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MESMER RECONSIDERED: FROM ANIMAL MAGNETISM TO THE BIOFIELD

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Biofield science is not new. Although the scientific term “biofield” was only introduced 25 years ago,¹ Western medicine has a long, and rocky, relationship with the notion of an invisible healing force. Unlike Eastern medicine and mysticism, which have long embraced concepts like qi and prana to describe this force, Western proponents of life energy have been marginalized - excommunicated, one might say. A reconsideration of one such example – Franz Mesmer, the developer of Animal Magnetism (AM) – is relevant because it illustrates three points: how a modern incarnation of AM is demonstrating that this invisible healing force is real; how the political processes used 250 years ago by the medical establishment to expel unorthodox paradigms and practices like Mesmer’s are still at work today; and how historical parallels can inspire and guide future scientific progress.

During the Age of Enlightenment in the late 1700s, the newly discovered forces of electricity and magnetism were being explored by scientists in Europe and America. Austrian physician Franz Mesmer claimed that, like a human lodestone, he could transmit a magnetic healing force through his hands by stroking his palms several inches from the surface of his patient’s body, in so-called Mesmeric passes.² His clinic in Paris became so popular that he developed a form of group treatment, using large wooden basins (“baquets”) that were filled with water he claimed to have previously energized with his personal magnetism. A series of iron rods around the basin’s perimeter could be held by several patients at once, allowing many people to receive simultaneous magnetic charges. This also proved to be a good business model, enabling Mesmer to accommodate a growing number of wealthy aristocratic patients.

To counter mounting professional opposition to his work (and to his financial success), he proposed a series of demonstrations to prove the clinical value of AM to its many critics.³ However, Mesmer’s ideas were so controversial that the medical establishment initially refused to even consider this option. The conflict was further enflamed by a “pamphlet war” between the two sides, but until eventually King Louis XVI appointed a Royal Commission in 1784 to evaluate AM. Benjamin Franklin, then the US Ambassador to France, was among the esteemed members, along with Antoine Lavoisier (the discoverer of oxygen) and the noted physician Joseph-Ignace Guillotin (whose eponymous device was later used, after the French Revolution, to execute several other Commission members!).

Mesmer’s original proposal was visionary in terms of research design. He suggested the use of a crude version of prospective design to assess clinical outcomes, including the use of what we would now call blinded and randomly assigned control and experimental subjects. However, the Commission chose to focus on the existence of the magnetism itself rather than its possible clinical benefits. In addition, AM treatments were not to be administered by Mesmer himself but by a former student, Dr. Charles d’Eslon. d’Eslon had previously been threatened with expulsion from the prestigious Society of Medicine if he continued to promote AM, raising the strong possibility of experimenter bias during the testing.

The Commission found that subjects could not distinguish magnetized from unmagnetized objects, and were often unaware that, while blindfolded, they had themselves been magnetized. The Commission thus concluded that the force called AM simply did not exist, and any apparent benefits of Mesmeric treatments were due to the power of imagination and suggestion rather than to an invisible healing force. As a result of this report’s extremely rapid and wide dissemination, Mesmer was branded a charlatan and left Paris to return to Austria.^{2,4}

Nevertheless, a network of “Mesmeric Infirmaries” continued to spread throughout Europe and a journal of medical magnetism was established. In response to this continued wave of interest in AM, the French Academy of Medicine voted in 1826 to reconsider AM. Mesmer had died 10 years earlier, so the Academy’s focus was not diverted by his controversial personality. This replication study included a demonstration of Mesmeric anesthesia for the excision of a cancerous breast,⁵ and the direct experience of AM by the scientists themselves. Their 1831 report judged the phenomenon of AM to be real. However, despite these successes, and the report by a British naval surgeon of his use of AM to induce full surgical anesthesia in hundreds of patients,⁶ the practice of Mesmerism faded quickly in America and Europe following the first successful demonstration of chemical anesthesia with ether in Boston’s Massachusetts General Hospital in 1854. In addition, the study of any potential health benefits of applied magnetism and electricity was also consigned to the fringes of respectable science.

A century later, a biofield-based healing modality called Therapeutic Touch (TT) was developed by and for nurses.⁷ TT begins with the nurse’s compassionate intent and builds on her ability

to use her hands to detect and harmonize imbalances in the human energy field (“aura”) that is theorized to surround each patient. In a TT treatment, the nurse healer appears to stroke the air several inches off the boundary of the patient’s body, in a process remarkably similar to Mesmeric passes.

TT’s clinical effects have been documented⁸ and critiqued.⁹ Skeptics attribute its impact to such nonspecific factors as the power of suggestion, patient expectancy, and the positive relationship between nurse and healer, much as the first French Royal Commission concluded *vis à vis* AM. To eliminate these potentially confounding elements, TT has also been studied in subjects who are not impacted by these psychological factors. Such research has shown that human infants, animals, plants, and even cell cultures respond positively to TT, to a statistically significant degree. In particular, sprouting rates of plant seedlings were enhanced when soaked in TT-treated water compared to untreated tap water, echoing Mesmer’s use of baquets filled with magnetized water.¹⁰ In another study, infants in a neonatal intensive care unit showed a decrease of sympathetic nervous system activity following TT treatment.¹¹ Also, a murine cancer that is typically fatal one month after injection into mice showed a 100% remission rate following a related non-contact healing procedure.¹²

In addition, several well-controlled studies have looked at the impact of TT on a range of *in vitro* cell cultures.¹³ In the control arm, cells were treated with sham TT, in which practitioners made the standardized sequence of hand movements but without having first centered their attention in the attitude of heartfelt compassion that defines TT. Cellular growth rates were enhanced significantly in the TT-treated cultures of human osteoblasts and fibroblasts, compared to the cultures treated with sham TT, again highlighting the crucial role of experimenter intent (cf. d’Eslon). And on the cellular level, DNA replication and cell differentiation have recently been shown to be regulated in the lab by externally generated magnetic fields,¹⁴ and similar DNA transcriptional changes can be induced by a related non-contact biofield therapy.¹⁵ In other words, the biofield exists and is affected by magnetism, whether generated by machines or by humans: animal magnetism, in its most literal sense.

In a close parallel to the institutional constraints that shaped 18th century medicine, *The Journal of the American Medical Association* (JAMA), perhaps the most highly respected journal in the world of conventional medicine, addressed the notion of biofield healing in a surprisingly dramatic manner. An 11-year old schoolgirl was the lead author of the feature article in the April 1998 issue: “A Close Look at Therapeutic Touch” reported the results of her school science fair project.¹⁶ She had been impressed by a TV documentary on TT and wanted to determine whether the nurse healers could actually sense this invisible energy field. She set up a simple experimental protocol for biofield detection: nurses trained in TT were blindfolded and then asked to determine which of their two outstretched hands was sensing energy from the girl’s own nearby hand. The nurses did even more poorly than chance, so she concluded that no such energy field existed. JAMA’s editor went even further, issuing an unprecedented black-box warning that cautioned readers to avoid TT as a clinical

intervention, even though no clinical outcomes were assessed in this study.

The article was widely reported in national print and broadcast media the day after its publication in JAMA, echoing the rapid and politically motivated dissemination of the French report in 1784. In response to a record number of letters to the editor, JAMA published a large sampling of these letters, including one attempt to “un-debunk” the original article.¹⁷ These letters addressed the paper’s multiple methodological flaws (especially experimenter bias) and noted the omission from their citation list of an earlier study which had obtained positive results using a nearly identical protocol, but utilizing non-skeptical participants in both roles (as experimenter and as subject)¹⁸. Further, the author’s parents were also her co-authors, and were leaders of a partisan organization devoted to debunking alternative medicine – Quackwatch.¹⁹ One of that group’s founding members was also a study co-author, and has been found by a California Superior Court judge to be “biased and unworthy of credibility”.²⁰ So although the strong support given by establishment medicine to this problematic TT study mirrored the Royal Commission’s biased attempt to discredit Mesmer, it has not stood the test of time. Biofield research over the last 20 years has become too solidly established to allow for such an easy dismissal.²¹

The NIH (America’s equivalent of the French Royal Academy) has endorsed research into the human biofield and several prominent organizations have followed their lead and are now actively conducting biofield science research, from both the basic science and the clinical directions. Among these are the Consciousness and Healing Initiative (CHI),²² the Institute for Frontier Science,²³ the Association for Comprehensive Energy Psychology (ACEP)²⁴ and the Institute of Noetic Sciences (IONS).²⁵ Research protocols are now designed that take into account the ideas of Mesmer and findings of the Royal Academy: the use of comparison groups, controlling for non-specific factors like expectation and suggestion, and accounting for experimenter bias as well.

Mainstream lay publications are now reporting these emerging results, another sign that longstanding institutional barriers and cultural biases are eroding. For example, one recent article in *US News and World Report* was noteworthy for its non-judgmental tone in outlining current research on the clinical use of biofield therapies, especially energy healing, with children.²⁶

One final note: in an evocative twist of fate, I recently had the honor of presenting a paper at the Massachusetts General Hospital. The talk, about the use of hypnosis in pain management, was entitled “Mesmer Reconsidered” because it acknowledged his early contributions to this subject. The lecture hall where this presentation took place was the so-called Ether Dome, the same surgical amphitheater where ether anesthesia had been first demonstrated in 1854. I was struck by the fact that Mesmer’s work could once again be discussed openly in the halls of academia. His reputation was being restored and his invisible energies were now being validated by leading edge science. It felt like the tide had turned, and history was not going to repeat itself.

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