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<https://escholarship.org/uc/item/22x3946z>

### Author

Mcloughlin, Nancy

### Publication Date

2002

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Peer reviewed

*When What Does Not Exist May Be Useful: The Evolution of Franz Anton Mesmer's Theory of Animal Magnetism from an Orthodox Explication of Human Tidal Flux to a Heterodox Practice of Charismatic Healing*

Debate over the relationship(s) between science, religion, magic, and pseudo-science festers in many contexts.<sup>1</sup> These terms and the world-ordering practices they represent are locked in a struggle that is persistent, highly charged, non-innocent, and almost timeless.<sup>2</sup> Historically, contextually specific definitions of these terms have been used to persecute individuals, justify colonization, order social relations, and monopolize funding. Intellectually the resolution of their relationship lies at the foundation of the Western pursuit of knowledge.<sup>3</sup> While certain historical periods and contexts have been marked by an apparent resolution of these terms and their relationships, current work in anthropology and history of science has unsettled some contemporary understandings of these terms within the academic context.<sup>4</sup> Bruno Latour has suggested that science is merely

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<sup>1</sup>Stanley Tambiah outlines the history of the real and perceived relationships between rationality, religion, magic, and “traditional thought” in *Magic, Science, Religion, and the Scope of Rationality* (Cambridge: Cambridge University Press, 1990). H.M. Collins in *Changing Order Replication and Induction in Scientific Practice* (London: SAGE Publications, 1985) and H.M. Collins and T.J. Pinch in *Frames of Meaning: The Social Construction of Extraordinary Science* (London: Routledge and Kegan Paul Ltd., 1982) discuss some aspects of the twentieth century relationship between science and pseudo-science.

<sup>2</sup>Tambiah traces the roots of the category of magic in Western thought to the demarcation between efficacious pagan idolatry and true worship in pre-exilic Israel and the demarcation in ancient Greece between logical explanations attributing the events of nature to regular causes and those attributing events to divine intervention. Tambiah also questions the implications of extending the scientific mode of thought into the social sphere. See *Magic, Science, Religion, and the Scope of Rationality*, 6-11; 151-154. My portrayal of the on-going and non-innocent conflict between world-ordering practices is taken from Donna J. Haraway's works, specifically *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (New York and London: Routledge, 1989) and *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991).

<sup>3</sup>For example, see Haraway's discussion of the cultural roots and implications of primatology research in *Primate Visions*. Also see Collins and Pinch, *Frames of Meaning*, 2. While the term “Western” may be problematic, it pervades the literature. By “Western,” I am referring to knowledge-making processes with geographical roots in western European and American scholarship that may have been since exported to other regions.

<sup>4</sup>See Tambiah's history of interpretations of “science” and “rationality” within the field of anthropology in *Magic, Science, Religion, and the Scope of Rationality*, 42-110.

a smoke screen hiding the proliferation of nature-culture hybrids so their production may continue without limit. According to this definition, science merely differs from other world ordering practices in style and by degree.<sup>5</sup> Others, while recognizing the technological achievements of scientific thought, some scholars have questioned application of science to the social sphere.<sup>6</sup>

The eighteenth century evolution, practice, and scientific condemnation of animal magnetism are interesting in light of the issues discussed above.<sup>7</sup> Animal magnetism, like other medical practices, was located at the juncture of the abstract world of scientific theories and the social world of individual meaning-making practices. Animal magnetists attempted to hold themselves accountable both to the academy and to their patients. This attempt failed, and magnetism was subsequently characterized by the scientific assemblies of its day as a fraudulent practice derived from pre-Enlightenment occult theories whose effects could be attributed entirely to the imagination. However, this scientific condemnation did not mark the end of the practice of magnetism and subsequent attempts to designate magnetism as either science or non-science have not been conclusive.

Franz Anton Mesmer originally presented animal magnetism as a medical theory linking the movements of the stars to human health as his doctoral dissertation in 1766. Mesmer's theory quickly evolved into a method of using one person's (the practitioner's) "human magnetism" to correct an other's (the patient's). Several miraculous cures were reported and what has been described as a cult flourished around Mesmer and his disciples until the practice was officially condemned by the Royal Academy of Sciences and the Royal Society of Physicians in 1784. The condemnation, however, was not successful. The practice of magnetism spread to England and the United States. Individuals continued to experience magnetic cures and clairvoyance well into the nineteenth century.

The clairvoyant capacities of Mesmerism were particularly attractive and precipitated a second investigation of the scientific validity of

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<sup>5</sup>Bruno Latour, *We Have Never Been Modern* (Cambridge, Massachusetts: Harvard University Press, 1993).

<sup>6</sup>Tambiah, *Magic, Science, Religion, and the Scope of Rationality*, 151-154. This critique is common in anthropology of medicine. See the work of Arthur Kleinman describing medical systems as cultural systems (there are many) and Byron Good, *Medicine, Rationality and Experience: An Anthropological Perspective* (Cambridge: Cambridge University Press, 1994).

<sup>7</sup>The following summary of the history of animal magnetism is based on summaries in Adam Crabtree, *From Mesmer to Freud: Magnetic Sleep and the Roots of Psychological Healing* (New Haven and London: Yale University Press, 1993) and Alan Guald, *A History of Hypnotism* (Cambridge: Cambridge University Press, 1992).

Mesmerism by the French Academy of Sciences in 1834.<sup>8</sup> This report was less conclusive. Embraced by literary figures such as Harriet Martineau and adopted by American proto-spiritualists, the movement continued to flourish until the discovery of Ether weakened its support in the medical community and the definition of hypnotism scientized the practice.<sup>9</sup> The legacy of Mesmer, however, remains questionable. He has been labeled both a fraud and an important contributor to the field of psychology. Mesmer has been claimed as a founding father by Christian Scientists, Hypnotists, Psychologists, and ESP proponents. Mesmer's legacy has scientific, pseudo-scientific, and religious appeal.<sup>10</sup> For this reason an investigation of the practice of Mesmerism within its historical context may provide some useful insights, for historians of science and for anthropologists, regarding the science-magic-religion-pseudo-science question in general and the relationship between science and medicine in particular.

This paper will regard Mesmerism in two historical snap-shots. The first is Mesmer's initial formulation of the idea of animal magnetism as presented in his doctoral dissertation at the University of Vienna. The second is the interaction between Mesmer and the establishments of French Enlightenment Science in 1784. These instances have been chosen in order to emphasize the change in style and content between Mesmer's work as a student of theory and Mesmer's work as a practicing physician.

### *Mesmer's Dissertation*

In 1766, Franz Anton Mesmer submitted a doctoral thesis to the faculty of medicine at the University of Vienna that proposed a link between the movement of the planets and human health.<sup>11</sup> This link, Mesmer argued, is the same force, which as discovered by Newton, orders the

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<sup>8</sup>*Animal Magnetism: Report of Dr. Franklin and Other Commissioners, Charged by the King of France with the Examination of the Animal Magnetism as Practiced at Paris*, (Philadelphia: H. Perkins, 1837), 45-58.

<sup>9</sup>See Gauld, *A History of Hypnotism* for general history.

<sup>10</sup>Crabtree asserts that Mesmer is an important figure in the history of psychology. Gauld denies this and casts Mesmer as a naive hypnotist. Stephen Jay Gould portrays Mesmerism as an irrational craze dutifully corrected by the investigation of 1784. See Stephen Jay Gould, "The Chain of Reason vs. the Chain of Thumbs" in *Natural History* (July 1989): 12-21.

<sup>11</sup>Mesmer's dissertation is reproduced in English in George Bloch, *Mesmerism: A Translation of the Original Scientific and Medical Writings of F.A. Mesmer* (Los Altos, California: William Kaufmann, 1980), 1-22. All references made to Mesmer's dissertation are taken from Bloch's translation unless otherwise indicated.



movement of the planets themselves. However, Mesmer did not yet argue that Newton's universal gravity affects human beings directly.<sup>12</sup> Instead, he extended Newton's theory of the tides to include two complementary mechanisms of planetary effects on humans. First, Mesmer suggested that the atmosphere, because it contains water, mimics the tidal flux of the oceans. Mesmer estimated, "that at the time of the high tide, the atmosphere becomes about ten or twelve times higher."<sup>13</sup> According to Mesmer, an air-pressure fluctuation of such a great magnitude, clearly exercises an effect on human perception, mood, and well-being.<sup>14</sup> Second, Mesmer suggested, that like the atmosphere, humans also contain liquids. Therefore, by extending Newton's explanation of the tides step by step, he was able to conclude that humans experience internal tides in response to the movements of the planets. Mesmer supported his conclusion with famous case studies that linked medical symptoms to the lunar cycle. The symptoms he cited include: a girl with a swollen face, hysteria, madness, menstruation, periodic hemorrhages in men, ulcers, renal pains, and epidemics. All of Mesmer's anecdotes were drawn from literary sources.<sup>15</sup>

In spite of the literary nature of his evidence, Mesmer's thesis was accepted. He passed his medical examinations with honors and received his doctorate in medicine that same year.<sup>16</sup> In fact, the structure and content of Mesmer's thesis, including his lack of experimental evidence, places his work clearly within the bounds of Enlightenment science.<sup>17</sup> Mesmer's thesis consists of three parts: an apologetic introduction; a popularized rehearsal of Newton's discoveries; and his own, literary based conclusions. These parts come together in a carefully constructed whole that reveals the reception that Mesmer anticipated, his specific career objectives, and the limitations of his field.

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<sup>12</sup>In later writings Mesmer did suggest that human health is affected by a force that is similar to gravity and does act directly on human equilibrium. The practice of animal magnetism was based on this later theory. See Bloch, *Mesmerism: A Translation*, 43-76.

<sup>13</sup>Bloch, *Mesmerism: A Translation*, 12.

<sup>14</sup>Bloch, *Mesmerism: A Translation*, 12-14.

<sup>15</sup>Bloch, *Mesmerism: A Translation*, 14-20.

<sup>16</sup>E. R. Hilgard, "Introduction" in Bloch, *Mesmerism: A Translation*, xii. Apparently the University of Vienna was a first rate medical school. See Gauld, *A History of Hypnotism*, 2, and Crabtree, *From Mesmer to Freud*, 4.

<sup>17</sup>This statement is made on the basis of a comparison between Mesmer's dissertation and the work of other Enlightenment scientists. The similarities will be discussed in detail below. Robert Darnton also suggests that Mesmer's work was within the bounds of Enlightenment science in Robert Darnton, *Mesmerism and the End of the Enlightenment in France* (Cambridge, Massachusetts: Harvard University Press, 1968).

The apologetic tone of Mesmer's introduction indicates that Mesmer did not expect his audience to accept his theory without serious objections. Mesmer anticipated opposition for two related reasons. Not only was Mesmer a mere degree candidate, but distinguished leaders of his profession had already rejected the idea that he was proposing. The introduction begins:

There are people who will frown upon me and from whom I will incur reproach when they read the title of this small thesis. They will see that a man like myself, though without importance, is undertaking, after so many efforts of the distinguished Mead, to insist on the influence of the stars, a doctrine rejected a long time ago by the action of the scientific leaders of the medical profession.<sup>18</sup>

These opening lines reveal more about Mesmer than the fact that he must humble himself in order to receive his degree. First of all, he recognized the controversial nature of his work and was consciously scheming to make it more acceptable. Second, he was familiar with the history of the idea he was attempting to resurrect and was consciously breaking with that history. Third, Mesmer believed that his theory would enjoy a more favorable reception than Mead's.<sup>19</sup> At the same time that Mesmer apologized for his apparent arrogance, he placed himself outside the constraints of his predecessors and contemporaries. Clearly, Mesmer was setting himself apart as someone capable of surpassing other investigators both in understanding and in discovery.

Mesmer's apologetic introduction, however, is not a defensive reaction to criticism already received. Instead, it is a rhetorical device designed to increase the acceptability of his proposal. Mesmer accomplished this with three strategies. These are: separating his own project from astrology, excusing the apparent arrogance of his undertaking, and inviting more able scientists to join him in his work. In all three cases, Mesmer anticipated his opposition in order to subvert it. By mentioning his detractors first, he positioned them as foils for the remaining discussion. By illustrating that he was wrongly accused and understating the size of his project, Mesmer claimed rationality for himself. As he states:

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<sup>18</sup>Bloch, *Mesmerism: A Translation*, 3.

<sup>19</sup>Richard Mead was an English physician and a personal friend of Newton's who proposed a theory similar to Mesmer's. Mesmer consciously modeled his work after Mead. In fact, Mesmer apparently borrowed directly from Mead's work without giving Mead credit. See Crabtree, *From Mesmer to Freud*, 4 note 2, and Vincent Buranelli, *The Wizard from Vienna* (New York: Coward, McCann and Geoghegan, 1975), 35.

I emphasize that I do not wish to defend the theory regarding the influence of the stars which was formerly defended by the astrologers, who boast powers to predict events to come and to know the destiny of men and at the same time swindle them of the contents of their purses thanks to a skill filled with deceit. My purpose is solely to demonstrate that the celestial bodies act on our earth.<sup>20</sup>

The opposition that Mesmer created between his own undertaking and the practice of astrology was rhetorically useful for two reasons. First, Newton had already demonstrated that “the celestial bodies act on our earth.” Second, by collapsing Mead’s detractors with those who may have accused Mesmer of practicing astrology, Mesmer obscured Mead’s theoretical and personal relationship with Newton. In this manner, Mesmer reduced the significance of the medical profession’s previous rejection of Mead.

Finally, in order to confirm that he was neither overestimating his own abilities nor operating outside the principles of science, Mesmer invited others to join him in his efforts. Mesmer suggested:

Were these reflections of ours looked into by someone with more free time than myself and a natural bent for it, he might take the matter in hand so as to advance and amplify upon these ideas. The most important rational and methodical manner of treatment lies wherein such a person could demonstrate concisely the origins of the influence of the stars on disease, because such would be most useful and desirable.<sup>21</sup>

Through this suggestion, Mesmer increased the credibility of his ideas by implying that a more skilled, and careful observer would have shared his evaluation of the phenomena. By doing so, he simultaneously weakened the impression that he was operating on his own initiative and portrayed himself as an exemplar scientific of diligence. Mesmer’s introduction concludes:

As far as I myself am concerned, I will work, by means of experiment and continuous observations, within the measure of my meager forces, to advance this discipline and know it more fully so that all of medical science can profit from it!<sup>22</sup>

Suddenly Mesmer’s suggestion that other scientists investigate these matters takes on an admonishing tone. According to Mesmer, he pursued

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<sup>20</sup>Bloch, *Mesmerism: A Translation*, 3.

<sup>21</sup>Bloch, *Mesmerism: A Translation*, 4.

<sup>22</sup>Bloch, *Mesmerism: A Translation*, 4.

these ideas diligently and to the best of his ability only because others had not realized their importance.

Mesmer did not, however, proceed with experiments. In fact, he performed none. Mesmer's text consists of a summary of Newton and a summary of well-known medical case histories. Neither represent experiments or data gathering performed by Mesmer himself. The only experiment that Mesmer performed was a thought experiment investigating the possibility of gravitational tides in humans. Moreover, Mesmer's summary of Newton lacked the usual attendant equations, experiments, and philosophical debates.<sup>23</sup> Rather than attempting to prove something new, it appears that Mesmer was rehearsing the obvious. This appearance was both intentional and necessary. Mesmer expected his audience to accept his own theory without question in the same manner that he assumed that his audience accepted the theories of Newton. Mesmer was forced to rely on Newton's authority because he did not have new or concrete evidence to support his theory.

True to his word, the body of Mesmer's work demonstrated that "celestial bodies act on the earth." In the process, he attempted to re-write history. While it may appear that Mesmer was merely restating an accepted version of events, it is important to remember that the history, as he told it, functions rhetorically. In this manner, Mesmer began his history by citing the long-standing human interest in the planets and the stars. He then observed that this interest has always been limited by superstition. According to Mesmer, Newton enters this history of human confusion about the planets as the singular bearer of clarity. Mesmer states:

During this epoch the great Newton arose. He searched the true laws of nature with the aid of geometry, forced to our consciousness the structure of the world itself, and established the laws of attraction, by which the machinery of the universe is governed.<sup>24</sup>

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<sup>23</sup>Acceptance of Newton's theories cannot be taken for granted in all contexts. For example, Mesmer would not have been able to build on Newton's ideas without philosophical, mathematical, or experimental support if he had been presenting his theories to a Parisian audience less than a quarter of a century earlier. Mesmer's lack of any supporting documentation regarding Newton's theories suggests that these theories were firmly established as fact in the minds of his audience. See Maupertuis, *Dissertation on the Different Figures of the Celestial Bodies* (1734) for comparison.

<sup>24</sup>Bloch, *Mesmerism: A Translation*, 5. According to Mesmer, Newton, enters a world plagued by confusion, as a quasi divine figure who uncovers the truth. Mesmer's historical reconstruction of Newton's contribution to astronomical understanding resembles a myth of origin in its context and structure. Recent scholarship has shown that origin myths reflect acts of re-structuring rather than outright creations. See especially scholar-

Following his praise of Newton, Mesmer proceeded with a progressive explanation of attraction between bodies; the role of mutual attraction in the shape, center, and irregularities of planetary orbits; and finally, the effects of the sun and the moon on the earth's orbit and on oceanic tides.

In the course of his elaborate explication of attraction, Mesmer did not introduce new ideas or data. He did however, create an intricate picture of an interdependent solar system driven by mutual attraction. This interdependent system of attraction forms the foundation of Mesmer's discourse. Mesmer implied that Newton had discovered an entirely new universe and that only Mesmer's theory explained the mechanism of health and sickness within this universe. Mesmer's co-optation of Newton is admirable both as a career strategy and as a technical accomplishment. Through his step by step historical reconstruction and explication of attraction, Mesmer rendered his theory matter of fact. Having established the effect of the sun and the moon on the tides via Newton's authority, Mesmer suggested:

When we realize that all of these things occur in this manner, it becomes evident that there is almost no change which happens in the heavenly bodies without its influencing the fluids and solids of our earth in agreement. Then, who would deny that the animal machine would, in these circumstances, be agitated to a certain degree by the same causes? The animal is a part of the earth and is composed of fluids and solids, and when the proportion and the equilibrium of these fluids and solids are modified to a certain degree, very perceptible effects will occur from this.<sup>25</sup>

Through this argument, Mesmer successfully linked his theory to Newton's. In order to suggest that humans do not have tides, his opponents were forced either to deny that the sun and moon affect the tides or to deny that humans are composed of fluids and solids from the earth. Denying the first assumption contradicts Newton's discoveries. Denying

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ship linking the first three chapters of Genesis with the Near East myth of *Enuma Elish* and current discussions of the Christian myth of origins. For example, see Jonathan Z. Smith, *To Take Place: Toward a Theory in Ritual* (Chicago and London: University of Chicago Press, 1987), 1-23., and Burton Mack, *A Myth of Innocence: Mark and Christian Origins* (Philadelphia: Fortress Press, 1988). Donna Haraway in *Primate Visions* and Bruno Latour, in *We Have Never Been Modern* reject the myth of origins as inappropriate for a postmodern age. It is important to note, however, that Mesmer embraced this myth whole-heartedly.

<sup>25</sup>Bloch, *Mesmerism: A Translation*, 13.

the second assumption suspiciously leaves room for the idea that the human body primarily consists of a soul or life force.<sup>26</sup>

Having secured his argument, Mesmer momentarily refrained from discussing his case histories. Although it appears that he could have done so, having already assumed that bodies made of fluids and materials respond to celestial movements, he instead carefully framed his evidence by establishing the precise mechanisms of planetary effects on human well being. First, Mesmer proposed that the atmosphere has tides and therefore exerts a tidal effect that operates through air pressure and weather to affect human health. Second, Mesmer claimed that human fluids themselves have tides. He explained:

When we have taken all of these things into consideration, the paradox will seem less if we assert that a tide takes place also in the human body, thanks to the same forces which cause the expansion of the sea and also the atmosphere, and that our humors are agitated in diverse ways in their ducts {vessels}, being perturbed, raised and carried more copiously towards the head. In plants, there is a very obvious ascension of the sap at the time of the full moon.<sup>27</sup>

While, this argument may seem redundant considering the argument mentioned above, it functioned specifically to frame Mesmer's theory so that it appeared to be rationally secure. Human tides were rendered equally natural as sap rising in a plant.

Mesmer's act of framing was crucial because the case studies that Mesmer cited were not new, but recycled. In order to justify their use in his original contribution to the medical field, Mesmer was required to devise a new way of looking at these case studies. This is particularly important since the previous existence of these case studies had not bolstered Mead's officially rejected claim that the movements of the stars influence the human body. Finally, there is a problematic resemblance between the case history and religious testimony that will become more apparent in the fol-

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<sup>26</sup>Debate concerning the life force or soul was not settled at the time that Mesmer wrote his dissertation. It was, however, an unattractive argument to bring into a scientific discussion as displayed by D'Alembert's attempt to place the concerns of the soul outside science without dismissing its existence. See Jean Le Rond d'Alembert, *Preliminary Discourse to the Encyclopedia of Diderot*, trans. Richard N. Schwab (Chicago and London: University of Chicago Press, 1995), 52-53. Note that while D'Alembert places theology before the study of natural sciences on his tree of knowledge, his work is the preface to the study of natural science. The question of the soul has, in effect, been dismissed. The original publication date of the *Preliminary Discourse* is 1751.

<sup>27</sup>Bloch, *Mesmerism: A Translation*, 15.

lowing discussion of Mesmer's practice in Paris.<sup>28</sup> Bracketed by Mesmer's frame, these histories can now be read, not as mere records of recurrent disease, but as records of gravitationally induced human tidal flux.

It is important to note that while case histories were a problematic source of evidence, as reflected by Mesmer's careful argumentation, their use was not unique to Mesmer. Other, successful Enlightenment scientists used the literary anecdote, or case history, as the primary mode of illustrating their theories. For example, Buffon's *Natural History* relies solely on an attraction based reinterpretation of the anecdotal evidence provided by animal husbandry and the discoveries made in the New World in order to support Buffon's definition of species.<sup>29</sup> Similarly, Maupertuis' *The Earthly Venus* argues from generalized and anecdotal observations that generation results from the combination of male and female seminal fluids.<sup>30</sup> Moreover, many of the theories regarding the effects of electricity on the human body were derived from the self-experimentation and subsequent

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<sup>28</sup>Mesmer's relationship to the faith healer, J.J. Gassner is uncertain. According to Mesmer, Gassner was an overzealous faith healer who misunderstood the reasons for his own success. Mesmer claims to have been called upon by the elector of Bavaria in order to prove that Gassner's results could be achieved through magnetism, supporting a scientific rather than religious origin for Gassner's success. However, the Royal Physicians and the contemporary historian, Robert Darnton, insinuate a professional relationship between Mesmer and Gassner, suggesting that Gassner's work inspired Mesmer's magnetic theories and practices. For arguments against a professional relationship between the two, see: Bloch, *Mesmerism: A Translation*, 57-58, Crabtree, *From Mesmer to Freud*, 8-9, Gauld, *A History of Hypnotism*, 16, Hilgard, "Introduction" in Bloch, *Mesmerism: A Translation*, xv-xvii, Darnton, *Mesmerism*, 48, and "Report of a Committee of the Royal Society of Medicine" in *Animal Magnetism: Report of Dr. Franklin*, 5-6 note 1.

<sup>29</sup>Buffon's theory of species degeneration contradicted Linnaeus' system of classification and emphasized the participation of both sexes in reproduction. In spite of the contested nature of his claims, Buffon's evidence consisted of generalized observations of animal breeding practices that are similar to Mesmer's case studies in quality. Moreover, Buffon's entire *Natural History* is grounded in an interdependent, attraction driven portrayal of the universe that closely resembles Mesmer's portrayal. For Buffon's use of anecdotes as evidence, see Buffon's *Natural History*, published 1749-1789. For Buffon's description of an attraction see George Louis Le Clerc, Comte de Buffon, *Barr's Buffon*, vol. 10, 328.

<sup>30</sup>According to Maupertuis, the principles of attraction ensure that like parts come together from the male and female fluids to produce an organized animal. For evidence, Maupertuis offers the following observations: children often resemble both parents, physical traits often skip generations, monsters often occur because of a surplus or deficiency of parts (for example, six fingers or two heads), and surplus parts always occur in the correct place (for example, extra fingers occur on the hand). See Maupertuis, *The Earthly Venus* (1745).

reflections of its investigators.<sup>31</sup> While the problems associated with the inclusion of case studies in scientific treatises were recognized, the combination of several factors allowed these problems to be overlooked. Some of these factors were: the lack of other evidence, the excitement sparked by descriptions of newly explored territories, and the apparent aesthetic and socio-political benefits of re-interpreting the universe as ordered by one principle only, mutual attraction.

Mesmer's use of case histories is not the only instance of overlap between Mesmer's work and that of other Enlightenment scientists. Two parallels are particularly striking. The first parallel occurs between Mesmer's application of Newton's theories to the field of medicine and Maupertuis' application of Newton's theories to the measurement of the shape of the earth in his *Dissertation on the Different Figures of the Celestial Bodies*. Like Mesmer, Maupertuis offered no new theories or data. His *Dissertation* merely recycles the observations of others for the purpose of creating a new application for Newton's theories. Like Mesmer, Maupertuis suggested that further investigation, in this case an expedition measuring the earth, would validate his mathematical application of Newton's concept to determine the shape of celestial bodies.<sup>32</sup> The second parallel occurs between Mesmer's apologetic introduction and the apologetic rhetoric of John Turberville Needham's *Microscopical Discoveries*. Like Mesmer, Needham excused his lack of status within the scientific community<sup>33</sup> and the controversial nature of his discoveries by understating the scope of his work.<sup>34</sup> Like Mesmer, Needham suggests that he would not have been forced to introduce such great findings if someone of

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<sup>31</sup>For an amusing account of self-experimentation with electricity, see Needham, John Turberville, "A Letter from Paris concerning some New Electrical Experiments made There" (London: 1746). For a more generalized description of electricity experiments, see J.L. Heilbron, *Elements of Early Modern Physics* (Berkeley, Los Angeles, and London: University of California Press, 1982), 159-240.

<sup>32</sup>Maupertuis, *Dissertation on the Different Figures of the Celestial Bodies* (1734).

<sup>33</sup>Needham was an English Catholic priest and was forced to migrate to France in order to gain membership in the English Royal Society as its foreign correspondent. See Renato G. Mazzolini and Shirley A. Roe, *Science against the Unbelievers: The Correspondence of Bonnet and Needham, 1760 -1780*. (Oxford: University of Oxford, 1986).

<sup>34</sup>Needham understated the theoretical underpinnings of his investigation by presenting his discoveries as a random collection of findings. However, he was well aware of and openly admitted to the importance of his findings, which suggested the possibility of spontaneous generation. See John Turberville Needham, *New microscopical discoveries containing observations* (London, 1745).



greater stature and ability had been willing to investigate them.<sup>35</sup> While these parallels are neither exhaustive nor complete, they may provide some insight into Mesmer's understanding of his epistemological situation and his specific aspirations.

Both Maupertuis and Needham were internationally established scientific figures at the time that Mesmer wrote his thesis. In both instances, the texts cited were the formative works in the successful careers of their authors and therefore represent successful strategies of self-positioning.<sup>36</sup> Finally, both works predate Mesmer's dissertation by a number of years. It is possible that Mesmer was aware of these particular works. However, even if he was not aware, these parallels indicate that the style and structure of Mesmer's thesis reflected an acute awareness of the scientific protocol of his time. In addition to indicating Mesmer's self-awareness, these parallels also reveal his aspirations. It is likely that Mesmer, like Needham, expected initial objections to his ideas. However, he hoped that the appropriate rhetoric would eliminate these objections and that his application of Newton's theories to the field of medicine would be accepted without replication.<sup>37</sup> Like Maupertuis, he expected his adaptation of Newton to firmly establish his reputation and standing in the scientific community. These aspirations were not unfounded. If Mesmer had succeeded, he might now be considered one of the great thinkers of his day. However, Mesmer was limited by the conditions of medical practice and the exclusive use of the case history as evidence.

#### *Mesmer's Practice and Its Reception:*

A marked change occurred in Mesmer's style and the medical community's acceptance of his work between the completion of his degree in 1766 and his presentation of Animal Magnetism to the Parisian public in 1779. At that time, Mesmer circulated a document entitled, "Dissertation/

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<sup>35</sup>See Needham, *New microscopical discoveries*, vi-vii. Needham's invitation is not genuine as suggested by a passage indicating his failed attempts to preserve his samples and the difficulty of obtaining similar samples. See *New microscopical discoveries*, 45-46.

<sup>36</sup>The idea that Mesmer was consciously positioning himself within a field of other scientists is taken from Mario Biagioli's description of Galileo's self-fashioning in *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago: University of Chicago Press, 1993). This approach portrays Mesmer as a highly self-conscious and calculating individual, however, his successful career supports this impression.

<sup>37</sup>Needham's surprise and anger at attempts to replicate his discoveries are expressed in his letters to Bonnet. See Mazzolini and Roe, *Science Against the Unbelievers*.

Memoire On the Discovery of Animal Magnetism.” The “Dissertation” consisted of a history of Mesmer’s work and a list of twenty-seven general principles. In it Mesmer defined animal magnetism as the susceptibility of humans and other living organisms to the movement of a subtle fluid that acted upon the nerves. The dissertation traced the evolution of Mesmer’s practice from his attempts to use mineral magnets to manipulate the magnetic flux in humans to his realization that this force may be manipulated without the use of a mechanical device. Mesmer claimed that the manipulation of this fluid could prevent and cure all illness and that an acceptance of this fluid would revolutionize human understanding of physics.<sup>38</sup>

This new definition and presentation style reflects a drastic departure both from Mesmer’s previous theory of human tides and from the basic protocol of Enlightenment science. The version of animal magnetism that Mesmer presented to the Parisian community was completely distinct from the forces of gravity, varied from person to person, and could be manipulated only by certain individuals possessing special capacities.<sup>39</sup> Because the capacity to magnetize resided in the individual, no instruments were required for its manipulation. The practitioner could perform the operation by merely pointing his finger at the patient. These claims seriously violated the accepted scientific aesthetic.<sup>40</sup> Moreover, Mesmer’s errors were not limited to theory. The “Dissertation” is cluttered with the history of personal disputes between Mesmer and other physicians. It blames Mesmer’s failure to gain the scientific community’s approval on the purposeful sabotage and ill-will of certain individuals.<sup>41</sup> And finally, it is supported only by weak testimonials and one case study of questionable authorship.<sup>42</sup> In both its structure and content, the “Dissertation” suggests the absolute ignorance of its author regarding scientific protocol. It is not

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<sup>38</sup>Bloch, *Mesmerism: A Translation*, 43-85.

<sup>39</sup>Bloch, *Mesmerism: A Translation*, 43-85.

<sup>40</sup>This statement is based on the universal rejection of Mesmer’s ideas by the Parisian scientific assemblies rather than specific characteristics of Mesmer’s practice that excluded him from science. Forces distinct from gravity, forces that varied by situation, and the possible manipulation of forces by certain individuals all have parallels within orthodox and popular science. See Lavoisier’s *Elements of Chemistry* (1790), trans. Robert Kerr (New York: Dover, 1965). See also Buffon’s description of the degeneration of species and systems in his *Natural History*, and early hypotheses regarding the mechanisms of electricity. For an account of the relationship between magnetism and popular science see Darnton’s *Mesmerism*.

<sup>41</sup>Bloch, *Mesmerism: A Translation*, 43-85.

<sup>42</sup>Bloch, *Mesmerism: A Translation*, 43-85, esp. 71-76.

surprising that the “Dissertation” was rejected by all of the scientific assemblies in Paris.<sup>43</sup> In spite of his marginal status, Mesmer created a successful practice, recruited apprentices, and founded a secret society for the promotion of magnetism.<sup>44</sup>

Five years later, in response to the growing popularity of animal magnetism among influential members of society and the repeated demands for recognition put forth by Mesmer’s apprentice, Charles D’Elson, the French King initiated a two commission investigation into the claims and practices of the magnetists. One commission was drawn from the Royal Society of Medicine.<sup>45</sup> A second, joint commission was drawn from the Royal Academy of Medicine and the Royal Academy of Sciences. D’Elson’s role in promoting the trial and his participation in the procedures are significant. This participation suggests that D’Elson believed that magnetism would be vindicated in the trial process. However, D’Elson’s earnest requests for the investigation also suggest that the practice of magnetism may have been allowed to persist without investigation if D’Elson had not pushed for its recognition as a science.<sup>46</sup> Finally, D’Elson’s request for the evaluation of magnetism illustrates a major tension between the practice of medicine and the practice of science. According to D’Elson, the positive therapeutic responses of patients validated the practice of animal magnetism, regardless of its underlying principles.<sup>47</sup> According to the academic commission, however, the most important question was whether or not magnetism existed, for it could not be useful if it did not exist.<sup>48</sup>

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<sup>43</sup>Buranelli, *The Wizard from Vienna*, 93-99, Crabtree, *From Mesmer to Freud*, 12-13, Guald, *A History of Hypnotism*, 6.

<sup>44</sup>Mesmer arrived in Paris with introductions to influential people and was favored by the Queen until he insulted her. See Crabtree, *From Mesmer to Freud*, 12-15., Darnton, *Mesmerism*, 48-52., and Guald, *A History of Hypnotism*, 4-10.

<sup>45</sup>From this point forward, this commission will be referred to as the physician’s commission.

<sup>46</sup>Mesmer had abandoned the idea of scientific recognition by setting up his own society, but his practice was flourishing. See Darnton, Guald, and Hilgard. Hilgard suggests that Mesmer’s secret society contributed to his rejection by other scientific societies, Hilgard, p. xix. Darnton and Guald indicate, however, that Mesmer had already been rejected by these scientific societies before he formed his own.

<sup>47</sup>Buranelli, *The Wizard from Vienna*, 134. Crabtree, *From Mesmer to Freud*, 17.

<sup>48</sup>“Report of a Committee of the Royal Society of Medicine,” in *Animal Magnetism: Report of Dr. Franklin*, 13.

<sup>48</sup>“Report of a Committee of the Royal Society of Medicine,” in *Animal Magnetism: Report of Dr. Franklin*, 13.

In 1784 both commissions condemned animal magnetism as a non-scientific and socially dangerous practice, concluding that its effects were attributable only to touch, imagination, and imitation. Both commissions emphasized the perilous danger that the practice of animal magnetism presented for women and the general state of morality, drawing a direct correlation between susceptibility to animal magnetism and femininity.<sup>49</sup> In spite of the similarity of their conclusions, their modes of investigation and levels of engagement with the principles of animal magnetism differed. The physicians' commission merely assigned Thouret, one of its members, to summarize all "proto-magnetic"<sup>50</sup> ideas from ancient Greece through Paracelsus and to compare these ideas with the theories of magnetism. Following Thouret's argument, the Physicians committee concluded that Mesmer's theory was a relic of a previous time and wholly inappropriate in the context of enlightenment medicine. The academies, on the other hand, launched an extensive and thorough investigation of the effects of Mesmerism that included observing its "public process" and devising several experiments sought to isolate its causes. The differences between the two reports expose a lack of consensus among the scientific community about its own history and the definition of science. These differences also illustrate the particularly difficult epistemological position of the physicians within the context of enlightenment science.

The investigative power of the physician's committee was limited by the committee's inability to discount Mesmer's source of evidence. Mesmer, like all physicians, was forced to rely on the testimony and case histories of his patients in order to evaluate treatments and establish theories.<sup>51</sup> The committee was similarly limited in its ability to criticize the

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<sup>49</sup>The practice of mesmerism required prolonged massages of the abdomen and the passing of the hands over other regions of the body. Usually men mesmerized women. See Gauld, *A History of Hypnotism*, 28-29., and the discrediting of witnesses throughout the "Report of a Committee of the Royal Society of Medicine," *Animal Magnetism: Report of Dr. Franklin*, pp. 9-44.

<sup>50</sup>These ideas were deemed "proto-magnetic" according to Thouret's interpretation. Mesmer did not necessarily derive his ideas from any of the ideas that Thouret named as magnetism's precursors.

<sup>51</sup>Physicians are limited to case histories not only because of the variable nature of illnesses but also because they are accountable to the patient as well as to the academy. This accountability to the patient is suggested by the numbers of people of all social stations that continued to seek magnetic treatment even after magnetism was judged fraudulent and non-existent. In other words, the academics commission's methods were only efficacious within the academic context. See Gauld, *A History of Hypnotism*, 29-36.

dramatic and heroic elements of Mesmer's practice.<sup>52</sup> They may also have been limited in their ability to criticize Mesmer's use of personal touch. All of these characteristics of magnetism, while vehemently rejected in the report by the Academy of Sciences and Faculty of Medicine, resemble the practices of "orthodox" physicians, especially regarding the use of electricity.<sup>53</sup> These difficulties were further complicated by the fact that Mesmer and D'Elson commanded substantial followings.<sup>54</sup>

For these reasons, the physician's committee was unable to portray Mesmer as an unsuccessful or ineffective physician. Instead, the committee attempted to portray Mesmer as a deviant and a fraud.<sup>55</sup> The physicians' claim was not necessarily unfounded. It is highly possible that at the time of the committee's evaluation, Mesmer was a fraud.<sup>56</sup> However, the procedure that the committee followed in order to prove Mesmer's fraudulent nature is interesting whether or not the committee's verdict was true. According to the committee, Mesmer was not a true physician for two reasons. First, he acted against the best interests of his patients. Second, his ideas were inappropriate to an enlightened age.

Evidence supporting the physicians' claim that animal magnetists acted against the best interests of their patients is abundant in Mesmer's own writings. This claim is also supported by D'Elson's participation in the investigations conducted by the academic commission. According to the physicians' commission, "the partisans of the magnetism seem to bestow a greater attention to excite surprise in the spectators than salutary effects in their patients."<sup>57</sup> Both Mesmer and D'Elson induced crises for proof.

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<sup>52</sup>Mesmer's sympathizers often cited the unpleasant treatments of orthodox practitioners as their reason for seeking magnetic treatment. See Crabtree, *From Mesmer to Freud*, 15.

<sup>53</sup>See Mesmer's account of Miss Paradis' treatment before being taken into his care. While Mesmer may have been prone to exaggeration, one must assume that his exaggerations had popular currency. See Bloch, *Mesmerism: A Translation*, 71-72.

<sup>54</sup>Crabtree, *From Mesmer to Freud*, 12-37, Darnton, *Mesmerism*, 50-52.

<sup>55</sup>The physicians' accusation of fraud is reminiscent of accusations of heresy within the context of medieval Christianity and links this discussion to debates concerning purity and community definition. See R.I. Moore, *The Formation of a Persecuting Society: Power and Deviance in Western Europe, 950-1250* (Cambridge, Massachusetts: Blackwell Publishers, 1987).

<sup>56</sup>Gauld argues that Mesmer's intentions were genuine as evidenced by his life-long commitment to his system even in the face of great adversity. See Gauld, *A History of Hypnotism*, 16-17. It must also be noted, however, that practicing magnetism was very lucrative for Mesmer. See Darnton, *Mesmerism*, 52, and Gauld, *A History of Hypnotism*, 10. His true motivations, barring additional evidence, are beyond historical determination.

<sup>57</sup>"Report of a Committee of the Royal Society of Medicine" in *Animal Magnetism: Report*

This practice is immediately apparent in Mesmer's account of his treatment of Miss Oesterine. Mesmer reported that he purposefully disturbed the recovery of his patient in order to prove the efficacy of his practice in the audience of an important observer. While Mesmer was often careful to note that his patient was already experiencing distemper at the time of observation, his repeated tendency to produce convulsions in the patient in order to furnish proof rendered Mesmer's concern for the well-being of the patient questionable.<sup>58</sup> D'Elson, on the other hand, thrown at the mercy of the academic commission, repeatedly induced crises within the context of the commission's experiments. He even forced a small boy into several convulsions for the purpose of proving the magnetic nature of trees.<sup>59</sup> Clearly the patients' interests were not the sole or even the primary motivation for the actions of magnetism's chief practitioners. However, lack of concern for the patient does not necessarily exclude the practice of magnetism from enlightenment science or medicine.<sup>60</sup>

In addition to questioning Mesmer's intentions, the committee critiqued the theoretical basis of his practice. According to the physicians' commission, the idea that all disease is curable by a single mechanism was inappropriate to an enlightened age. In the words of the committee, "(t)hat to pretend to the discovery of a means of which shall extend to every kind of disease, that is, to an universal medicine, is an illusion which cannot be excused in an enlightened age."<sup>61</sup> This accusation is interesting because it reflects the method of investigation employed by the physicians more than it reflects the relationship between Mesmer's theory and its intellectual context. The physician's committee investigated the validity of magnetism by means of a historical comparison. Thouret traced the roots of animal magnetism from the ancient Greeks to the enlightened time, linking it to the idea of the universal soul. Specifically he compared Mesmer to Paracelsus, Van Helmount, Maxwell and Digby.<sup>62</sup> The purpose

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of *Dr. Franklin*, 6-7. For the importance of the demonstration in the Enlightenment, see Geoffrey Sutton, *Science for a Polite Society* (Boulder: Westview Press, 1995), 191-211.

<sup>58</sup>Bloch, *Mesmerism: A Translation*, 52-53.

<sup>59</sup>"Report of a Committee of the Royal Society of Medicine," in *Animal Magnetism: Report of Dr. Franklin*, 28-29.

<sup>60</sup>Electrical experiments often involved a human subject. See Needham, "A Letter from Paris" and Heilbron, *Elements of Early Modern Physics*, 159-240.

<sup>61</sup>"Report of a Committee of the Royal Society of Medicine" in *Animal Magnetism: Report of Dr. Franklin*, 7.

<sup>62</sup>"Report of a Committee of the Royal Society of Medicine" in *Animal Magnetism: Report of Dr. Franklin*, 3 notes 1-2.

of this approach was to establish historical continuity between Mesmer's practices and the pre-enlightenment practices cited.<sup>63</sup> While the physicians' commission acknowledged that the mechanism claimed by Mesmer differed from the theories cited and that these theories all differed from each other, they concluded that Mesmer's work represented the culmination of these previously named theories.<sup>64</sup>

Relying solely on Thouret's reconstruction of medical history, the physicians' commission concluded that not only had Mesmer fraudulently presented himself as the source of new ideas, but that the ideas that he borrowed were antiquated and ridiculous, and therefore demanded no further investigation. This approach is ironic considering the report's conclusion. Following Thouret's highly interpretative historical survey, the physicians concluded that:

the animal magnetism held a principal rank among the systems which were embraced in that period of literary history, when suppositions were admitted to hold the place of facts, and this hypothesis vanished, together with many others, when experimental philosophy began to dissipate the impostures of the imagination and to afford an accurate measure of the value of arts and sciences.<sup>65</sup>

Apparently the physicians lacked reflexivity. The committee itself provided no experimental evidence against Mesmer but relied on literature to conduct its investigation.<sup>66</sup> In interpreting the literature, the committee made unfounded judgments and comparisons. For example, Thouret described Mesmer's practice as mimicking the spiritual healings of the wandering priest, Gassner.<sup>67</sup> While Gassner did induce crises in his

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<sup>63</sup>In some respects, the separation that the physicians attempt to create between pre- and post-enlightenment science mirrors the division between seventeenth and eighteenth century epistemes that Michel Foucault discusses in *The Order of Things: An Archaeology of the Human Sciences* (New York: Vintage Books, 1970), 17-77. The physicians accused Mesmer of imagining a false connection between individuals, the world, case histories, and phenomena. By doing this, the physicians limited their own ability to create knowledge based on the evidence gained from their interactions with patients.

<sup>64</sup>"Report of a Committee of the Royal Society of Medicine" in *Animal Magnetism: Report of Dr. Franklin*, 4.

<sup>65</sup>"Report of a Committee of the Royal Society of Medicine" in *Animal Magnetism: Report of Dr. Franklin*, 1.

<sup>66</sup>The format of the physicians' report is interesting because it parallels the format of Mesmer's dissertations except that it lacks all of the previously mentioned strategies that would make it appear scientific. The physicians' report is a literary-historical document without apology.

<sup>67</sup>"Report of a Committee of the Royal Society of Medicine" in *Animal Magnetism: Report of Dr. Franklin*, 5-6 note 1.



patients, these crises were spiritual, and not magnetic. Mesmer himself acknowledged Gassner's cures, but claimed that Gassner was unknowingly practicing magnetism.<sup>68</sup>

In addition to reconstructing medical history, the physicians manufactured their own understanding of contemporary scientific protocol. Contrary to their conclusion, the discovery of a universal medicine seems wholly appropriate to an enlightened age. This is particularly true if this medicine is related to gravity, the universal force claimed to hold the planets in their orbits, direct chemical reactions, and power the organic globules responsible for generation.<sup>69</sup> The French intellectuals were attraction crazed.<sup>70</sup> Mesmer could not have found a more attraction-oriented audience.<sup>71</sup> Moreover, the principles of magnetism and its suggested uses paralleled the contemporary theories and suggested uses of electricity. Electrical and magnetic experiments both illustrated the ability to manipulate universal forces and to transfer them to selected objects. Electrical experiments also introduced the idea that a universal force could be transmitted from one person to another via touch as long as that force was not blocked by nonconductors. Both forces were excited by pressure and friction, either applied to the glass tube in the case of electricity, or the abdomen in the case of magnetism.<sup>72</sup> Considering the parallels between electricity and animal magnetism, magnetism was misjudged. Mesmer's theory was not a pre-Enlightenment phenomenon, but a product of the Enlightenment and its discoveries.

Rather than proving that the practice of magnetism was inappropriate in an enlightened age, the physicians' commission exposed a gulf between the practice of medicine and the practice of science. It was the very appro-

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<sup>68</sup>Some sources claim that Mesmer's testimony was used in order to discredit Gassner. See Crabtree, *From Mesmer to Freud*, 9-10., and Hilgard, "Introduction" in Bloch, *Mesmerism: A Translation*, xvi-xvii.

<sup>69</sup>For an example of attraction affecting chemical reactions see Antoine Lavoisier's *Elements of Chemistry*. For an example of attraction governing generation see the work of Maupertuis, Needham, and Buffon.

<sup>70</sup>For an extreme example of the intellectual appeal of attraction, see Denis Diderot's *D'Alembert's Dream*.

<sup>71</sup>Darnton's argument in *Mesmerism* attempts to illustrate how well Mesmer's theories and practices paralleled popular understanding of science in Enlightenment France. While Darnton's argument does not focus on the concept of attraction in particular, it certainly applies to it.

<sup>72</sup>For the basic principles of the practice of magnetism see Bloch, *Mesmerism: A Translation*, 43-85. For a description of Enlightenment experiments with electricity see Heilbron, *Elements of Early Modern Physics*, pp. 159-240.



priateness of a universal medicine to the enlightenment context that was threatening. Mesmer pretended to have forced nature to symbolize the universal and the particular simultaneously.<sup>73</sup> Working within the context of universal properties, Mesmer was able to heal those that orthodox medicine had labeled incurable. The physicians' commission accused Mesmer of three faults: pretending that all disease is curable by one single mechanism; asserting the existence of a universal fluid that he is capable of manipulating; and acting against the best wishes of his patients. The weaknesses of these theoretical and ethical objections were discussed above. Perhaps Mesmer's most significant fault was his success as a competitor. The report of the physicians' commission concludes:

The society, charged by the king with the examination of all new inventions, and secret methods of healing diseases, has not beheld without inquietude the species of vogue acquired by the animal magnetism; whose procedures, *whatever be their merit*, have been and are administered to the diseased, and paid for by the public, without having previously, in obedience to the express provisions of the laws of the kingdom, undergone the examination of the physical profession; an abuse, against which the society, as in duty bound, has exclaimed ever since its introduction.<sup>74</sup>

In this case, the report of the physicians' commission may be read as an attempt by a less than stable professional community to defend fragile professional boundaries.

Unlike the physicians' commission, the academic commission did not try to establish any claim that animal magnetism was a pre-Enlightenment idea. The academic commission's primary question was whether or not

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<sup>73</sup>According to Foucault's analysis of the shift in epistemes between the sixteenth and seventeenth century and Latour's discussion of the modern constitution, Mesmer's merge of the universal and particular is unacceptable to his enlightenment context. However, considering that Mesmer was a physician forced to negotiate the particulars of his patients and that Enlightenment science required him to speak of universals, his combination of the two is understandable. See Foucault's *The Order of Things* and Bruno Latour's *We Have Never Been Modern*. According to Latour, 32-37; 126-129, Mesmer's practice would belong to the realm of the crossed out God, meaning that Mesmer attempted to bring the metaphysical into closer involvement with nature and society than modern thought allowed. The link between the human and the universal was acknowledged in the Enlightenment, but it was not deemed an appropriate subject for scientific discourse. See D'Alembert's *Preliminary Discourse to the Encyclopedia of Diderot* (written circa 1769).

<sup>74</sup>"Report of a Committee of the Royal Society of Medicine" in *Animal Magnetism: Report of Dr. Franklin*, 7. (Emphasis mine).

animal magnetism existed.<sup>75</sup> In order to investigate the existence of magnetism, the academic commission performed experiments. These experiments are interesting because their outcome was predetermined. In spite of D'Elson's involvement, the investigation was hostile. Mesmer was guilty before he was summoned. In order to ensure that the existence of magnetism would be denied, the commissioners disregarded Mesmer's principles, isolated animal magnetism from its perceived phenomena, and focused their investigation on their own hypothesized cause of magnetism's effects, the imagination.

Disregarding Mesmer's explicit claims that animal magnetism operated independently of electricity and mineral magnetism, the commissioners immediately set up a comparison between the three forces. They first noted that the force of animal magnetism was not detectable by the senses as were magnetism and electricity. This conclusion was contrary to observations made by magnetism's supporters. Supporters claimed to be able to see, feel, and smell magnetism as it passed from the hand or the magnetized rod of the practitioner to the patient. The commissioners explained that the perception of these effects was caused by transpiration, heat differentials, and the smell of the iron in the rod.<sup>76</sup> They also measured the baquet for both electricity and mineral magnetism, finding nothing.<sup>77</sup> While the experiment did not engage with animal magnetism on its own terms, the experiment was theatrically successful.<sup>78</sup> Electricity and magnetism were known to exist. Proving that they were not present in the baquet automatically suggested that nothing was present there.

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<sup>75</sup>This entirely different approach reflects different disciplinary boundaries. The academies were not required to accept Mesmer's case histories as evidence because they monopolized the use of the experiment.

<sup>76</sup>"Report of a Committee of the Royal Society of Medicine," in *Animal Magnetism: Report of Dr. Franklin*, 14. This tactic resembles twentieth century methods for discrediting perceived psychic phenomena as non-scientific. See the discussion of psychic communication with plants, ESP, and spoon-bending in H.M. Collins, *Changing Order Replication and Induction in Scientific Practice* (London: SAGE Publications, 1985) and Collins and *Frames of Meaning*. In each of these cases, practitioners in the paranormal sciences have accused orthodox scientists of failing to replicate experiments directly, explaining away the phenomena, and measuring a completely different known force in order to dismiss the existence of a known.

<sup>77</sup>"Report of a Committee of the Royal Society of Medicine," in *Animal Magnetism: Report of Dr. Franklin*, 11.

<sup>78</sup>The experiment as theater shares characteristics with the function of the scholastic dispute as theater. See the comparison between theater and the medieval scholastic dispute in Jody Enders, "The Theater of Scholastic Erudition" in *Comparative Drama*, 27 (Fall 1998): 341-361.

Aware that their measurement was not conclusive because it did not directly address Mesmer's theories, the commission proceeded to discredit the baquet on the basis of its claimed effects. First the commissioners isolated the baquet from the other factors, such as the presence of susceptible witnesses and the commotion of the public process, by setting up a private baquet. This private baquet was deemed immune to the forces of suggestion.<sup>79</sup> Once the private baquet's inefficacy was illustrated, the multiple crises and the commotion of the public process could be established as the primary causes of magnetism's perceived efficacy. According to the hypothesis of the investigators, these social forces caused crises because they affected the imagination.

Second, the commissioners isolated the baquet and the magnetic passes from all possible effects, by determining before proceeding, not to recognize any of its possible symptoms. As a precaution against experiencing any sensation of magnetism, the commissioners colluded:

But in submitting themselves to the magnetism in this manner, the commissioners have employed one necessary precaution. There is not an individual, in a state of the fullest health, who, if he paid a close attention to the point, would not be sensible to an infinity of interior motions and variations, either of a pain infinitely slight or of heat, in different parts of his body; these variations which exist at all times are independent of the magnetism. To turn and fix in this manner one's attention upon oneself, is not perhaps itself entirely without its effects.<sup>80</sup>

Considering that pain and heat were the chief symptoms of animal magnetism at work, the commissioners precluded any experience of its effect. Once again, by separating the baquet from its phenomena, the commissioners were able to conclude that its perceived effects were due to the imagination. For the academic commission, the explanation and the phenomena were one and the same. The possibility of contrary evidence had been completely eliminated.

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<sup>79</sup> "Report of a Committee of the Royal Society of Medicine," in *Animal Magnetism: Report of Dr. Franklin*, 13-19. It is interesting to note that by doing this, the commissioners separated the baquet from its ritual context. While this does not necessarily affect their investigation of the existence of the magnetic fluid, it does affect their investigation of magnetism's efficacy. The importance of ritual in healing chronic illness has been documented by Arthur Klineman, *Patients and Healers in the Context of Culture* (Berkeley: University of California Press, 1980), 311-374. Klineman's interpretation of the efficacy of the cult healing practices suggests that while magnetism may not have existed by the commissioners' criteria and it still may have been useful according to the needs of its patients.

<sup>80</sup> "Report of a Committee of the Royal Society of Medicine," in *Animal Magnetism: Report of Dr. Franklin*, 17.

In spite of the commissioners' precautions, magnetic effects were observed even among their own number. This required the commission to devise a method of discrediting witnesses without violating the laws of polite society or damaging their own status as knowers. The commissioners accomplished this by attributing the perceived effects of magnetism to separate and unrelated circumstances. Concerning themselves, they argued:

Some of the commissioners are of a robust constitution; others have more delicate habits, and are subject to interruptions of their health; one of these last was sensible of a slight pain at the pit of the stomach, in consequence of a considerable pressure that was employed upon that part. This pain continued all that and the next day, and was accompanied with a sensation of fatigue and dejection. Another felt, in the afternoon of one of the days in which the experiments were performed, a slight irritation of the nerves, to which he is very subject. A third, endowed with a still greater sensibility, and especially with an extreme restlessness of the nerves, was subject to a higher degree of pain and a more perceptible irritation; but these lesser accidents are the result of perpetual and ordinary variations in the state of their health, and are of consequence foreign to the operation they had undergone, or proceed only from the pressure employed upon the region of the stomach.<sup>81</sup>

In this manner, susceptibility to sensations during magnetic experiments was expected as the normal result of placing someone with a weak constitution under physical and mental pressure.

Following the explanations cited above, one could just as easily conclude that three out of the nine commissioners were susceptible to the effects of animal magnetism. Since Mesmer claimed that magnetism only functioned on the sick, previous variations in the state of health should have confirmed rather than discredited the phenomena.<sup>82</sup> Moreover, these commissioners had been instructed as well as the others to ignore any symptoms that were slight. Therefore, any perceived phenomena must have occurred in excess to the effects of the imagination. Finally, because the same amount of pressure was applied to all of the commissioners' stomachs, all of them should have had the same experiences. In spite of these inconsistencies, these three commissioners were not included in the final count of susceptible witnesses. Because the commissioners hypothesized that the effects of magnetism were caused by the imagination, they

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<sup>81</sup>"Report of a Committee of the Royal Society of Medicine," in *Animal Magnetism: Report of Dr. Franklin*, 19.

<sup>82</sup>Bloch, *Mesmerism: A Translation*, 43-85.

could not admit susceptibility to magnetism without discrediting themselves as men of science. This manipulation of the data is interesting because similar symptoms present in others were accepted as proof of an over-active imagination.

When choosing witnesses from the lower classes, the commissioners chose only those with ailments, recognizing that these would be expected to be susceptible to animal magnetism. According to the commission's discussion of the effects of magnetism on its own members, the sensations experienced by these ailing witnesses were implicitly discredited. However, the commission judged these witnesses to be susceptible to magnetism. The commission observed:

Of these seven patients, four felt no sensation at all; three experienced some effects from the operation. These effects deserved to engage the attention of the commissioners, and demanded an accurate examination. The commissioners, to obtain further light, and to define their ideas upon this part of the subject, resolved to make the experiment upon patients, placed in other circumstances, and selected from the polite world, such as could not be suspected of sinister views, and whose understanding made them capable of inquiring into and giving a faithful account of their sensations.<sup>83</sup>

Proceeding with these discredited witnesses the commission found that three of seven experienced sensations in response to the magnetism. In light of this result, the simplicity that was intended to allow these subjects to "give an exact and faithful account of their sensations," became suspect.<sup>84</sup> In other words, these witnesses were not deemed trustworthy from the start of the investigation and their testimony would have been accepted only if they had agreed with the commissioners. For reliable witnesses, the commission sought out members of its own class. This is significant. While the witnesses from the lower classes were used by the commission in later experiments designed to disprove the effects of animal magnetism, they were not allowed to testify in favor of it. According to the commissioners, magnetism was effective among the members of the lower classes only because of their "sinister views" and lack of understanding.

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<sup>83</sup>"Report of a Committee of the Royal Society of Medicine," in *Animal Magnetism: Report of Dr. Franklin*, 20.

<sup>84</sup>Originally the subjects had been chosen for their simplicity. At the conclusion of the experiment this very simplicity discredits their ability to act as witnesses for magnetism. The tone of the investigators suggests that this inconsistency is the result of design rather than chance. "Report of a Committee of the Royal Society of Medicine," in *Animal Magnetism: Report of Dr. Franklin*, 19-22.

The commissioners' perceived need to examine the effects of magnetism on members of the polite world is questionable because they had already examined the effects of magnetism on themselves. It is more likely that the commissioners "resolved to make experiment upon patients... selected from the polite world" a second time, because they were looking for polite subjects whose circumstances allowed them to be susceptible magnetism. They were forced to do this in order to account for Mesmer's popularity among the upper classes. The commissioners found only one type of persons from the polite world that was susceptible to magnetism. This was the hysterical woman.

The heat that M.M.\_\_\_\_ felt in the patella, is an effect too slight and fugitive to authorise any conclusions. It may be suspected that it proceeded from the cause already descanted on, a too great attention to observe what passes within us: the same attention would discover similar sensations at any other time, when the magnetism was not employed. The drowsiness experienced by Madame de V\_\_\_\_ must undoubtedly be ascribed to the regularity and fatigue of preserving the same situation; if she was sensible to any vaporous emotion, it must be remembered that it is a known property of nervous affections to have much dependency upon the attention that is paid them; to renew them it is only necessary to hear them spoken of, or to think of them. It is easy to judge what ought to be expected from a woman, whose nerves are extremely irritable, and who, being magnetised for an hour and nineteen minutes, had during that time no other subject of reflection than that of the disorders which are habitual to her. She might have had a nervous crisis more considerable than that we have described, without our having a right to be surprised at it.<sup>85</sup>

It is important to note that the commissioners did not characterize all women as naturally susceptible to magnetism. M.M.\_\_\_\_ fell into the same category as the commissioners who had reported sensations while being magnetized. Unaccustomed to focusing on sensations, she was supposed to have noticed sensations she would have experienced without taking notice under any other circumstance. Madame de V\_\_\_\_, on the other hand, suffered from tendencies toward hysteria that made her imagination susceptible beyond her control.

A review of the commission's treatment of its witnesses reveals several inconsistencies. These inconsistencies suggest that the academic commission was not trying to prove or disprove magnetism's existence. Instead, the commissioners were trying to characterize magnetism's sup-

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<sup>85</sup>"Report of a Committee of the Royal Society of Medicine," in *Animal Magnetism: Report*

porters as foolish and overly susceptible to suggestion. For this reason, the academic commission concluded that only members of the lower classes and some hysterical aristocratic women were affected by magnetism in spite of the fact that the observed phenomena were consistent across all tested groups. This suspicion is supported by two observations. First, the commission's conclusions would not have been accepted unless they contained a socially acceptable means of discrediting Mesmer's supporters. Second, the commission's experiments regarding the power of imagination to invoke crises appear to be acts of deliberate ridicule.

While the academic commission had the means to determine whether or not the force described as animal magnetism existed, it did not have the power to enforce this determination. The scientific bodies in Paris had rejected Mesmer upon his arrival in Paris in 1779.<sup>86</sup> In spite of this rejection, Mesmerism had flourished. Supporters of animal magnetism within the court had protected animal magnetism from previous judgements made by the scientific assemblies.<sup>87</sup> In order to put an end to the practice of magnetism, the commission needed to destroy its source of popular support. The commission attempted to accomplish this by implying that magnetism's supporters were either members of the lower classes or hysterical noble women. This goal is readily apparent in the final experiments of their investigation. These experiments, designed to prove the power of the imagination, mercilessly made fools of their subjects. For example, a young boy was caused to fall to the ground and convulse at the foot of several unmagnetized trees and a woman was induced into a violent crisis while being mock magnetized.<sup>88</sup> The reports of these experiments suggest the presence of an audience and are written in an astonished tone. Therefore, it is likely that the experiments and their reports were designed in order to shame the supporters of magnetism into complying with the commission's evaluation.

### *Conclusion*

The above discussion of Mesmer's career highlights the epistemological strategies utilized by Mesmer and by Mesmer's critics. In each case, the

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<sup>86</sup>Crabtree, *From Mesmer to Freud*, 20-37 and Gauld, *A History of Hypnotism*, 25-38.

<sup>87</sup>Crabtree, *From Mesmer to Freud*, 20-37 and Gauld, *A History of Hypnotism*, 25-38.

<sup>88</sup>"Report of a Committee of the Royal Society of Medicine," in *Animal Magnetism: Report of Dr. Franklin*, 28-30.

power of the perceived audience to determine the method of investigation is evident. Mesmer's abandonment of orthodox procedures and his subsequent expulsion from the scientific community illustrates that these audiences were multiple and that their demands were contradictory. The multiplicity of audiences suggests that a large and variable epistemological framework encompassed Enlightenment science. Scientific claims regarding the existence of invisible magnetic fluids and the correct theoretical relationships between humans and natural forces could not be definitively proven in any one context. In each case, the success or failure of a theory was largely dependent on popular support.

The role played by popular support in the scientific investigation of magnetism and magnetism's subsequent spread, has implications for twentieth century definitions of science, religion, magic, and pseudo-science. If we accept, in accordance with Mesmer's peers, that animal magnetism was not science, popular support for animal magnetism mandated that science was not the appropriate method for physicians to follow. While medicine may be a special instance, the behavior of Mesmer's supporters suggest that science may not be the most effective method of governing the social sphere, but is accountable to it.

If this is true, popular understanding of science may play an important role in knowledge production. This role would disrupt the real or manufactured correspondence between science and nature by bringing science into dialogue with the principles of religion, magic, and pseudo-science. For example, animal magnetism, the popularization of a scientific idea, has enjoyed success in all of these contexts. Moreover, scientific investigations into the validity of animal magnetism have uncovered some of the relationships between science and these other contexts. These relationships challenge the traditional epistemological boundaries between scientific and non-scientific cultures. Western scientific societies are equally plagued by nature-culture hybrids as their non-modern counterparts. In this case, science and religion and magic and pseudo-science merely differ in style and degree.

This conclusion, however, needs a qualification. Had the academic commission been successful, Mesmer's patients would have been forced to return to the orthodox physicians who had been unable to cure them. The investigative commission's attempt to make this decision for the public illustrates that different world-ordering systems favor different people's needs. Science, because it pretends to have a direct correspondence with nature that is not accountable to public opinion, may potentially enable a select group of individuals to abolish popular meaning making processes



without the consent of the wider community.<sup>89</sup> This potential is at the root of reservations regarding the application of science to the social sphere.

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<sup>89</sup>Perhaps this is the difference between an unnamed hybrid and a cyborg. Compare Latour's *We Have Never Been Modern* and Haraway's *Simians, Cyborgs, and Women*.

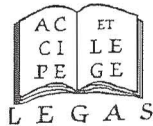
# LOOKING UP

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Science and Observation in the Early Modern Period

Edited by

**Jason M. Kelly**



New York

Ottawa

Toronto

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## National Library of Canada Cataloguing in Publication

Main entry under title:

Looking up : science and observation in the early modern period /  
edited by Jason M. Kelly.

(Language, media & education studies ; v. 24)  
Includes bibliographical references.  
ISBN 1-894508-37-8

1. Science--History--17th century. 2. Science--History--18th century.
3. Observation (Scientific method) I. Kelly, Jason M II. Series.

Q125.L66 2002

509'.032

C2002-902651-2

For further information and for orders:

<http://www.legaspublishing.com>

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Printed and bound in Canada