks. This artificial barrier, largely refusing testimony from the common person, foreshadows the beginnings of the European academic movement that caused a major shift in American science during the latter nineteenth century. It also explains the pervasive role of the wealthy and educated in promoting or transmitting Spiritualist experiences to the masses in America's nineteenth century.

In the end, Bacon receives substantial credit for beginning the modern scientific movement. Before the nineteenth century, philosophers were the ones that many looked to for answers believing that thinkers had a "theory for everything" but during the late nineteenth century, guided by the transformations wrought by Bacon and his followers, scientists usurped that mantle; becoming the authority on all facets

[56] Shapin, *The Scientific Revolution*, 94.
[57] Ibid.

of nature and the physical universe.[58] As much as Bacon aided the development of modern science, he aided Spiritualism as well. His ideas of experimentation and rejection of existing authority and philosophy helped convince educated, nineteenth-century Americans, who had long been exposed to his works, to dabble in mediumistic experiences and later to create theories supporting a spectral afterlife. What is most odd about Spiritualism in relation to Bacon's ideas is that most Spiritualist seekers, often unwittingly, came to their new religion or belief deductively—in direct contradiction to Bacon's whole mindset of experimental science. New Spiritualist dabblers usually came already accepting, or at least understanding, the idea of an immutable spirit that survives and transcends death. Therefore, even before their first mediumistic experience, many future followers of the movement had already posited, or at least been exposed to, a general principle that their experience was supposed to support or refute. Not surprisingly, when something unusual happened during a séance or other experiment with a medium, it was proof positive of the Spiritualist doctrines.

Eighteenth-century natural philosophy was noteworthy because many of its important thinkers followed so closely in the footsteps of their predecessors in the scientific revolution. According to Hall, these great minds, like Sir Isaac Newton, clung to the idea of a "mechanical universe of matter and motion, reasonable, rational, obeying fixed mathematical laws, to be ascertained by means of experiment."[59] Conversely, these same individuals, who so easily equated the universe to mechanical laws and mathematical systems, seemed to eschew the earlier

[58] Gaukroger, *Francis Bacon and the Transformation of Early-Modern Philosophy,* 1.
[59] Hall, *Nature and Natural Laws,* 12.

theories that subscribed the origin of the world to "chance or fortuitous concourse of atoms." Instead, most were devout, godly men who rejected the absolution of the divine from the realm of natural creation. In fact, Newton once wrote, natural philosophy leads to the "first cause [origin or nature], which is certainly not mechanical."[60]

Newton's example above illustrates strongly this return to a more spiritually and metaphysically grounded mindset in science. This mindset worked well for Spiritualists in their movement during the next century. Spiritualists, often at odds with specific churches and doctrines, managed to tap into religion's basic tenets and ideas of the divine but fought the hierarchical structure and control of the church over their members, especially as it related to curtailing experimentation and scientific inquiry. The Spiritualist's ideals made it easy for them to attack churches and their attempts at censorship and control, often using ingrained American ideals of freedom and patriotism as a tool, and yet not necessarily attacking the Christian belief or worship itself.[61] This ability allowed many Christians, like Bradley and Judge McDonald, to take up Spiritualism and reconcile it in their lives. These Christians possessed a firm belief in God and his divine nature but placed little faith in the 'truths' offered by the organized religions of their day, so the basic premise of Spiritualism could be adapted into their existing faith.[62]

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[60] Ibid.

[61] Andrew Jackson Davis and Robert Dale Owen both attack the established churches and their attempts to dictate the intellectual pursuits and ideas of their congregations. Likewise, both heavily promote individual intellectual freedom: Andrew Jackson Davis, "Declaration of Independence." In *The Principles of Nature,* available from http://www.spirithistory.com/51sptms.html; Internet; accessed 31 March 2004.; Robert Dale Owen, *The Debatable Land Between This World and the Next* (New York: G. W. Carleton & Co., 1872).

[62] Bradley heavily rationalizes Spiritualism and basic Christian belief in his work as does Robert Dale Owen: John H. Bradley, *Some Examinations of the Theory of Spiritualism* (Indianapolis, IN:

As Newton and others uncovered more of the laws and systems at work in nature, many began to feel that all aspects of life and the universe must have underlying laws that were discernible. Since many, if not most, aspects of nature and matter involve a transition, breakdown, or change of state but not a complete loss of components, many educated people began to wonder if death might not be similar. The idea of a soul that transcended death to go to heaven, or in some cases hell, was part of the long established religious canon of the Western world. Yet, many, likely influenced by Eastern thought and the processes of nature themselves, began to question if perhaps death might not have a natural, more mechanical system itself. After all, if Newton could prove and explain the cause and the laws regulating the invisible force of gravity, perhaps one day, with the right instruments, someone could do the same with the soul and death. In fact, the whole compass of Bacon's empiricism movement, and its reliance on accurate instruments and measures, would seem to support this idea. Perhaps, with the right tools and education humanity could learn about and even master complex subjects, such as the metaphysical, through simple observation, empirical experiments, and the proper application of logic.

These examples of foundational philosophies and theories offer a glimpse at the types of sources and influences that linked Spiritualism and science in the nineteenth century. They represent a solid canon of popular works and themes that were well distributed throughout the nineteenth century. Most educated persons would have had some contact with these ideas and, in many cases, the actual works of these individuals. Other works that find frequent use by early educated Americans

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n.p.,1870); Robert Dale Owen, *The Debatable Land Between This World and the Next* (New York: G. W. Carleton & Co., 1872).

and that round out their canon of literature are the Bible, Greek mythology, Roman histories and mythology, classical plays and dramas, and early American writings, especially political works.[63] Spiritualists in their efforts to understand and articulate their new movement for themselves and for others drew upon all of these sources for guidance and understanding. These works allowed early Spiritualists a broad framework on which to base their theories and justify their experimentation, allowing them to better rationalize and understand the various phenomena they experienced through their mediums.

[63] Spiritualists used the Declaration of Independence and other patriotic writings as weapons to attack Christian churches over their resistance to the movement and their attempts to restrict their members from exploring it.

CHAPTER THREE

The Spiritualism Movement and its Use of Science

The antebellum period in America was a time of great and sweeping change. Accompanying this change was a profound sense of anxiety and fear. Americans, like all people, react differently to change; some, sensing that they were likely to benefit from change, embraced it while others, seeing potential harm in change, scorned it. The majority of people, however were uncertain what impact change may have upon their lives and consequently feared it. Many scholars, as pointed out by Bret Carroll in his work *Spiritualism in Antebellum America*, believe that this tremendous change and the severe sense of anxiety many Americans felt had a hand in promoting Spiritualism and the popularity of many other philosophical movements during the period.[64]

This high state of anxiety sent many Americans in search of stability for their lives and a sense of control over their future. Some looked outward to the churches and religious revivals so prevalent during the Second Great Awakening, which continued during that period. Others looked inward for their own enlightenment, using reason, logic, or—like the Transcendentalists—spiritual guidance from within to anchor themselves. Spiritualism provided reassuring elements for many by proposing that one's life continued even beyond physical death and that through mediumistic means one might commune with the departed and perhaps learn important secrets or receive practical advice.

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[64] Especially the works of Carroll Smith-Rosenberg and Shomer Zwelling; Carroll, *Spiritualism in Antebellum America,* 12.

Many factors led to the fear and anxiety experienced by Americans in the antebellum period. One of the most obvious and far-reaching was the drastic realignment of the American economy. Since before the Revolution, small family farms, independent local trade and craft shops, and private cottage industries dominated the American commercial landscape. This focus on local, independent business changed drastically with the rise of the market economy. Taking root during the booming trade of the early nineteenth century, the market economy spurred business owners and farmers to maximize their profits by expanding their markets, boosting their competitiveness in neighboring towns or regions, and finding new ways to increase production. Americans saw this new paradigm as a form of commercial progress, a way to increase profits and gain wealth faster even though it greatly diminished many American's independence by making them increasingly dependent on the large land and factory owners who employed them. This market shift left small businessmen and farmers feeling extremely vulnerable as their economic worth plummeted in the face of large scale commercial ventures.[65]

With the change over to the new market economy, America opened itself up to an unprecedented social mobility, allowing successful businessmen to move up in station like never before. Americans, free from the masses of wealthy, landed aristocrats that had kept their common European ancestors in check, pursued wealth and status with amazing vigor. The term "gentleman," as Charles Sellers points out, applied to successful and wealthy men in America, not to those of some specially acknowledged parentage or lineage. Americans, a people quite unused to offering deference to others, accorded the successful and wealthy a respect that was similar in measure.[66] Progress was a hallmark of this period and individuals measured their

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[65] For a full discussion, see Chapter One "Land and Market" in Charles Sellers, *The Market Revolution: Jacksonian America 1815-1846* (New York: Oxford University Press, 1991), 1-28.
[66] Ibid., 21.

progress in life using wealth and status. Unfortunately, this easily shifting social status, quickly raising and lowering with each success and each failure, also added to the stress and uncertainty of the time. Americans were left to question not only where their neighbors and friends might end up on the social ladder, but themselves as well.

Society's heavy focus on wealth and success added immeasurably to the anxiety felt whenever a financial disaster occurred, and they occurred frequently in the antebellum period. In fact, Americans were awash in financial disasters and banking scandals and the economy suffered several depressions and bank panics on both the national and the local level. While market conditions account for many of these failures, some were the result of obvious fraud and mismanagement within banking and business circles. This led many Americans to distrust banks and other large-scale commercial firms. Especially controversial at that time were chartered banks, like the Bank of the United States and even the First and Second State Banks of Indiana, and other corporate monopolies popularly promoted for improving commerce.[67]

Progress, as alluded to earlier, was an important feature of American life in the antebellum period. Americans, thanks in large measure to the booming market economies and the many scientific breakthroughs in important fields like medicine and engineering, had grown accustomed to a constant progress and modernization. Society itself was seeing progress during this period through the efforts of social and moral reformers, like Robert Owen and others, who expended great energy and wealth to bring their utopian visions of progress to reality. Even concepts like "manifest destiny" represented progress, driving settlers to the frontier west in vast

[67] Indiana experienced banking panics in 1819, 1837, and 1839. These panics combined with mounting debt problems created by the Mammoth Internal Improvement Act of 1836, the failure of the First State Bank of Indiana in 1821 due to mismanagement, and the reinstitution of a Second State Bank of Indiana in 1834 contributed greatly to the stress and anxiety of Hoosiers in the mid-nineteenth century. James H. Madison, *The Indiana Way: A State History* (Bloomington, IN: Indiana University Press, 1986), 82-88.

numbers to further the nation's goals in furthering commerce, opening new markets, acquisition of land, and the harvesting of natural resources. Americans even tried to make progress in religious and metaphysical ideals. Nothing reflected these attempts at progress better than the revival, and often revision, of traditional religion, exemplified by the Second Great Awakening; or the sprouting of the many experimental congregations and communities, such as the Spiritualists and the Shakers; or the utopian communities, like New Harmony or Oneida, during the period. To the American psyche, there was no such thing as bad progress. Every advancement made in science, philosophy, or industry was considered a step forward on the road to greatness. Americans fully embraced progress, pressing forward with massive internal improvements, western land settlements, and campaigns of heavy industrialization. This hunger for progress acted as an engine for change, forcing it to occur and simultaneously ratcheting up the tension on the American populace.

These two factors, a love of progress and a deep, underlying anxiety, were pervasive in Antebellum America and led to a significant change of political focus in America. Federalists—who, like their early leader George Washington, sought to increase the role and authority of the federal government, scorned popular democracy, and the open election—had once dominated national politics in America. By the 1820s and beyond, citizens rocked by banking scandals, fearing economic disasters, and facing an uncertain future of difficult social and moral change were beginning to embrace new forms of political leadership and ideas. At the beginning of the nineteenth century, Jeffersonian Republicanism was a popular political vehicle winning the Presidency for candidate Thomas Jefferson in 1800.

Jeffersonian Democracy pressed for changes that gave more freedom to individuals, weakened the federal government, removed political power from the American aristocratic elites and sought ways to offer it to the more agriculturally and artisan based middle classes instead. This strain of thought would eventually evolve

into Jacksonian Democracy, a movement with close ties to philosophies and ideas that, inadvertently, helped to promote Spiritualism as alluded to earlier in *Spiritualism in Antebellum America.* In this work, Bret Carroll points out that many scholars like Carroll Smith-Rosenberg and Shomer Zwelling account for the rise of Spiritualism and the other religious and philosophic experiments of the period as a reaction to the disorienting economic and social changes going on in the United States—especially the rise of Jacksonian politics.[68]

Jacksonianism developed, in large measure, as a backlash against the policies and goals of the previous administrations both Federalist and Republican who practiced Nationalism. Jackson, once a proponent of Nationalist policies, turned away from them when their popularity waned and instead promoted State's rights and local measures over national policies.[69] One reason for this change was the failure of the Nationalist "American System," a program envisioned by Henry Clay and adopted by President John Quincy Adams after the 1824 election that promoted national tariffs to protect trade and raise money for internal improvement programs throughout the nation. The tariffs prescribed by this plan had a large impact on the American South but the North seemed to receive an inordinate amount of the proceeds from the system in the form of new canals and roadways. This situation was unacceptable to the South and the resulting firestorm pitted regional goals and expenditures against a national program of improvement. The South saw the "American System" as corrupt and called it a "system of fraud, robbery and usurpation" favoring the North.[70]

By turning away from this plan of perceived excesses and corruption and embracing the ideas of "economy and simplicity in government" and the "popular

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[68] Bret E. Carroll, *Spiritualism in Antebellum America* (Bloomington, IN: Indiana University Press, 1997), 12.
[69] Daniel Feller, *The Jacksonian Promise: America, 1815-1840* (Baltimore: The Johns Hopkins University Press, 1995), 53-54.
[70] Ibid., 73.

control of government," Jackson handily beat Adams in the 1828 Presidential election.[71] Jacksonian party members, like Jeffersonian Republicans, favored the common person rather than the elites. Followers of Jackson realized that commercial progress and capitalistic systems of industry had placed them at the mercy of the elites—the owners and managers of the commercial ventures—and their commercial ambitions. While acknowledging the creation of new opportunities by the market revolution, a Jacksonian also saw the danger of the strong dependency such a commercial system created within the populace. In their view, the common person was the best vehicle for democracy and progressive government. They, consequently, wanted to return as much power and privilege as possible to the commoner—usually at the expense of the elites.[72] This theme of individual empowerment and independence coupled nicely with Spiritualism's later message, extolling the virtues of independence from tradition, especially religion, and the freedom of individual reason and choice that offered an inherent right to experiment with progressive forms of personal spiritualism.

American Spiritualism leaned heavily on these ideals, and the writings and lectures of Andrew Jackson Davis, known as the Father of American Spiritualism, illustrate this relationship. Davis was a strong advocate of a brand of Spiritualism that focused strongly on philosophy, religion, and the transformative powers of the movement. He was first and foremost a thinker—a philosopher and theologian. Davis abhorred the séances and other sensational phenomena performed by mediums, which would define Spiritualism in later years; believing that they detracted from its more important theological message. His basic philosophies on Spiritualism, like nearly every Spiritualist, were highly influenced by the eighteenth century scientist, philosopher, and religious writer Emanuel Swedenborg.

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[71] Ibid., 74.
[72] Ibid.

Born in 1688 at Stockholm, Sweden, Swedenborg spent most of his life engaging in scientific pursuits where he became an accomplished scientist and author, specializing in topics including mineralogy, biology, and engineering. Swedenborg, according to Carroll, underwent "profound mystical experiences, including strange dreams, visions, and trances" in the mid 1740s.[73] These visions and dreams often included conversations with important figures such as "God, Jesus Christ, and a host of other minor spirits."[74] From this date forward, Swedenborg claimed to be able to observe "the world of spirits, hell, and heaven" and from these observations, he produced a work entitled *Heaven and Its Wonders and Hell*. This book, written in 1758, depicted a spirit world consisting of seven spheres inhabited by human spirits of successively higher status—the top three were 'heavens' and the bottom three were 'hells'.[75] This scheme featuring seven spheres recalls earlier cosmology and scientific ideals, especially Ptolemy's early vision for his heavenly model with its seven concentric spheres or rings containing the known planets of his day.

Swedenborg also noted that spirits, not unlike saints in Catholic belief, had the ability to act as mediators between God and man, offering themselves as channels for wisdom and knowledge and "radiating" it downward to those still on Earth.[76] More importantly, Swedenborg's vision of the spirit world allowed for mobility between the spheres. In fact, the concept allowed a deceased person, with aid from other spirit guides, eventually to move themselves into the upper reaches of the heavens through greater and greater personal enlightenment. This idea of social mobility in the afterlife dovetailed nicely with the American experience in Davis' time and he used its premise himself in his own Spiritualist philosophies. Above all, Swedenborg's conception of the universe was highly ordered and practical. It offered a cosmology

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[73] Bret E. Carroll, *Spiritualism in Antebellum America* (Bloomington, IN: Indiana University Press, 1997), 17.
[74] Moore, *In Search of White Crows*, 9.
[75] Carroll, *Spiritualism in Antebellum America*, 17-18.
[76] Ibid.

in which God, through the spirits of the dead, was passing wisdom and knowledge to mankind and presented an alternate, yet somewhat familiar, promise of afterlife.

Later, Andrew Jackson Davis, like Swedenborg himself, encountered his own strange, mystical experiences and created a movement that closely modeled the Swede's own brand of Spiritualism. Davis, born in 1826 at Orange County, New York, was a sickly and nervous boy, according to Moore, who failed at several apprenticeships and seemed destined to "total indolence."[77] Davis was attracted to the many different religious innovations of his day, first embracing the millennial expectation of the Millerites—the early roots of the modern Seventh Day Adventist movement. He went on to explore Mesmerism, another practice that closely blended the mysticism and science. Mesmerism, also known as animal magnetism, derives its name from Anton Mesmer, an Austrian physician who developed the practice in the late eighteenth century. Mesmerism, and its later descendents like New Age spiritual healing, claim that specially gifted 'operators' or psychic mediums can diagnose and heal others by affecting their ailing magnetic balance, often through the application of magnetic wands, psychic focus, or hypnotic concentration. Davis, through his experimentations, discovered that he was a good subject for mesmerism and he partnered with Dr. Silas S. Lyon in the opening of a clairvoyant medical clinic in New York City in 1845.[78] Lyon acted as the mesmeric "operator" placing Davis, the "seer," into a trance and guiding him through the procedure where Davis prescribed cures for the ailments he detected in his magnetic explorations of the client's body. This clinic gained Davis a large amount of local notoriety.[79]

Davis' metaphysical gifts rapidly rose to new heights, granting him strange communications with unworldly spirits while entranced. In fact, Davis' primary

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[77] Moore, *In Search of White Crows,* 10.
[78] Carroll, *Spiritualism in Antebellum America*, 20.
[79] Robert W. Delp, "Andrew Jackson Davis: Prophet of American Spiritualism", *The Journal of American History* (vol. 54, no. 1 (Jun., 1967), 44.

spirits guides were none other than Emmanuel Swedenborg and the ancient physician Galen, according to his autobiography.[80] During his early years of spirit communication, Davis asserted that he did not know of Swedenborg or his writings. In fact, Davis claimed that it was only after writing—or perhaps transcribing is a better term since he said spirits dictated them to him—his works on Harmonial Philosophy, that Davis learned who Swedenborg was and read his prior works.[81] Davis' Harmonial Philosophy, as was quite evident at the time, borrowed heavily from Swedenborg's earlier works. It was a version of Swedenborgism that was largely reinterpreted through Davis' own experiences with Mesmerism and his other metaphysical experiences. The harmony referenced in the name Harmonial Philosophy, according to one source, came from the idea that by following its Spiritualistic tenets one blended both science and theology into a balanced harmony conducive to enlightenment.[82]

Davis' metaphysical experiences assured him that by pursuing Spiritualism and following the advice of the spirits garnered through trances and other mediumistic means, humanity could evolve to a greater state of being. He initially disseminated his philosophy to the public through a series of lectures, reportedly written by Swedenborg and Galen through the medium of Davis' body. Later, Davis collected these lectures into a published book called *The Principles of Nature, Her Divine Revelations, and a Voice to Mankind.*[83] These collected lectures were part of a series of about one hundred and fifty Davis delivered around Manhattan that combined the elements of Spiritualism into a powerful social message. This message not only promoted Spiritualism as a true phenomenon but also as a path to

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[80] Ibid.
[81] Arthur Conan Doyle, *The History of Spiritualism Vol I.* available from http://www.classic-literature.co.uk/scottish-authors/author-conan-doyle/the -history-of-spiritualism-vol-i/ebook-page-22.asp; Internet; accessed 17 March 2005.
[82] Moore, *In Search of White Crows*, 12.
[83] Carroll, *Spiritualism in Antebellum America*, 20.

enlightenment. It also vehemently attacked organized religion and the traditional clergy as corrupt, as well as improperly controlling of their congregations.

Davis, in his "Declaration of Independence" from traditional thought and formal religion, offered his listeners fourteen lengthy reasons to discard traditional religion. Davis criticized religion because it "dogmatically asserts that "Nature, and Reason, and Conscience even [are] subordinate to ecclesiastical authority." He also found fault with theology's attempt to "array its conservative and authoritarian influence against scientific invention." More pointedly, Davis condemned the clergy saying that their influence "contaminates our youth" and "converts a joyful and confiding child into a sad and suspecting man."[84] In many ways, Davis' nontraditional views mirror the outlook of Jacksonians against their Federalist and Whig opponents. Where Davis attacked the strength, influence, and control of traditional faiths over their congregations, Jacksonian Democrats attacked the strength and control asserted by the federal government over the states and the aristocracy over the common man.[85] Both railed against perceived corruption in the system, the self-interest of the ruling bodies, and the attempt to impose the will of the minority on the majority—in both cases the commoner. Likewise, both movements emphasized the need for the populace to become their own masters, discard outdated, traditional concepts, and look to their own future by exploring new ideas and sound reasoning.

Harmonial Philosophy offered followers a plan for social reordering that Davis claimed would transform society, bringing new enlightenment. Not surprisingly, Davis' philosophy again borrowed heavily from Swedenborg, including a decidedly Swedenborgesque cosmology for the afterlife consisting of permeable

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[84] Andrew Jackson Davis, *Principles of Nature – Declaration of Independence.* available from http://www.spirithistory.com/51sptms.html; Internet; accessed 31 March 2004.
[85] Ibid.

spheres of heavens and hells. Davis, like Swedenborg before him, was well versed in the subjects of natural philosophy, science, and theology, and based many of his arguments for Spiritualism upon natural law and rational thought. His "Declaration of Independence" lecture in the *Principles of Nature* stands out as a fine example of this. In it, Davis states, "we believe Nature to be the universal exponent of God; and Reason to be the universal exponent of Nature; therefore, that Nature and Reason, *combined*, constitute the *only* true and reliable standard of judgment upon *all* subjects—whether social, political, philosophical or religious—which may come within the scope and investigations of the human mind."[86]

Lectures of this type appealed to many intellectuals who, as previously discussed, felt that science was about exploring nature and the universe in order to discern God's plan. Davis' rhetoric encouraged them to gather experiences and use their own reason to puzzle out the truth—many of the same basic ideals espoused by Toumey's Protestant study of nature model. The main difference between Davis' teachings and the Protestant outlook on nature was the absence of a reliance on the scriptures as a guide. Davis, like Swedenborg, based his Spiritualist theories largely on philosophy and mystical revelations. His philosophy, supposedly dictated while communicating with spirits in a mystical trance, rested on the strength of natural law and rational thought to convince listeners, not an abundance of empirical evidence and sensational phenomena. In fact, Davis loathed the developing trend toward sensationalism and popular séances that he felt catered to the more base elements of the movement.[87] Unfortunately, Davis' philosophical theories caused less stir than the later physical phenomena produced by mediums like the Fox sisters that ignited wholesale experimentation and fueled the growing popularity of the movement;

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[86] Ibid.

[87] Carroll, *Spiritualism in Antebellum America*, 13.

however, they did lay the groundwork for the Spiritualistic religious movement as a whole.

In 1848, just a few years after Davis began to gain notoriety in the New York area, two girls, Margaret and Kate Fox, living in Hydesville, New York began to report strange rapping or knocking sounds, especially around bedtime. The two sisters attributed these sounds to a spirit, which they believed was communicating with them. The Foxes began to ask simple questions of the spirit, like the ages of various family members and guests, and it would answer by rapping the appropriate number of times. The spirit also could answer simple questions or give predictions by rapping a specified number of times to indicate yes or no. The family was amazed by the spirit and by their daughters' newfound abilities. They began to offer demonstrations of the rapping for neighbors and others from around the area. By November of 1849, the girls and their older sister Leah, who had now developed mediumistic powers also, had attracted a capable press agent named E. W. Capron and were conducting public demonstrations in Rochester.[88]

This led them to the attention of P. T. Barnum, who booked them to perform at his New York City hotel in 1850. After two years of promotion, the sisters were finally garnering national attention, even receiving a favorable mention in Horace Greeley's *New York Tribune*.[89] Over time, the sisters' repertoire became more sophisticated as they developed new techniques allowing them to interpret more complex spiritual answers, including special codes and the option to spell out words by designating letters based upon rapping a number of times equal to their position in the alphabet. As the fame and fortune of the Fox sisters grew and "mediumship appeared to be a paying proposition, a host of men and women stepped forward..."[90]

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[88] Moore, *In Search of White Crows,* 8.
[89] Ibid.
[90] Ibid.

This was the true beginning of the popular Spiritualist movement and the start of a new variety of Spiritualist—the popular medium.

Emma Hardinge, later Mrs. Emma Hardinge Britten, was one of this new crop of popular Spiritualist mediums. Originally from England, Mrs. Britten and her mother came to New York with a theatrical company then settled in the United States. According to *The History of Spiritualism Volume One* by Sir Arthur Conan Doyle, Britten fled from her first séance terrified but later, in 1856, returned to Spiritualism and received enough proof to accept it as the truth. Shortly after adopting Spiritualist beliefs, Britten discovered her own latent mediumistic talents. She, using her newly discovered powers, reporting the sinking of a mail steamer "The Pacific" with all hands in the Atlantic Ocean. Her information, proported to be from one of the spirit of a dead crewman, proved to be true because the vessel was never seen nor heard from again.[91]

Britten became a successful medium offering her services for private clients and public performances. She also became a spokesperson for Spiritualism, writing countless articles and books on the subject and traveling the country promoting its truth. Her views, like Davis's, were of a decidedly anti-Christian nature and she held little love for traditional theology. Emma Hardinge Britten, while not an original Spiritualist pioneer like the Foxes or Davis, was nonetheless instrumental to the popularization of the movement across the county with her lectures, writings, and appearances. Britten and Dr. Samuel Britten, her Spiritualist husband a former Universalist minister and the publisher of the Spiritual Telegraph, devoted themselves to advancing the Spiritualist religion abroad as well, taking their message to England, Australia, and New Zealand.[92]

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[91] Doyle, *History of Spiritualism Vol I.*
[92] Ibid.

As early Spiritualism caught on and spread itself throughout the nation, it used two main means to transmit its beliefs. First, it relied upon the writings of Spiritualist philosophers like Davis, Hardinge Britten, and countless others, who wrote numerous articles and books to promote the movement and reach out to the more philosophically minded. These articles and books were published in Spiritualist newspapers like the short-lived Univercoelum, based heavily on Davis' Harmonial Philosophy, and the more widely circulated Spiritual Telegraph. Many of these writers, as we have seen, invoked science, natural law, and rational thought in their lectures and articles to explain and justify their belief in Spiritualism and to attract their educated readership. Second, Spiritualism channeled its energies into physical feats and phenomena in order to gain public attention and convince its usually skeptical audiences through empirical evidence. As more and more mediums entered the Spiritual scene, the number of "test" mediums—so called because they welcomed skeptical clients to visit them and test their powers for themselves—rose sharply.

Rapidly, Spiritualism drifted farther from theology and philosophy and into more observable, physical phenomena, and, accordingly, the public's curiosity in the religion increased. Physical mediumship, which had caught on quickly, evolved just as rapidly as mediums developed many new ways to manifest spirit messages including the aforementioned slate writing, direct voice, and materialization. These new methods provided the believers and the curious even more sensational evidence that spirits were active and willing to communicate with them. The empirical evidence that these manifestations offered when coupled with Swedenborg derived philosophies and cosmologies, proved very convincing to many in the public, especially the highly educated and, occasionally, the well placed.

Many of these new public converts, prominent figures and gifted propagandists, proved to be very important in furthering the reach of Spiritualism and adding the weight of their authority to the cause. One such figure was Robert Dale

Owen. Owen was the son of Scottish industrialist, philanthropist, and founder of New Harmony, Robert Owen. Owen grew to prominence in his adopted home of Indiana serving in the General Assembly, on the State's 1851 Constitutional Convention, and later in the House of Representatives in Washington. Owen's father, himself a freethinking non-Christian, had raised his sons to value both education and free thought and consequently Robert Dale Owen was instrumental in passing legislation to create the free public school system in Indiana and the Smithsonian Museum in Washington. Robert Dale Owen was an avid explorer of Spiritualism, attending numerous séances and exhibitions on the subject throughout his life. He was never a medium himself but he liked to interact with them and seek out Spiritualist experiences.

In 1872, Robert Dale Owen wrote a book entitled *The Debatable Land Between This World and the Next* in which he explored Spiritualism in great depth. Owen's work, running to more than five hundred pages, begins by attacking traditional religion and its attempts to stifle spiritual exploration. After this lengthy discourse, Owen explores the roots of Spiritualism, speaking to its early history, philosophical tenets, anecdotal stories, and his own personal experiences with the matter. His final section pronounces the truth of the movement to his own satisfaction.[93] Owen's belief in Spiritualism and his open support in later years was a great boost to the movement. Well respected and educated, few could argue forcibly against the findings of men like Owen.

Another such convert was Robert Hare, a well-respected chemist who taught for many years at the University of Pennsylvania. Professor Hare began to explore Spiritualism in the 1850s using what to his mind were firm scientific principles and

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[93] Robert Dale Owen, *The Debatable Land Between This World and the Next.* (New York, G. W. Carleton & Co., 1872) also available from http://www.hti.umich.edu/cgi/b/bib/bibperm?q1=aca2391; Internet; accessed 17 March 2005.

quickly became convinced of its truth. Dr. Hare made repeated efforts to speak to the scientific community about Spiritualism and even share the results of his tests with colleagues, but to no avail. Most refused to take him seriously, preferring to attribute his ravings to advanced age and, perhaps, the persuasions of charlatan mediums.[94]

Hare represented a novelty in Spiritualism—a convert from the lofty heights of science—but unfortunately for Spiritualism he was more concerned with exploring the Spiritualist theology and philosophy than acting as a liaison between science and the movement. His writings on Spiritualism, as published by Charles Partridge and Samuel Britten in the Spiritual Telegraph, often detailed Hare's encounters with such notable figures as Benjamin Franklin, George Washington, and Jesus Christ instead of providing scientific support for the tenets of Spiritualism. In fact, both Partridge and Hare requested that he explore Spiritualism with a more scientific bent and that he detail those efforts in their newspaper instead of writing about his intriguing spectral encounters. Britten writing to Hare indicated that he should consider Spiritualism "in its relations to science and natural law—instead of mainly regarding its theological bearing."[95] Likewise, Partridge played up the importance of empirical study by telling Hare that modern Spiritualists were more concerned with the present and ignored "anything that is not tangible to [the] natural senses and or has been made so to the natural senses of somebody else."[96]

In fact, periodicals such as Partridge's The Spiritual Telegraph, The Banner of Light, and the Univercoelum were instrumental in not only spreading the tenets of Spiritualism to interested readers but also in legitimizing the movement's claims by exploring its connections to modern science, philosophy, and, on occasion, theology. They did this mostly through articles and news stories, like those produced by Hare, Owen, and others that detailed Spiritual phenomena and philosophy, often comparing

[94] Moore, *In Search of White Crows,* 26.
[95] Ibid., 32.
[96] Ibid., 32.

it to natural philosophy or science. Some articles would approach Spiritualism from a more theological standpoint, often reconciling Spiritual belief with existing Christian doctrine. The articles, however, were just one part of the equation, these newspapers also served as a means of connecting Spiritualists—both mediums and ministers—with interested clients and religious seekers through lecture announcements and advertisements.

Spiritualists offered numerous lectures across the nation, usually led by traveling mediums or occasionally by the local congregations of Spiritualist churches. These lectures were an effective means of spreading the Spiritualist message to the public thanks to the popularity of the Lyceum Movement in American society during the early to middle nineteenth century. The Lyceum Movement was a national effort to promote adult education through public lectures and debates and it had awakened many upper and middle-class Americans to the intricacies and importance of traditional subjects like natural philosophy, history, and literature. Lyceums were extremely popular at the time and over three thousand took place across the nation during 1834 alone.[97] Lyceums offered lectures, delivered by professors and other worthy individuals concerning foreign travel, literature, history, and especially science. These scientific lectures provided the listeners with a basic understanding of science, its underlying philosophy, and its practical methodology, which in turn allowed them to make use of its principles with some confidence in their own lives.

The popularity of lyceums across the nation during this period shows the immense value people accorded to education, especially as it concerned science. Lyceums existed to teach adults new subjects—to make the unknown known and the misunderstood understood. Nationwide programs, like the Lyceum Movement, and the wide availability of newspapers and other educational journals provided the

[97] Irving H. Bartlett. *The American Mind in the Mid-Nineteenth Century* (New York, Thomas Y. Crowell Co., 1967), 27.

educated American adult with a good understanding of the basics of science in his day. The lectures and articles delivered by these nineteenth-century scientists and natural philosophers exposed their readers to the intricacies of nature and the world, which had much in common with a complex mechanical device or system. Mediums and Spiritualist believers of the period had no interest in attempting to destroy or alter the mechanical image of the universe that science constructed for the public; indeed, as Moore notes, mediums "urged science to recognize an extension of the laws of physics and engineering" to better accommodate them.[98] By seeking the recognition of science, Spiritualists believers hoped to advance both their cause, by promoting it, and science, by using Spiritualism's ability to explore the unknown and tap the resources of the dead to further the aim's of science.

Like the Spiritualist lectures, advertisements often shared the stage with science; in fact, some serve as fine examples of the Spiritualist's attempt to use their perceived connection to science to its fullest. One of these advertisements comes from S. C. Hewitt of Boston, a Spiritualist medium and lecturer. In his advertisement, placed in an 1856 issue of The Spiritual Telegraph, Hewitt offers to give a talk on "Spiritualism, as a science, as clearly proved as chemistry or any of the natural sciences; also, its philosophy and its uses."[99] Another advertisement, posted in an 1854 edition of The Spiritual Telegraph, shows that even a few professional men of science were taking advantage of the rise of Spiritualism; these two men, medical doctors by trade, promised to provide their customers with an alternative form of medicine or at least an alternative means of obtaining their fees. More specifically, Dr. Hatch and Dr. Harrington, claim, much like Davis and his Mesmerism in the 1840's, that they can perform clairvoyant medicine. The doctors plainly state that

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[98] Moore, *In Search of White Crows,* 22.
[99] Spiritual Telegraph (Boston: U. Clark, 1856), excerpt available from http://www.spirithistory.com/56telegr.html; Internet; accessed 31 March 2004.

their procedure can describe the "real cause, nature, and locality of disease, and its proper remedy" through "clairvoyant" means.[100]

These lectures and advertisements show clearly that one of early Spiritualism's recurring themes is the adaptation or extension of modern science. One means to do this was to adapt Spiritualism to augment current science or medicine. Clairvoyant medicine was one such augmentation of science and there were others as well. Spiritualists, like most of society in the nineteenth century, "had a worshipful attitude toward science and technology."[101] According to Bret Carroll, this attitude resulted in the religious devotion to technology exhibited by John Murray Spear and his New Motor Project. John Murray Spear, a one-time Universalist minister and ardent abolitionist, converted to Spiritualism in the early 1850s after reading Davis' numerous works. Spear told followers that he had to create a new machine based upon a design he received in spirit communication from a group of technologically minded spirits called the "Association of Electricizers." The machine, a perpetual motion device, was modeled on the human body and designed to harness "the electric life-currents of the universe."[102]

The design called for Spear and his followers to sit and place their hands around a table, which would collect their "personal magnetisms" during séances and power the motor. Spear and a female medium who volunteered to be the "mother of the new motor" or the "Mary of the New Dispensation" entered an elaborate apparatus within the machine to use their "higher degree of celestial magnetism" to power the device for the first time. During their interlude together, the medium professed feeling labor pains and a local clairvoyant claimed to see a strange ethereal umbilical enveloping the machine. Those present announced that the machine moved

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[100] Spiritual Telegraph (Boston: U. Clark, 1854), excerpt available from http://www.assumption.edu/whw/wondersdefault.html; Internet; accessed 17 March 2005.
[101] Carroll, *Spiritualism in Antebellum America*, 106.
[102] Ibid., 105-6.

during their exertions; however, witnesses reported that only a few small balls not connected to the large revolving mechanism actually moved.[103]

Another method was to adapt science to further Spiritualism, and there were numerous examples of that as well. The Hewitt ad offers one, as he sought to explain the ideas and principles of Spiritualistic thought through the terms and symbols of science. In a similar vein, Emma Hardinge Britten offered this scientific rationalization in response to questions concerning spirits and their ability to materialize matter. She said, "You assert, in the scientific systems which you call natural philosophy, that all atoms in space are matter. You acknowledge that a vast amount of matter exists in the atmosphere that is invisible to you; can you not also conceive of particles yet finer than any that have been discovered?"[104] Her suggestion was that spirits could see and manipulate matter on a "finer" level than any currently known. According to Britten, this ability enabled them to produce matter, invisibly move objects, and perform spirit materialization. She concluded her statement with an appeal to reason and spirit evidence, adding, "Can you question that there must be an ultimate condition of atoms finer than any yet known to science? Reason suggests this, spirits affirm it..."[105]

These types of scientific appeals were common in Spiritualist rationalizations. In fact, Miss Hardinge's response above follows the basic premise of the work *The Od Force* by Baron Karl Von Reichenbach. Von Reichenbach, a German scientist and theorist, developed one of the earliest theories incorporating physical science and metaphysical phenomena in the 1840s. His theory, more directed at animal magnetism and mesmerism than Spiritualism, postulated that there was another, previously unknown, force in the universe, which much like electricity had

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[103] Ibid.
[104] Emma Hardinge, "Questions Answered Extempore" 5 Feb 1866, 46-7. available from http://www.harvestfields.netfirms.com/Pdf/45/fb_7.pdf; Internet; accessed on 31 March 2004.
[105] Ibid.

measurable properties, including positive and negative polarity, and could affect and be affected by other matter but was invisible. He believed that the abilities of early metaphysical practitioners could be scientifically explained as manipulations of this force, which he called Od or Odic force.[106] In 1853, the Baron's theory reached the United States. American Spiritualists quickly amended and adopted its tenets, evolving it into sophisticated theories concerning ether and ectoplasm.[107] These were invisible fluids that Spiritualists and many scientists at the time believed permeated all things, acting as an integrating element in the universe and allowing magnetic and electrical attraction and activity.[108]

Theories like this strayed deep into the scientific realm yet went unchallenged by most scientists who wanted nothing to do with Spiritualists. Failing to take the movement seriously, these scientists refused to investigate it fearing that their credibility and prestige would be damaged. The few scientists who did undertake investigations into Spiritualistic phenomena either became believers, like Robert Hare, or they quickly dismissed the events as fraud and quietly walked away. The lack of a strong, organized opposition by the scientific community paired with Spiritualism's endorsements from highly respected citizens and scientists like Robert Dale Owen and Robert Hare actually made Spiritualism more convincing to many of the curious. Spiritualists, however, were not satisfied with their advantage. As Moore points out, Spiritualists "feared that anything science would not investigate would in the modern world become a matter of indifference" and they did not want their beliefs seen as irrelevant.[109] They, therefore, kept trying to attract positive scientific attention for many years to come.

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[106] Moore, *In Search of White Crows,* 30.
[107] Ibid.
[108] Carroll, *Spiritualism in Antebellum America,* 68.
[109] Moore, *In Search of White Crows,* 26.

Baconian Empiricism had clearly left a lasting mark on the educated minds of the nineteenth century. The spread of scientific principles and knowledge through papers, lectures, and lyceums made more and more people familiar with the importance of observational science and empirical evidence. All of the importance placed on personal experience and observation helped spiritualism grow and, at the same time, made physical phenomena and manifestations the most importance and convincing element of the Spiritualist religion. With these empirical sensations being so important to the American public, mediums and even Spiritual ministers had to perform astounding spectral feats in order to gain the attention of clients. At this point, a minister could no longer be content to lecture on the philosophy of the spirit world, describe his prophetic visions, or convey his conversations with the deceased; instead, they had to produce a sensational demonstration of ghostly power, like table tipping, spirit writing, or spiritual voice that directly confronted the audience—challenging their skeptical nature. By combining these elements, they could spread the philosophy of Spiritualism, attract a considerable audience, and convince the skeptical public through empirical proof of the movement's considerable claims.

The many themes discussed in this chapter clearly demonstrate three things. First, they show the indisputably close relationship that existed between science and Spiritualism for most educated nineteenth-century Americans interested in such phenomena. Second, they illustrate the need that many Spiritualists felt to be accepted by science and to use it as a tool for proving their belief system. Third, they prove that empirical experiences were one of the most important and convincing elements for the modern Spiritualism movement for the public. The Protestant study of nature model, which Toumey outlined, was a key element to all of this; teaching that a keen and educated observer of nature or natural phenomena could discern many of the secrets of the world. From this viewpoint, it took little specialized training to gain understanding of complex systems and ideas—just a good eye, moderate

education, and a strong sense of reason. This principle meant that throughout the mid to late-nineteenth century, science, in many ways, complimented Spiritualism. Writers of Spiritualist works could and did use scientifically charged theories and philosophies based on natural law to rationalize their beliefs and to attract new members. The curious, attracted by the theories of the movement, were finally convinced of the truth by the empirical evidence they experienced with physical mediums. The scientific community, for the most part, did not see the Spiritualist movement as a threat and thus largely ignored it in hopes that it would go away. This situation allowed Spiritualists to utilize the science of the day to rationalize their beliefs and develop the popular following they achieved; however, that would not last. The scientific community was undergoing major internal changes that would soon dramatically alter its relationship with the public and the Spiritualist movement as well.

CHAPTER FOUR

Scientific Specialization and its Impact Upon Spiritualism

While Toumey's two early traditions—the Protestant study of nature and the philosophy of useful knowledge—ruled the better part of nineteenth-century American science, Americans, in the later part of the century, began to embrace a new European tradition—research ethos or "science for the sake of science."[110] This brand of science, Toumey's third and final outlook, was also known as "pure" or "theoretical" science. In this form, "pure" science shied away from both religion and practical application. In true academic fashion, scientists under its sway sought knowledge independently by conducting research, disregarding any potential practical applications for the result.

Research ethos evolved out of earlier European modes of education that focused upon graduate level study and a curriculum geared toward specialization for future careers.[111] Europeans credited their recent advancements in the fields of science and natural philosophy to this new approach. Consequently, many Americans, who were familiar with the curriculum of the German and French universities, grew unsatisfied with antebellum education. Increasingly, Americans felt that "advanced study" was required in local universities. To their minds, American universities, like their European counterparts, had to change their curriculum and introduce specialized graduate coursework that would follow the

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[110] Toumey, *Conjuring Science,* 18.
[111] Roger L. Gieger, *To Advance Knowledge* (New York: Oxford University Press, 1986), 4.

completion of an American bachelor's degree."[112] American bachelor's degrees had always focused on the traditional, well-rounded gymnasium or lycée model consisting of a general curriculum that taught basic skills like mathematics, rhetoric, and grammar; as well as exposing students to the principles and ideas of basic philosophy, and theology. This model was also the basis for early American graduate degrees as well. Americans found it difficult to sway many institutions from their classical curriculum; however, the fortunate combination of internal pressure and generous endowments allowed the creation of some new curriculum schools—like the Lawrence Scientific School at Harvard (1847) and the Yale/Sheffield Scientific School (1854)—by the mid nineteenth century.[113] These new scientific American institutions adopted the European model of graduate style teaching that strongly focused the student on a specialized curriculum rather than the traditional, varied curriculum. Even with these new schools, America would lag behind Europe in graduate level education. In fact, only one school awarded a doctorate in the States before the 1870s.[114] After the 1870s, however, things began to change especially in science as specialization began to take root.

While European models of education undeniably led to many of the changes in American graduate level curriculums in science, there were other, local reasons to specialize in science as well. Late nineteenth-century America saw the first stirrings of a growing "professionalization" movement in science, which would bolster the later development of Toumey's research ethos and help to create the academic 'divide' that still separates the public from science.[115] Historian George Daniels asserts that scientists gained a large measure of professionalism—better positions and wages—after the events of the Civil War, which proved to the government as well as

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[112] Ibid.
[113] Ibid.
[114] Awarded by Yale in 1861: Ibid.
[115] George H. Daniels, *Science in American Society* (New York: Alfred A. Knopf, 1971), 265.

the public the value of science to the creation of useful tools and weapons. Science had played a leading role in aiding the military efforts during the Civil War through its introduction or perfection of various technological devices and techniques including the telegraph, aerial photograph, explosives, and medical theories. The group responsible for coordinating these new advancements, the Lazzaroni, illustrates well the rise of the professional American scientist during the Civil War. The Lazzaroni was an informal, unpaid group of scientific advisors that worked out of Washington D.C. near the Lincoln administration. Three scientists made up the Lazzaroni; Joseph Henry, Alexander Dallas Bache, and Charles H. Davis. These three men were responsible for investigating new inventions and technologies, constructing and conducting accurate scientific testing of said technology, and writing reports on its findings to the administration (of which it produced 257). Overall, the Lazzaroni served as the scientific agency for the administration and were therefore responsible for shaping the administration's science policy during the war.[116]

Through the efforts of scientists, like the three men of the Lazzaroni, science established itself as a major force for progress through the creation of wondrous devices and technology that not only advanced the goals of the state but also the average citizen. Progress was a major focus for the era and with each new, astounding invention, the public grew more and more enamored with science. This newfound prestige led to the availability of more professional positions for scientists—both academic and governmental.[117] Some of these well-placed and respected scientists began to have an even greater impact on national policy, often advising the President and Congress on policy matters concerning science through their jobs with the various cabinet level departments or bureaus. One of these

[116] Ibid., 267-68.
[117] Ibid., 265-66.

bureaus, the Bureau of Agriculture (established in 1862), provided a home to many early chemists, entomologists, and botanists.[118]

Professionalism also led scientists to create societies and journals to express their ideas and promote themselves within their new, specialized community. These scientific societies began as local entities, helping to bring together individuals who possessed an interest in science within towns and cities.[119] These local groups, seen as the ideal venue for exploring science by many, provided a well-educated group that acted as a sounding board for new ideas and discussion, yet also served to control more radical and unpolished theories and claims.[120] The American Association for the Advancement of Science (AAAS), founded in 1847, served as one of the earliest of these science organizations in America. It used its resources to host scientific presentations and publications for its membership and provided leadership via a standing committee made up of respected scientists in various fields of scientific endeavor. The AAAS quickly realized that "charlatanism" was a threat to the advancement of proper science and that they needed to devise a control mechanism to protect their mutual interests as professional scientists. In 1856, the AAAS adopted a new constitution that offered them that control mechanism. The Association's standing committee now could review and exclude any papers from presentation or publication to their membership.[121]

This power of exclusion, the equivalent of peer review, gave the AAAS the ability to protect their professional interests by curtailing the misuse of science by others. The power now wielded by these small committees within the associations like the AAAS dismayed many of the Jacksonian idealists of the age who felt it

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[118] Ibid., 268.
[119] Robert V. Bruce, *The Launching of Modern American Science: 1846-1876* (New York: Alfred A. Knopf, 1987), 35.
[120] Ibid.
[121] Daniels, *Science in American Society*, 169.

excluded the uninitiated from expressing their views and gave too much control over the practice and exchange of science to a group of elites.[122] These "scientific tribunals," as Daniels calls them, were a strong "source of contention," especially with marginalized groups or individuals who felt the committees were suppressing their theories and discoveries.[123] Spiritualists were one of these marginalized groups. As exemplified earlier by the story of the American chemist Robert Hare, scientific committees and associations routinely shut out Spiritualist scientists from their communities, denying them the chance formally to present their topics to the scientific membership at large.

As opportunities for scientists became more prestigious and lucrative, science became more and more competitive. The existence of more permanent full-time positions in science—both at universities and in the public sphere—meant that the professionals employed in these roles began to surpass their amateur counterparts in knowledge and research. Since science had long been a field filled with amateur experts, this represented a marked change within the discipline and spurred the competitive spirit.[124] The drive to discover new natural elements or species, invent new technology, to publish your thoughts in a scientific journal, or to have one's expertise recognized by one's peers was very strong. These things, especially peer recognition, became extremely important to scientists after 1870.[125] Combined, these accomplishments were the keys to a scientist's success and the means by which they promoted themselves and sought better opportunities. In order to realize these desires, however, scientists had to specialize in fields of study, slavishly devoting themselves to specific lines of knowledge and research so that they had a better chance of breaking new ground and making new discoveries. To remain an amateur

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[122] Ibid., 170.
[123] Ibid.
[124] Gieger, *To Advance Knowledge*, 20-21.
[125] Daniels, *Science in American Society*, 275.

at science was to lose all credibility and expertise in the later part of the nineteenth century. Indeed, being a scientist now required so much more than just being an educated and skilled observer; instead, it required a formal education, a vast knowledge of a recognized field of study, and a structured line of methodology and research in that field—all things that generally required a full-time commitment to the discipline.

The radical changes caused by the professionalization of science in the nineteenth century led to the gradual estrangement of the public from science. The new model of academic science, which required intense training, a knowledge of existing literature, and a research focus, had introduced enhanced theories and elevated the pursuit of science to such a level that only the highly trained could comprehend it. Science was no longer the open, observational method of learning that had served the natural philosophers of the previous eras; instead, it was now a closed sphere of specialized research and technical knowledge better suited to the professional scientists.

This growing gulf between science and the public isolated the layperson from high level scientific discourse, leaving them only the rudimentary basics gleaned from older texts or passed down through the academics themselves. The resulting isolation from science experienced by the public was very different from the earlier relationship they had enjoyed with science, where the commonly educated person was welcome to share in the pursuit of science and to not only read scientific discourse but to engage in it. By the time the European model of graduate education and Toumey's research ethos evolved fully in American universities in the early twentieth century, the common person was no longer welcome in scientific circles and typically could not even understand the complexities of the subject. Instead, as Toumey notes,

all reputable scientists directed their correspondence to their peers alone.[126] This growing inaccessibility to science, created by its great complexity and the new propensity for scientists to restrict their ideas to their own circles, left the public vulnerable to ploys built upon pseudo-science. These ploys, popular even in the 17th and 18th centuries, became even more effective as science and technology made significant public advances. Now, with all of the scientific "miracles" taking place the claims of charlatans gained even greater allure as they fleeced innocent victims by trading on the symbols and jargon of science. Charlatans frequently tailored their fraudulent schemes across a broad range of themes that treaded on the ground of science including; miracle cures (snake oil and other potions), mineral divining (gold and water were prevalent), and of course séances and fortune telling. These charlatans, especially in the mid to late nineteenth century, were very successful because science and the majority of its practitioners declined to get involved in debunking the frauds regardless of how spurious the science they promoted.

Most scientists believed that the bulk of the public had enough common sense to ignore the false "scientific" claims of these charlatans and that overall little harm was being done to their profession through these hucksters. In fact, many felt that more harm could befall science if they publicly acknowledged the many cases of pseudo-science—for most, this category would include Spiritualism—because it would only bolster the charlatan's credibility as the public assumed that the activity held enough merit to attract the attention of science.[127] Other skeptical scientists, however, shied away from Spiritualism in particular because they saw it as a religion. Many Americans in that era saw Spiritualism not just a set of sensational ghostly phenomena that dabbled in the afterlife but also as a true religion with a serious philosophy. To these Spiritualists, spirits, uniquely positioned to help mortals reach

[126] Toumey, *Conjuring Science*, 22.
[127] Moore, *In Search of White Crows*, 34.

greater enlightenment because they were once mortal themselves, served as intermediaries for God.[128] Scientists realized that they had little solid ground when they attacked matters of faith and philosophy. In fact, no matter how much Spiritualists tried to claim a scientific basis for their beliefs, most scientists believed, like American psychologist George Beard, that Spiritualism was still a matter of "blind trust" that offered little true evidence.[129] The truth is that the firestorm of controversy elicited by Darwin's Theory of Evolution in the 1860s had convinced many scientists to avoid mixing science and religion—any religion—when possible.

Another factor making it tough for scientists to want to debunk Spiritualism was the fact that the practice seemed to bring great solace to many of its adherents and so little grief. In fact, many Spiritualists had first explored the religion due to recent deaths of in their family. Judge McDonald, as previously mentioned, had only begun to explore Spiritualism in earnest after the death of both his wife and his daughter. Likewise, New York Supreme Court Judge John Edmonds took to investigating Spiritualism after the death of his wife in the late 1840s. Edmonds grew so certain that he was truly communicating with his wife through mediums that he openly converted to Spiritualism and became a medium himself. His newfound Spiritualist convictions drew harsh criticism from the media and he had to retire due to the public outcry.[130]

These bereaved converts could and did become extremely vicious in the defense of their newfound religion and the high-status of some—like Judge Edmonds—made attempts to debunk their faith dangerous at best. After all, the séance provided these mourners the ability to feel reconnected to their lost loved ones and granted them a strong assurance that they and the deceased would soon be

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[128] Carroll, *Spiritualism in Antebellum America,* 90.
[129] Moore, *In Search of White Crows*, 63.
[130] Ibid., 118.

reunited in a glorious afterlife. These strong emotions drove Spiritualists to defend their beliefs vigorously and this forced many scientists to think twice before attacking the practice of Spiritualism, even if they felt certain that mediums were con artists. Spiritualism, many reasoned, was akin to a magician's tricks or a rigged carnival game. Its overarching purpose was to separate the gullible from their money, but it did little harm in the big scheme of things. Attacking the practice too strongly, however, would stir up a lot of ill will from the believers and the sympathetic public and this was more trouble than it was worth.

Not all scientists avoided investigations into Spiritualism, however. As previously mentioned, Robert Hare was a renowned American chemist who investigated Spiritualism and himself became a convert. British physicist Michael Faraday also conducted experiments with Spiritualism. Specifically, Faraday focused on the movement of tables, trying to discover a new physical force that moved them at the command of spirits. His investigations failed and led him to adopt a hostile outlook toward Spiritualism, though to his credit he did not dismiss the premise without investigation, as many did.[131]

Other investigations occurred, of course. Sometimes, scientists, who would rather ignore sensational topics like Spiritualism, would weigh in and attempt to debunk Spiritualist mediums because they had some measure for gain. In one example, Pennsylvania University sponsored a scientific panel to attempt to prove the reality of spiritual contact because a wealthy Philadelphian, Henry Seybert, agreed to leave them a sizable endowment if they would do so upon his death in 1883. The university gathered a distinguished commission of scientists, some of which were already somewhat sympathetic to Spiritualism, and held interviews with mediums to investigate their claims. The committee's preliminary report, and the only one ever

[131] Moore, *In Search of White Crows*, 27.

produced, devotes itself largely to describing the many fraudulent methods used by the visiting mediums to try to fool the committee—there was no evidence offered for true spiritualist contact.[132]

Earlier, in 1857, the *Boston Courier* had decided to take advantage of the Spiritualism fad to increase its readership, promoting a contest that would pit mediums against a panel of distinguished Harvard scientists to prove or disprove the reality of spiritual contact. Any medium that could convince the panel would win $500.00 from the paper. Many mediums, including Kate Fox, tried to convince the panel that their manifestations were real. While Kate Fox's rapping intrigued a few scientists on the panel, the consensus of the panel and the paper was that the proffered manifestations were poor and the overall show was quite disappointing.[133]

The growth of specialized education and professionalization in science brought an amazing accumulation of knowledge and a new sophistication to the community, which raised the bar for evidence and theory in their discipline. It was no longer permissible in scientific debate to simply present and defend a theory that could not be proved on the basis that it could not be disproved either; instead, you had to find quantifiable methods to prove it to others. This left Spiritualism out in the cold, since mediums had no success performing under true scientific test conditions. Up to this point, many arguments for Spiritualism had in fact revolved around the idea that science could not or would not properly engage in tests of Spiritualism. The truth, however, was that science tended to ridicule any serious attempts at investigating Spiritualism.[134] Many Spiritualists used science's inaction and uncertainty against them by asserting that because science had been unable to find

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[132] Pennsylvania University: Seybert Commission on Spiritualism, "Preliminary Report of the Commission Appointed by the University of Pennsylvania to Investigate Modern Spiritualism" (Pennsylvania: Lippincott, 1920).
[133] Moore, *In Search of White Crows*, 33.
[134] James H. Hyslop, *Science and a Future Life* (Boston: Herbert Turner & Co., 1905), 1-2.

substantial evidence to disprove Spiritualist theories they must have some validity. Many Spiritualists, who had originally looked to science as a means to substantiate their beliefs, felt that scientists were unfairly changing the standards for evidence when it came to their claims. English Spiritualist and author Alfred Wallace, writing from London in 1885, where the Research Ethos of science was already well entrenched, offers an example of this. Wallace writes "it has usually been the boast of science that it accepts, and co-ordinates, and studies all the facts of nature in order to explain them; but with respect to our facts it applies a different rule and asks for a complete theory—a 'precise explanation,' before it will even begin to study them." He adds, "It is surely not scientific to demand of a new and very difficult science the complete solution of its most fundamental problems as a preliminary to recognizing its existence, yet this is how the writer in the Journal of Science proposes to treat the students of Spiritualism."[135]

As science changed and became more heavily focused on measurable tests and controls rather than empirical sensation, Spiritualist mediums found it more difficult to produce satisfactory results, especially in the strict conditions imposed upon them by scientists. On the rare occasions when serious scientific inquiries investigated the movement, the results were unimpressive because the test mediums proved unable to produce any phenomena at all except through deception.

Spiritualists had long maintained that it was necessary to perform most materialization in dark and enclosed places, away from distractions and the disruptive elements present in light, which they claimed hindered spirit manifestation. In fact, they created sophisticated scientific reasons to support and defend this need for darkness. As early as the 1860s but especially around the turn of the century, mediums were publishing theories about how light energized the particles used by

[135] Alfred Wallace, "The 'Journal of Science' on Spiritualism", *Light.* 11 July 1885. available from http://www.wku.edu/~smithch/wallace/S382.htm; Internet; accessed 28 March 2004.

spirits to communicate, making it impossible for them to wield that energy correctly to make contact.[136] Darkness, not surprisingly, also served conveniently to obscure the ability of scientists or even the genuinely skeptical to observe the séance and its resulting phenomena adequately, thereby defeating some early attempts at visually controlled testing. There were exceptions however. The Fox sisters had no need for darkness, just a table and chair, to perform their "rappings." Given the later theories produced, and in at least one case admitted to, about their methods for producing their raps—popping their toe joints—it seems plausible that darkness was of no consequence to their manifestations.

The need to perform materializations in total darkness or from within curtained spirit cabinets greatly hurt Spiritualism's appeal with many scientists and skeptics. It seemed like an admission of fraud and foul play to many. Given these circumstances, Spiritualism not only had to defend itself against the usual charges of fraud and charlatanism but they also had to develop theories to explain their failures and difficulties under test conditions. Typically, when mediums failed to produce results in a test, they chose to shift the blame to the scientists or skeptics themselves. Mediums simply claimed that the pervasive skepticism and negative energy present in the room interfered with their channeling attempts. In one of the many manuals offering training in mediumship available at the time, the Spiritualist teacher, Rev. E.W. Sprague, espoused the need for a séance circle of "persons who are interested and harmonious." He also recommends that sitters not "continually ask for names and tests" because to do so "disturbs the passivity of the medium's mind and... [hampers] his effort to give the test demanded."[137]

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[136] Gary L. Ward, ed., *Spiritualism,* Vol. I, *A Guide to Mediumship*, by W. W. Aber and *Spirit Mediumship,* by E. W. Sprague (New York : Garland Pub., 1990), 26-9 and 109-10 respectively.
[137] Ward, ed., *Spiritualism,* Vol. I, *Spirit Mediumship,* by E. W. Sprague., 34 and 45.

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Even as science and Spiritualism diverged—with science becoming more and more specialized and less accessible to Spiritualist doctrine—many Spiritualists tried to embrace the new science by introducing more complexity into rationalizations and explanations for their beliefs. Many of these Spiritualist writers followed in the footsteps of Baron Von Reichenbach and his early Odic theories involving elementalism and molecularism. Prof. E.W. Lockwood of Chicago, Illinois followed this idea, trying to tie the principles of modern science and technology to a molecular theory that would support Spiritualism. Prof. Lockwood's book, *Molecular Hypothesis of Nature* (1895), claims that its principles are the "offspring of modern scientific research."[138] In his work, Lockwood details for the public the molecular processes of technology such as photography, telegraphy, chemistry, and biology and attempts to use their scientific examples to create a foundation for Spiritualism. In his detailed and complex theory, Prof. Lockwood uses advanced scientific terms and jargon applying them to Spiritualist principles. He likens the external organs of sense to "electrodes of sensation" and salts his work with other pseudo-scientific terms such as "molecular reciprocity," "molecular transference of thought," and "mental telegraphy."[139] His grand conclusion is as follows:

> Every human, being an electrode for impressions from without, and a sentient galvanometer to reflect what is within, stands upon, and will be known by what these automatic balances of life indicate. These scales of philosophy and nature's automatic reactions, register and promote the equation of human existence. Under these inductions of modern science, our civilization will advance to a higher plane of social reciprosity and rectitude. The voice of love and the voice of science are heard "from spheres invisible," asking that "these inborn principles of nature's reciprocal associations be inculcated and understood by the children of the earth.[140]

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[138] Gary L. Ward, ed., *Spiritualism,* Vol. I, *The Molecular Hypothesis of Nature*, by W.M. Lockwood (New York : Garland Pub., 1990), 5.
[139] Ibid., 49-51.
[140] Ibid., 56-57.

Arthur Findley was another writer that tried to cross the deepening divide between science and Spiritualism. His 1931 work, *On the Edge of the Etheric,* contains one of the most detailed analyses of the theories behind the supernatural element ether and its scientific principles ever produced. It goes so far as to include a chart diagramming the spectrum of radiation, which includes not only the visible regions but also the infrared, ultraviolet, Gamma radiation, and even X-rays. On this chart, Findley places Ethic radiation—the elemental energy he asserts is responsible for Spiritualistic powers and manifestations—just above x-rays but below Gamma rays.[141] Works such as these speak volumes about the scientific hubris exhibited by later Spiritualists. It comes as no great wonder that scientists and other followers of the discipline started to take a greater interest in debunking Spiritualism after 1880. It is obvious that Findley and other Spiritualists, while unable to prove the existence of ether in controlled experiments, obviously felt a discomforting freedom and authority in mixing it in with accepted scientific principles like electricity and radiation.

Late in the nineteenth century, scientists and skeptics, stung by the scientific sounding assertions and 'truths' professed by such authors as Findley and Lockwood, began to take a more active role in opposing Spiritualism and its mediums. Scientists increasingly saw Spiritualism and its ideas as a challenge to their authority. To meet this challenge, some scientists investigated the claims in earnest. In 1882, Edmund Gurney and Frederic Myers founded the Society for Psychical Research (SPR) in London, England. This group brought together scientists and other educated men in order to pursue the "systematic investigation of a whole range of phenomena associated with mediumistic displays."[142] According to Moore, during the 1880s, investigators for the SPR "aggressively established a reputation for hardheadedness,

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[141] Arthur Findley, *On the Edge of the Etheric* (London: Corgi Books, 1971), 10.
[142] Moore, *In Search of White Crows*, 138-39.

never hesitating to expose fradualent mediums."[143] In a similar vein, American William James, a Harvard professor, established the American Society for Psychical Research (ASPR) in 1885. James and his other comrades proved to be even sterner than their English counterparts and nearly every experiment they embarked upon returned with negative results with respect to the supernatural. In fact, the ASPR felt that it was their mission to "verify once and for all known physical laws." As exemplified by their results, the ASPR meant to verify the truth of the "known physical laws," and not the unproven tenets of the Spiritualist or medium.[144] Besides these, there were other official scientific inquiries as well, such as the previously mentioned Pennsylvania University commission that studied Spiritualism in order to obtain an endowment from a deceased believer's will.[145] Similarly, Stanford University received a bequest from founder Leland Stanford's brother to add a psychical research facility to its university. John Coover of Stanford's Psychology Department spent some of the money studying psychical phenomena, especially thought transference, in order to better assess the needs of the new facility. His published findings assert that he found no evidence of supernormal cognition of any kind in the world, although he would continue to pursue psychical research later in his career.[146]

While these scientific societies investigated mediums, other parties were also calling upon Spiritualists to prove their assertions with reproducible and verifiable tests. Newspapers and other groups frequently sponsored tests that challenged mediums to prove their powers for a committee of scientists and other skeptics for monetary rewards. While mediums occasionally answered these calls, they rarely provided any conclusive proof one way or the other and frequently, like the scientific

[143] Ibid., 140.
[144] Ibid., 143.
[145] Seybert Commission on Spiritualism, "Preliminary Report".
[146] Moore, *In Search of White Crows,* 169-70.

investigations of the SPR and ASPR, served to expose obvious frauds. One of the most famous accounts of such a contest is the famous "Margery" case of 1922. *Scientific American*, the popular science magazine, sponsored a contest offering $2,500 to the first person to produce a "psychic photograph" or "visible psychic manifestation of other character" to the full satisfaction of the panel of judges.[147] Harry Houdini, renowned escape artist and stage magician, was a member of this distinguished panel along with several psychical researchers and scientists. J. Malcolm Bird, a psychical researcher, associate editor of *Scientific American*, and a member of the scientific panel for the contest acted as the preliminary search director weeding out submissions and finally settling on a promising physical medium known as Margery. Mrs. LeRoi Crandon, known to the public as Margery, was the wife of a prominent Boston surgeon that refrained from accepting fees for her sittings and had no aspirations toward professional mediumship. According to Bird and other witnesses, furniture lifted and moved, spirits materialized out of thin air, and Walter—Margery's dead brother and controlling spirit—would speak through her all while Mrs. Crandon sat in a trance state.

After several sittings, Bird and one other member of the panel were convinced but Houdini accused Margery and her husband of outright fraud. Houdini, in his article "Margery the Medium Exposed," wrote an account of the fraud and deception he uncovered in Crandon's séances. He asserts that Margery, the medium herself, was actively perpetrating the many physical manifestations through trickery and deceit. Once, while deep in a séance within a darkened room, the table began to buck and lift. Houdini, who had arranged to have his partner let loose of his hand at a signal, broke from the séance circle and reached beneath the table with his left hand. Feeling around near the spot occupied by the medium, his hand suddenly smacked

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[147] Ibid., 177.

right into Mrs. Crandon's head, which was violently thrusting around beneath the table in order to cause the lifting and movement. Mrs. Crandon, Houdini reports, quickly called for the lights and said that she had lost a hairpin and needed to find and replace it, thus offering a feeble excuse to explain her presence beneath the table.[148] After Houdini discussed his findings with the rest of the judges, the magazine quickly refused to award the prize and closed the contest. Houdini became known as one of the most ardent debunkers in the world, writing a book detailing his efforts in exposing the tricks of Spiritualist mediums entitled *Magician Among the Spirits*.

Public fraud was, indeed, one of Spiritualism's worst problems and had a great bearing on its steep decline in popularity in the later nineteenth century and early twentieth century. Many people began to discount the practice in its entirety based upon some of the more sensational cases of fraud published in newspapers. In another notable case of bogus mediumship, D.F. Trefly, an intrepid investigator of mediums, exposed the Bangs Sisters as frauds in 1888. The sisters, a well-known pair of mediums in the field originally famous for their slate writing, had since branched out into spirit materializations. Spirit materializations typically involved the medium's retreat to a curtained spirit cabinet where they entered into a trance-like state. Then, after a few minutes, a number of ghostly figures, represented as materialized ghosts, would begin to show themselves to the audience from within the medium's cabinet, usually by sticking their heads out of the curtain or standing within the cabinet in front of the open door.

On that fateful evening, May, one of the Bangs Sisters, acted as medium. True to form, May retired to her section of the cabinet and entered a trance state. The adjacent section, separated from May's compartment only by a thin cloth, was for the spirits to materialize within. A few minutes later, one ghostly form after another

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[148] Harry Houdini, "*Margery" the Medium Exposed.* excerpt available from http://www.pbs.org/wbgh/amex/houdini/sfeature/margery1.html; Internet; accessed March 30, 2005.

began to show itself through the open cabinet door. Finally, as the much celebrated Russian Princess appeared in the open doorway wearing her shimmering white outfit and headdress, Trefly and the policemen he had brought as accomplices leaped onstage and grappled the spirit out of the cabinet to the astonishment of everyone present, including the sister's mother—who tried vainly to aide the spirit in her struggles to escape. After the short struggle, the men were able to tear off the headdress and gown revealing the fully clothed May Bangs and a bag full of fake beards and other costume elements recognizable from earlier "manifested spirits." The police removed the sisters, arresting them for fraud and performing a show without a license. Their careers, needless to say, experienced a minor set back that night; however, they deflected some of the damage by claims that police planted the costume elements on May after grappling her out of the cabinet and flatly denied any fraud had taken place. They did recover from the incident and continued their practice as mediums.[149]

With these spectacular failures and outright frauds, it is easy to see why Spiritualism was unable to maintain a close relationship with science. Science, especially in the nineteenth century, had a firm history of credibility. Through its innumerable advances and technologies, science had established a record of truth and accomplishment with which Spiritualism could not even begin to compete. The public accepted that scientists were discovering new elements and creating new technology with regularity. They earned this acceptance by proving their assertions and inventions through tests and measurements performed repeatedly in controlled conditions for other scholars. When mistakes or even frauds happened and the perpetrators could not support their cause with sufficient data or reproducible experiments, the scientific community, often within the pages of journals or at

[149] John Curtis Biggs, "The Bangs Sisters Exposed" *Religio-Philosophical Journal* (April 7, 1888) available from http://www.spirithistory.com/bangs2.html; Internet; accessed 29 Mar 2005.

association meetings, quickly exposed and discarded the misguided theories. Spiritualists, however, repeatedly failed to prove that ether and ectoplasm existed and could not produce their claimed results under test conditions. In addition, Spiritualist leaders had a habit of looking the other way in order to ignore fraudulent mediums and spectacular frauds; in short, it did not police itself half as well as science. These strange paradoxes, along with the growing reports of mediumistic fraud, led many skeptics in society to join with scientists in the belief that Spiritualists were simply misguided or deluded and that the whole practice was an outright fraud to fleece the gullible public. Active and hostile skepticism, like that shown by Faraday, Houdini, and others, became the default stance for many toward Spiritualism, especially as accounts of fraud and 'stage magic' increased within the Spiritualist community due to the increased campaign of debunking.

Modern Spiritualists, unable to turn aside these new attacks from the scientific community and the public at large, had no choice but to retreat. They began to put less and less science into their works. The explanations offered by mediums and Spiritualist promoters began to focus more and more on the metaphysical and religious aspects of their beliefs rather than on underlying scientific theories they had once developed.[150] Spiritualists largely abandoned the discussions of science, molecules, and ether—once commonplace in introductory Spiritualistic texts—and instead left those theories for believers to consider. Another, more recent, tactic is the effort to subtly refute science's authority and call its beliefs into question.

Arthur Ford, a famous medium and author who practiced from the 1930s to the 1970s, offered a good example of this in his 1968 book, *Known But Unknown.* Ford said that we, as a people, "have been incompletely and sometimes mistakenly informed about the nature and structure of human life and of the universe" by

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[150] Gary L. Ward, *Spiritualism,* Vol. I, "Introduction" by Gary L. Ward (New York: Garland Pub., 1990), 2.

science.[151] He says this is largely because psychic events occur at their own whim, which denies science one of their most "cherished rituals, experiments repeatable at will" and under controlled conditions.[152] In one page, Ford manages to call the validity of science into question and offer its absolute reliance on controllable experiments as evidence that its focus is too narrow to be an authority on subjects such as metaphysical phenomena. Later, he stated that sciences, like modern physics, when pushed to their frontiers, "always tend to run over into metaphysics."[153] This subtle comparison between cutting edge science and metaphysical phenomena serves as a cunning attempt to place the two practices on an equal footing with the reader and thereby reestablish the credibility for Spiritualism.

In another sign of retreat, Spiritualists in the modern age stopped promoting their beliefs as actively as they had in the nineteenth and early twentieth centuries. According to Gary L. Ward, editor of a two-volume set entitled *Spiritualism,* "mediums became less public figures, not seeking publicity, but rather working within the established network of believers and interested seekers."[154] In this manner, they let the curious, open-minded individuals come to them rather than trying to actively excite interest in a skeptical population and invite further attacks. This had the affect of marginalizing the movement with the public, but that had its advantages as well. For example, fraud did occur from time to time, even in these tight knit circles, however the exposures slowed to such a point that the occasional charlatan appeared to be the exception rather than the rule to most Spiritualists. When discovered, these frauds rarely attracted large media attention and this helped the movement maintain what credibility it had because newcomers rarely knew about these scandals.[155] Spiritualism weathered these many storms and survived; however,

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[151] Arthur Ford, *Known But Unknown* (New York: Harper and Row, 1968), 162.
[152] Ibid.
[153] Ibid., 175.
[154] Ward, *Spiritualism,* Vol. I, ii.
[155] Ibid.

it would never again reach the heights of popularity it enjoyed in its "heydays" during the 1850s or 1880s.[156]

Interestingly, Spiritualism did enjoy a short reprieve and resurgence in popularity with society during and following both World Wars, as Americans sought to reconnect with loved ones who had lost their life in the conflicts. This popularity was short-lived; however, and Spiritualism resumed its decline during the majority of the twentieth century. While there can be no doubt that Spiritualism's popularity suffered most from its inability to provide convincing scientific proof and its numerous frauds, there were, however, other reasons for its decline. American life in the new century had become more complex and hurried. Americans, now largely adjusted to the changes wrought in society by industrialization, urbanization, and the new market economy that had caused such anxiety in the mid nineteenth century, abandoned their fear and turned their full attention toward work and the accumulation of wealth. The pace set by this new regiment of work in the industrial economy gave Americans less leisure time and more options on how to use it. Rather than attend meetings, revivals, or séances for entertainment, the twentieth century brought a whole host of other amusements to urban life including movies and nightclubs. All of these factors gradually led the public away from Spiritualism and its pursuits.

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[156] Ibid., 2.

CONCLUSION

Science, Spiritualism, and a Shifting Landscape

Spiritualism existed long before science—in the modern meaning—took root. Our ancestors have long worshiped supernatural forces, natural elements, and the spirits of their dead. To them, these things possessed real power—a power that could affect their daily lives. Science and the systematic way by which it promoted knowledge and established the principles of natural law changed that for many. Knowledge, as the old adage says, brings power and science brought knowledge to man. Science, with its various methods and approaches, was and is a very powerful tool in mankind's arsenal; not because it creates the technology of today, but because it forces us to use logical, intellectual reasoning to uncover the truths of the universe, which in turn allows us to make use of technology.

In the case of Spiritualism, science was both a blessing and curse. Since antiquity, science's basic tenets promoted the production of plausible theories to explain physical phenomena, be it the weather or the properties of fire. Beginning in the Renaissance with Bacon and others like him, science began to change its focus. This new breed of natural philosophy saw the universe as a mechanical device that followed certain laws and patterns, which those philosophers believed were discernible through keen observation. Any educated person could undertake science because it was just a matter of developing intelligent experiments, applying keen and careful observation, and drawing logical conclusions. Overall, educated and discerning persons were welcomed to take up science, and many did.

Another definitive change was that it was that theories to explain nature's processes now required proof. Previously, discourse was the main method of dissemination. A natural philosopher developed a theory and proclaimed it to his audience without any significant evidence, just on the basis of carefully reasoned philosophy. Unless another naturalist refuted the theory with evidence, it often gained acceptance from the public. In many cases, new information disproved faulty theories, relegating them to the scrap heap of unacceptable experiments and replacing them with new ideas, such as Ptolemy's geocentric cosmology. From then on, however, science expected naturalists to conduct observations and collect data to present with their theories in order to bolster their claims from the start with empirical evidence. This radical shift focused science into a more material mindset, inspiring natural philosophers to experiment and record the results obtained through their physical senses and the instruments newly developed for that purpose. Through these precise measurements and careful experimentations, scientists could prove their theories to anyone with the same highly honed senses and superbly calibrated instruments. In the late nineteenth century and early twentieth century, repeatable and verifiable experiments became the basis for acceptance of new knowledge among natural philosophers. When a topic offered no easy means of experimentation or any appreciable, verified data, science created grand theories that might explain the phenomena later through observation.

Spiritualism had no easy means to produce reliable and verifiable data for science. Early Spiritualist philosophers like Emmanuel Swedenborg and Andrew Jackson Davis espoused convictions that mirrored natural philosophy and implied a connection between their beliefs and the scientific canon of the age. Science failed to attack these claims because they had little substance and provided no physical evidence. Like any faith, early Spiritualism required a strong belief gained through

personal experiences and philosophies. Science, therefore, had little ground to refute any practice that was an expression of faith. This, however, changed rapidly and after the Fox sisters ushered in the era of the physical Spiritualist medium. As a result, science was presented with physical claims that needed addressed. Physical mediums, however, notoriously unreliable at their art, were unable to produce significant spirit contacts or phenomena under scientific test conditions and this lack of ability spelled "fraud" for most scientists. Accordingly, most scientists refused to dignify the practice with their interest. Scientists and other intellectuals who investigated the validity of Spiritualism typically fell into one of two camps after their experiences—converts or hostile skeptics.

Converts frequently started as skeptics. Most, however, engaged in the investigation of Spiritualism due to grief that they experienced after a loved one's death. These investigators, emotionally invested in the process, became converts after a few "successful" séances. Judges Edmonds and McDonald and even attorney John H. Bradley fell into this category. By contrast, the hostile skeptic usually began as a neutral skeptic—often a curious seeker of esoteric knowledge. Emotionally secure and expecting nothing, these skeptics performed investigations that were methodical and demanding. Stymied by fraud, charlatans, or the general inability of mediums to perform in a convincing fashion, these investigators developed a hostility for mediums and the Spiritualism movement as a whole, often turning to debunking the practice either in print or person. Houdini was a good example of the hostile skeptic, as was the scientist Michael Faraday.

As these conflicts played out, the practice and pursuit of science underwent another change. In the nineteenth century, European universities, especially in Germany and France, began to emphasize specialization in graduate learning rather than the traditional approach, which focused on a well-rounded educational

experience. This change allowed students and professors to focus more specifically on their selected discipline, and, in turn, prompted them to develop an even deeper specialization within their subspecialties upon which they conducted original research. This system advanced the state of European science by large measures and the United States, seeing this success, followed suit. This new trend toward specialization added layers of complexity as scientific disciplines created specialized terms and jargon. This jargon, along with the scientific community's proclivity to communicate amongst peers, effectively distanced the public from most scientific discourse. In addition, scientists trained in these new academic environments increasingly pursued "science for the sake of science," keeping their focus solely on the advancement of their particular discipline and ignoring practical applications of their experiments. These shifts required those practicing the scientific arts to acquire a deeper, more specialized education in order to understand the complex issues within each discipline and excluded most laypersons from the discussion.

This isolation of science from the public created grave problems for Spiritualism, which had long traded upon the symbols and theories of science. Most people failed to understand this new, specialized variety of science, and Spiritualists were no different. In Spiritualism's heyday in the mid to late nineteenth century, nature and her physical systems were the theoretical guides of science, and empirical evidence meant simply that one had to be convinced that something occurred through the use of one's physical senses. The specialization of science, however, raised the bar for providing evidence, and theories began to look outside nature and its easily observable systems that had worked to Spiritualism advantage. Scientists also developed new instruments that allowed them to observe and understand the many forces, invisible to the human eye, at work in the universe. While these new instruments proved the existence of many forces and organisms that were previously

unknown, they offered no evidence to help prove Spiritualists' tenets and in many cases the new evidence worked to disprove its claims.

As science developed along those lines, Spiritualists had little choice but to downplay their once heavily scientific rationalizations for their beliefs. It was quite clear that Spiritualists were no longer able to borrow freely from science. It was impossible for the modern Spiritualist movement to lean on science because, even after decades of trying, mediums and other followers had proven unable to demonstrate their beliefs to science's satisfaction. Also at issue was their practitioners' inability to utilize the complexities of modern science to advantage. In fact, every attempt to do so appeared more and more ridiculous to science and to the public. Theories about ether and other Spiritualistic elements were proving impossible to substantiate, even as master scientists offered proof of radiation and other invisible elements in their specialties.

This combination of elements led the vast majority of the public to disregard Spiritualism as a religion as well as a true physical phenomenon. The once popular movement, stripped of science as a crutch for its theories, became a hollow shell of its former self. In the past, science and Spiritualism had shared some common elements and outlooks. Spiritualists, like Bradley, had fared well by borrowing from science and natural philosophy in their early writings. Later, these individuals, however, paid the price as science evolved and left them behind.

In the end, Spiritualists were right about one thing—if you are beneath the attention of science, you are irrelevant. They fought hard to gain the notice of science in the early years. Spiritualists, like society, were enamored with the progress they saw in the world due to science and its great stores of knowledge. They knew that if their movement was to thrive and be prominent within the public's mind, science had to accept and endorse Spiritualism. Their own education and philosophies told them

that the two could coexist; in fact, to them they were highly complimentary pursuits. Scientists did not see it that way. As science became more specialized and gained tighter control over its methods and procedures, Spiritualists clumsily and desperately reached for complex theories of spectral science and grander demonstrations of ghostly power. As a result, scientists could now see the clear threat Spiritualism offered and they, as well as many other skeptics went on the offensive. Their combined efforts devastated the movement, exposing many respected mediums as frauds and renouncing the claims of Spiritual scientists as deluded.

Spiritualists, in all of their clamor for science's notice, should have considered that to science, especially material science, proof is paramount. Those who try to wrap themselves in the fabric of science, as Spiritualism did better be able to provide the required proof or be exposed as charlatans. Given science's importance and standing in nineteenth and twentieth century society, any movement seen as falsely seeking to share in science's credibility with the public or incapable of supporting its elaborate claims with evidence was worse than irrelevant—it was repugnant. Spiritualism, as we have seen, experienced such a backlash, as its popularity, predicated on empirical sensations and scientific experimentation, faltered and it had to retreat into the realm of metaphysics and religion where it still resides today. Spiritualism seems to have learned a lesson from its past, and it no longer seeks the approval of science. Today, the movement is satisfied remaining outside of science's crosshairs. Spiritualism's lesson still holds true today for other questionable groups that might wish to embrace science for their own ends. Invariably, invoking science and its authority invites its scrutiny and, should the evidence be found wanting, eventually its scorn.

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