

Romanticism and Science: the Case of Franz Anton Mesmer*

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I. Introduction

In its long history philosophy has offered deep divides of reality: matter and spirit, body and soul, good and bad and so on. Leibniz, among others, has given such concepts a methodological twist that has been aptly termed “Double Government Methodology”.¹ According to Leibniz there are two fundamentally different areas of experience - the material and the spiritual – which are both accessible to human knowledge. All we have to do, according to Leibniz, is choose the proper method in each case. This is natural science for the material realm, and metaphysics for the spiritual.

Modern science has a clear tendency to reduce the Double Government Methodology to just one: to the mechanistic approach of natural science. The realm of the spiritual falls in this perspective either outside the scope of science or has to be reduced to natural science.² I take romantic science as a holistic protest against the prevailing reductionist spirit of science.³ In Germany this protest was connected with the work of the idealist philosopher Schelling, and it was later termed (romantic) *Naturphilosophie*. The aim of romantic science in the Schellingean spirit is the understanding of the true essence of nature. Empirical research uncovers only part of it, or better: it covers more than uncovers the true nature of things. The aim of romantic science, however, is to reconstitute the original unity of spirit and nature. According to romantic science the laws of nature have to be conceived as expression in the empirical foreground of the laws of the spiritual realm that are somehow behind the empirically accessible things.

Animal Magnetism or Mesmerism, as it is called after its inventor, the physician Franz Anton Mesmer (1734-1815), originates in Mesmer’s first report on magnetic healings in 1775 (Mesmer (1775)). Later it was received as an important contribution to romantic science and was highly praised, therefore, by people like Schelling himself, but also by Fichte and even Schopenhauer. This reception of Mesmerism as romantic science stands

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¹ Butts (1984).

² As is well known, the approach of Kant can be regarded as a sort of compromise: metaphysics is in a way still there, but it dwindles to a set of demands of reason in order to regulate and methodize human inquiry.

³ Stefano Poggi (2000), p. 26 has already pointed to this aspect of romantic science.

in remarkable contrast to Mesmer's own views and to how his teachings were understood in the first phase of their reception, i.e. during the thirty or so years after Mesmer had published a first outline of his theory in 1775.

In this paper I would like to first outline Mesmer's concepts and their resonance(II). Then (in section III) I will take up the problem of demarcation between science and pseudoscience. With respect to Mesmerism, this problem found a viable solution in a report of the Paris Academy of Sciences in 1784. This report is based on principles of successful scientific practice and denies to Mesmerism's romantic approach the status of authentic natural science.

II. Mesmer's Doctrine

Mesmer's views can be grouped into three distinct areas: (a) a *comprehensive theory* covering a variety of astronomical, physical, and organic phenomena (TAM); the specialization of this theory to a *medical theory* (nosology; henceforth abbreviated NAM); and finally a practice of healing based in turn on his nosological theory of animal magnetism (and which I will naturally call HAM).

When Mesmer himself views TAM as 'theory', he finds himself in agreement with the common use in everyday language where almost everything can be called theory that does not deal with mere description. Mesmer was a successful medical practitioner, but not a great scholar. His theory TAM remains strangely unclear, although he elaborated it in a series of papers and pamphlets. This is all the more remarkable, since he himself viewed TAM as a *mechanistic theory of fluids* of the type so highly valued in 18th century physics as a means of explaining phenomena like electricity, heat, and mineral magnetism. Theories of fluids conceive of these as well as other phenomena as being the results of the movements of most subtle, invisible, and imponderable matters that were called *fluida* in Latin. Their movements are to be described by means of the mechanics of fluid bodies.⁴ Rudolf Tischner, perhaps the person most knowledgeable on Mesmer's work, holds the very cogent view that TAM is in principle merely a *mechanistic* version of the old magical magnetic theory of medicine. This theory had appeared prior to Mesmer only in the guise of vitalism.⁵ In his *Mémoire sur la découverte du magnétisme animal* (Paris 1779), Mesmer

⁴In view of the claim that TAM is part of mechanistic science, it is surprising that a quantitative or numerical account is nowhere to be found in Mesmer's writings. Also completely missing are diagrams, of which there is otherwise no shortage in 18th century physics books.

⁵Tischner (1928, p. 71). Thus, for example, the theory of the 17th century Scottish physician William Maxwell is nearly identical with Mesmer's TAM, if one replaces Maxwell's vitalistic terminology by Mesmer's mechanistic one of subtle fluids. F. A. Pattie (1956) mentions another point of similarity.

summarizes TAM in 27 short 'propositions'. The most important are: (i) There exists a multitude of mechanical interactions between heavenly bodies, the earth, and living organisms. A lawlike expression of these interactions remains unknown. (ii) The medium of these interactions, to which gravitation also belongs, is a universally dispersed subtle fluid that I would like to call *FLAM* (fluid of animal magnetism). (iii) All events in Mesmer's cosmos occur in places where *FLAM* is unevenly distributed. In the case of the earth the moon has the greatest influence on the uneven distribution of *FLAM*. Its occurrence has a periodicity comparable with the ebb and flow of the tides. (iv) All characteristics of animate as well as inanimate bodies on earth are influenced by the effects of the bodies surrounding them as well as by heavenly bodies. *FLAM* is the means by which these effects are mediated. (v) Animal organisms (including man, who is an animal) reveal a special receptivity for effects mediated by *FLAM*, although the nature of the receptivity may differ from one organism to the next. The interaction between bodies and animal organisms mediated by *FLAM* affects the nerves. These effects are polar and analogous to common magnetism. This is why the receptivity for the fluid *FLAM* is called 'animal magnetism' (pp. 9,10). (vi) Not only animals possess this receptivity; that is, animal magnetism. Plants and inanimate objects such as water and minerals also possess animal magnetism. At this point, I should make a terminological remark. Mesmer uses the word 'animal magnetism' in two different senses. Up to now, it has been used to refer to the general receptivity of natural bodies for the universal fluid *FLAM*, making it a characteristic of natural bodies. To this original meaning of 'animal magnetism', Mesmer adds a second and more important one (p. 20)⁶. According to this conception, 'animal magnetism' refers not only to the characteristic of natural bodies to be receptive to the fluid but also to the special form that *FLAM*, distributed throughout the universe, assumes in animal organisms. For the sake of brevity, I will refer to the general fluid *FLAM*, when it occurs in animal organisms, as 'ANMAG' instead of 'animal magnetism'. ANMAG is the focal point of both NAM and HAM. (vii) ANMAG has the following physical properties: (a) like electricity, ANMAG can be accumulated, stored, and transported (pp. 12, 17); (b) ANMAG can act at a distance without the necessity of a conductor (p. 14); (c) ANMAG can be transmitted and amplified by sound (p. 16); and (d) ANMAG can be reflected and amplified by mirrors.

Mesmer's nosological-medical theory, NAM, can be characterized as a variant of *humeral pathology* commonly found in classical antiquity, particularly in Galenus.⁷ For Mesmer, health consists in an age-dependent, harmonic relationship between *movement*,

⁶Cf. Mesmer (1800, p. 31f.).

on the one hand, and *solidification*, particularly muscular solidification, on the other.⁸ According to Mesmer movement is sustained by an invisible ‘*fire of life*’ received by human beings at birth. He defines *illness* as muscular inactivity resulting from a solidification that exceeds the solidification typical of aging. The disturbed muscular activity is responsible in turn for obstructions in the circulation of the bodily humors. The symptoms of illness result from these obstructions. The cause of illnesses, the abnormal solidification of the muscles, comes from a deficient ‘*fire of life*’. The complete extinction of the flame means, finally, the *death* of the organism.

Mesmer’s *practice of healing* (HAM), which is based on TAM and NAM, should not be difficult to guess by now. In structural terms, it is closely related to the *iatromechanical* therapeutic conceptions prevalent at the time.⁹ The fire of life is nothing other than ANMAG. The art of medicine consists in the physician concentrating ANMAG in his own body and transferring it to that of his patient. The transmission affects the patient’s nerves, sets the muscles in motion and infuses the patient with the fire of life. This eventually results in the orderly circulation of the bodily fluids and the reinstatement of health. So much for Mesmer’s conceptions of TAM, NAM, and HAM.

Mesmer always and vehemently viewed these three conceptions as a contribution to the serious, scientific study of physics and medicine in his time. This means that he saw his efforts as part of mechanical science.

Mesmer’s wish in 1775 that the established scientific bodies of his day seriously investigate the scientific nature of animal magnetism was only fulfilled ten years later, in 1784 in Paris. But his request for investigation was fulfilled in a way that differed from what Mesmer had expected and wished for. For in 1784 TAM, NAM, and HAM were no longer the ideas of an unknown Viennese physician fighting for quasi-official recognition among the scientific community. On the contrary, Mesmerism in 1784 was a highly controversial *cause célèbre* that had *tout Paris*, right into the chambers of Marie Antoinette, holding its breath.

III. The Paris Report

On March 12, 1784, Louis XVI, king of France, called upon “the physicians [chosen by the medical faculty of the university of Paris] de Borie, Sallie, d’Arcet, Guillotin to investigate the cures which Mr. Deslon [a physician and follower of Mesmer] was applying

⁷Cf. Rothschuh (1978, pp. 185ff.).

⁸Cf. Schott (1982, p. 205ff.) with reference to Mesmer (1814, p. 166).

⁹Cf. Rothschuh (1978, p. 224); Schott (1982, p. 241).

and to submit a report to him about this. At the request of the four physicians five members of the Royal Academy of Science, Messieurs Franklin, Bailly, le Roi, de Borie, and Lavoisier were also named by his majesty.”¹⁰ The task of the commission was to assess whether Mesmer’s teachings were part of the realm dominated by mechanical methodology. This was to be done by examining two points (1) the existence of animal fluids within the limits of the theory TAM, and (2) the therapeutic value of HAM.

The above-mentioned gentlemen began to work quite industriously and, divided between medical faculty and Academy, had already prepared separate, comprehensive and extensive reports by August 1784. The physicians’s report, however, is comparatively weak and a little diffuse, whereas the report of the Academy members, written for the most part by Lavoisier¹¹, was very comprehensive and analyzed and argued with precision. Despite all the precision in the argumentation, however, it is clear that in 1784 we find ourselves in what claims to be an enlightened, but not a democratic age. For belonging to the commission of physicians was an additional member, of whom no word is mentioned in the report, not even in the list of the members of the commission. And yet in the Paris of 1784 the publication of an officially suppressed dissenting vote was still possible: almost at the same time as the report was printed, the distinguished Botanist and physician, Antoine-Laurent de Jussieu published his dissenting opinion which did not agree with the rejection of Mesmerism by both commissions.¹²

The commission’s reports on Mesmerism offer us virtually unique historical material for the examination of theses concerning the demarcation between science and pseudoscience. A commission consisting in part of highly qualified people attempts to examine a new theory. How will they ground their judgment? Will it rely on internal criteria of scientific rationality that are also in and of themselves valid? or will it base its decision on ostensibly rational criteria that are in reality extraneous, external criteria such as political opportunism? In fact this last possibility suggests itself in Mesmer’s case. For the members of the commission must have known that the heads of government were suspicious of Mesmerism. They had to know that the report demanded of them was intended as scientific support for the government’s impending ban on Mesmerism. It did

¹⁰Bericht (1785, p. 15). - Only those two French members of the Academy commission who played a decisive role in preparing the final report experienced the French Revolution five years later. These were the astronomer and later revolutionary mayor of Paris, Jean-Sylvain Bailly, and the very successful (not just as a tax collector) Antoine-Laurent de Lavoisier, considered to be the father of modern chemistry. It is not without tragic irony that both these individuals were executed by the machine named after their colleague on the commission, Guillotin.

¹¹Cf. Duveen/Klickstein/Fulton (1954, p. 253): “The first and more extensive *Rapport* is in the style of Lavoisier; a slightly differing version which exists is actually in his handwriting (Oeuvres III, 513-527).”

not matter much that at the same time Mesmerism also had a number of adherents at court and among the nobility.

It is the Harvard historian Robert Darnton who in fact suggested that the members of the commission argued against Mesmerism in an ostensibly scientific way whereas in reality, political factors played a decisive role in causing them to anticipate obediently the wishes of those in power. And this was exactly Mesmer's opinion too.¹³ According to Darnton the arguments presented by the Academy members would be applicable to a theory of one of its members, Lavoisier, as well as to Mesmer's animal magnetism. For Lavoisier's so-called caloric theory of heat also relied on a subtle fluid of the type that was not accepted in the case of Mesmer's FLAM. According to the caloric theory, all material bodies are permeated by the smallest invisible pores. The more caloric fluid is in these pores, the warmer the body. Caloric fluid is extremely subtle, virtually weightless and indestructible. Its existence and its characteristics cannot be observed directly, because it is invisible. The existence as well as the properties of the caloric fluid have to be deduced from the perceivable effects ascribed to it.

Now stories in which generals are cowards, cardinals godless, members of the salvation army alcoholics, bankers fraudulent, and dentists have a bad set of teeth, will, on the whole, generate more interest than those in which the generals are heroes, the cardinals saints, the members of the salvation army teetotalers, the bankers trustworthy, and dentists flash their beautiful white teeth. It appeals to us more when we see that others are hewn out of yet more crooked wood than ourselves. In this sense an account of how scientists, ostensibly the guardians and supporters of rationality, turn out to be unreasonable hardheads, frauds seeking fame, cunning intriguers or nimble opportunists can count on the sympathy of a broad segment of the public. This seems to me to be the source of a good part of the fascination that external explanations for the development of theories encounter everywhere. This is, of course, not to deny that in the history of science, and probably also in contemporary scientific practice, extraneous, external criteria have often enough influenced or even temporarily determined the acceptance or rejection of theories and the distinction between science and pseudoscience. In the present case as well, I assume that both political opportunism and - with the physicians - simple envy of their successful colleague, influenced the commission's ruling. These motives may have actually been dominant. In any event the members of the commission viewed themselves

¹²Jussieu (1826).

as a policing body which was to serve the state by regulating reason. Bailly explained when the report was presented before the Academy: “If, however, such an error [like Mesmerism] emerges from the realm of science, and spreads among the common masses, dividing opinions and making rebellious when it offers the ill a fraudulent remedy and prevents them from seeking other remedies [...], a good government will find it useful to eradicate it. What a marvelous use does not one make of one’s authority when one uses it to spread light! The commissioners have taken great pains to fulfill the intentions of the administration and to make credit to the honor of having been chosen.”¹⁴

Despite the fact that the Academy’s rejection of Mesmerism seems to rest heavily on external grounds, I would like to advance the view that the rejection of Mesmerism was sufficiently justified by internal motives of scientific rationality. This can be shown by refuting Darnton’s view that the commissioners noticed the splinter in Mesmer’s eye while completely ignoring the log blocking Lavoisier’s vision. What I intend to show is that, whereas TAM contradicted fundamental principles of scientific practice, Lavoisier’s caloric theory, at least at this time, could not be accused of similar defects.

I am talking here of internal theoretical *motives*, not of *criteria* of scientific rationality guiding the rejection of Mesmerism as pseudoscientific. As recent philosophy of science scholarship has shown, it seems hopeless to look for a demarcation criterion between science and pseudoscience.¹⁵ Science is an extremely varied and heterogeneous enterprise. It mirrors, in this respect, the varieties of life. Scientific rationality can as little be covered by one or two criteria as can everyday life. Given this situation, it seems more sensible to check scientific and pseudoscientific *practices* in order to find reasons for demarcating science from pseudoscience.¹⁶ According to this view scientific rationality is not a property of scientific statements, but a characteristic of the acts and procedures that produce these statements. Thus, *flawed practices* are the basis of pseudoscience. In speaking of flawed practices, we have left the field of criteria with its yes/no decisions. Here *judgment* is needed. Judgment cannot be learned like ABC; it has to be acquired while practicing it. The best practice for acquiring judgment in matters of scientific rationality is active participation in scientific research. But we know that practicing

¹³ Mesmer (1800, p. 8f).

¹⁴ Bailly’s exposé before the Academy is in *Bericht* (1785, p. 8f.). It is striking that Bailly, like Kant in a letter to Borowski, also wants to call in the state to assist in the fight against Mesmerism; with the difference, however, that Kant wants to do this only when morality is threatened. Bailly, on the other hand, seems to have been an eighteenth century version of McCarthy.

¹⁵ Cf. Laudan (1983)

¹⁶ This useful suggestion has been made by Lugg (1987), p. 228.

scientists do not reflect very much about these matters.¹⁷ In the Paris of 1784 things were different, for first rate philosopher-scientists were at work. They, in fact, answered the king's question on the existence of the animal fluid *FLAM* by investigating the practices that led Mesmer and his disciples to claim to have demonstrated it. These mesmerist practices differed considerably from those performed by Lavoisier and others with respect to the caloric theory of heat. There are, according to the commission's review, *three aspects of flawed practice* that make Mesmerism a pseudoscience. These practices would, I believe, *mutatis mutandis* destroy every-day life as well as science: (1) disregard for the law of causality, (2) disregard for the difference between facts and hypotheses,¹⁸ (3) disregard for what is called empirical adequacy. That principle says that one is not allowed to contend what one likes, without being prepared to let observable implications of one's assertions pass the test of the experience. Mesmerism failed badly in all of these points.

To prove that, I would like to touch briefly on the caloric theory of heat as Lavoisier formulated it, i.e. the theory that the temperature of bodies is determined by the amount of caloric fluid contained in them. My first question is this: Did Lavoisier insist on the *existence* of the caloric fluid?

In the two papers he wrote with Laplace on the caloric theory of heat, we find, in the first place the fundamental distinction between *observable facts* and *hypotheses*. The two authors discuss two competing contemporary hypotheses explaining the phenomenon of heat¹⁹: (1) the caloric theory of heat, and (2) the so-called mechanical theory of heat. According to the mechanical theory, heat "is nothing other than the product of imperceptible movements among the molecules of matter".²⁰ However, for Lavoisier and Laplace, the observable data on the nature of heat are not sufficient to justify favoring one theory over the other: "We do not want to decide between the two [...] hypotheses . Some observations tend to favor the latter, for example, the fact that heat is created by rubbing two solid bodies together. Other observations, however, can be explained more easily according to the first theory (i.e. the caloric theory)."²¹ Lavoisier and Laplace place more confidence in the explanatory power of the caloric theory, using it as a basis for their research.²² Perhaps they even believe - privately as it were - in the existence of the caloric

¹⁷ That gives us philosophers a chance.

¹⁸ Here the level of correct data processing in Kant's sense reappears.

¹⁹ Lavoisier/Laplace (1862, p. 285ff.).

²⁰ Lavoisier/Laplace (1862, p. 287).

²¹ Lavoisier/Laplace (1862, p. 286f.).

²² Lavoisier/Laplace (1862, p. 288).

fluid. And yet they leave no doubt that their imponderable caloric fluid is only an aid in explaining empirical phenomena, but not an observable object or fact. The fact that caloric theory can be used successfully to explain phenomena is, for Lavoisier and Laplace, insufficient evidence for the assumption that the caloric fluid exists. Additional deliberations are necessary here in order to prove the existence of a hypothetical substance. Although they do not comment on the nature of such deliberations, they do state very clearly that the evidence available is insufficient for deciding between mechanical and caloric theories and even more so for assuming the existence of the caloric fluid.

Mesmer is a different story altogether. From the very beginning, he is completely and (unfortunately) unshakably convinced of the existence of his fluid *FLAM*. Certain effects that occurred when steel magnets were placed on diseased parts of the body gave him the idea that *FLAM* was at work there. Within a short period of time he constructed on the basis of this idea, a comprehensive, though scarcely coherent system that relied on the mechanistic terminology of established science, though not on its methodology and customary practices. Most importantly, he was (1) not familiar with the difference between hypotheses and facts, (2) did not want to accept, at least for his own experimental practice, the usual standards for conducting successful experiments (including the law of causation, according to which identical causes have to have identical effects), and (3) was unwilling to accept the demand for empirical adequacy according to which theories have to be tested by experience. It is precisely because of these three deadly sins that the members of the academy criticized TAM. I believe they were amply justified in doing so.²³

In a series of experiments the commissioners determined that, first of all, the effects of the animal fluid ANMAG among the persons examined, depended on whether they possessed magnetic sensibility. Of fifteen people being tested only five demonstrated this sensibility. Among the magnetically sensitive persons, allegedly mostly women, the magnetic effect only appeared when these individuals *knew* they were being magnetized. The effects ranged all the way from sensations of warmth to convulsive states and spontaneous excretions; effects that were considered to be signs of a 'crisis'. If the magnetized persons did not know they were being magnetized, then the effects predicted by the theory did not appear, or they appeared in the wrong place, or in a similarly defective way. In this situation, keeping conditions constant, the *ceteris-paribus* principle, becomes particularly important. The members of the commission were also very careful to observe this. The inevitable conclusion is that here an allegedly existing physical agent

should, under constant conditions, exert an effect at one time, but not at another. That, however, violates the law of causality.

What, then, caused the obvious presence of these magnetic states or processes M if they occur independently of the actions A required in TAM? The Academy commission answered this question much the way John Stuart Mill did later with the “method of agreement”, which he condensed into the following rule: “If two or more instances of the phenomenon under investigation have only one circumstance in common, the circumstance in which alone all instances agree will be the cause of the given phenomenon.”²⁴ If we apply this to the case of Mesmerism, it means that the knowledge of the operations of the magnetizers is the only event occurring in all experimental situations with magnetic effects, and that it is thus the decisive cause of these effects. According to the words of the commissioners, it was thus ‘imagination’, based on a knowledge of magnetic operations and effects that was ultimately responsible for the appearance of Mesmerist states among the persons observed.

Thus (and here it is the *distinction between fact and hypothesis* that is concerned) it is not necessary, in order to explain the phenomenon of Mesmerism, that one assume the existence of a physical substance, the fluid *FLAM* or *ANMAG* respectively, supposed to cause this. On the contrary, the investigations of the Academy members did not reveal the least indication of the existence of *FLAM*, though this seemed to make absolutely no impression on Mesmer. To his dying day, he clung tenaciously to his belief in the existence of a physical agent called ‘animal magnetism’.

This perseverance was further fed by his supreme lack of consideration for the *principle of empirical adequacy*, which left him indifferent to the results of empirical tests of his theories. Once he decided that he was in possession of the truth, he had nothing more to learn from the test of experience. Mesmer’s disregard of the law of causality and the principle of empirical adequacy corresponds to an apparently indestructible trust in the validity of the old fallacy ‘*post hoc ergo propter hoc*’.

Mesmer’s own conviction, and probably also his ability to convince others, depended on patients, believing, after a magnetic cure, that they were healed - whether justifyingly or not is of no importance here. On the other hand, the members of the commission pointed out that these supposed therapeutic effects of magnetic treatment could be the result of imagination. The self-healing powers of nature should also not be left

²³I would not like to contend, however, that these three characteristics cover all aspects of good scientific practice.

²⁴Mill (1973, p. 390).

out of consideration. And finally, even aspects of the magnetic treatment, such as strongly pressing or rubbing parts of the body, could create effects that Mesmer ascribed to ANMAG. This argument, too, did not impress Mesmer. Mesmer's distorted understanding of causality viewed the apparent proof of the success of HAM as support for TAM and as proof of the existence of FLAM and ANMAG, for that matter.

Moreover, it is not the case that the members of the commission cast doubt on the existence of mesmerist phenomena as such. On the contrary, in his exposé for the Academy, Bailly stated explicitly that magnetic phenomena are "facts for a still new science, the science of the influence of the moral on the physical."²⁵ We see here in Bailly's remark the anti-Leibnizian program of taking psychic phenomena out of the realm of metaphysical government into that of mechanics. The science projected by Bailly, which simply examines in other words the interaction between mental and physical states has since itself been established in many variants. Full knowledge of the "influence of the moral on the physical" would consist, however, in solving the so-called mind-body problem, which we are very far from doing and perhaps will never achieve.

Mesmer's supporters now made it clear, entirely in the spirit of their hero, that the - in their eyes - corrupt and stupid academy report was counterbalanced by Jussieu's minority vote.²⁶ This assessment is not justified by Jussieu's report.²⁷ Jussieu by no means supported radically flawed practices in science. Neither did he doubt the distinction between fact and conjecture, nor believe that one can do without respect for the law of causality. Finally it is also clear that he did not hold that scientific theories need not care about experience. Jussieu's report contradicts that of the majority only in expressing doubts that the experiments conducted by the majority are themselves sufficient to justify a negative vote on Mesmerism. Moreover, Mesmer may have used an unsuitable theory to explain magnetic phenomena. Jussieu knew of a better one that was worth investigating. His own theory, however, is indebted to a type of theory that in his day had already been surpassed by scientific progress. Similar to alchemistic theories, it is a so-called theory of principles according to which all natural events can be traced back to the 'principles' of matter and movement. The principle of movement reveals itself in apparently different ways, for example, in magnetism, in electricity, and in heat. Heat, more than anything else, is responsible for the mesmerist phenomena, since it is conveyed through the contact taking place during the magnetic treatment. The therapeutic effects of HAM are essentially

²⁵Bericht (1785, p. 17).

²⁶Cf. e.g. Tischner/Bittel (1941, p. 291).

²⁷ Cf. Jussieu (1826).

those of the time-honored method of contact medicine, which was simply renewed in this case. Jussieu, moreover, gives no indication in investigating these alternative theories that he does *not* intend to accept the above-mentioned criteria for distinguishing between science and pseudoscience.

As for the second question put to the commission by the king, namely, the question about the therapeutic value of Mesmerism, the argument of the commission is less convincing. Among its objections to the therapeutic value of Mesmerism is, first, that the resulting violent convulsions are not compatible with supporting the healing powers of nature by 'soothing' means. In view of the treatments advocated by academic medicine at the time, this is a hypocritical argument. In addition, the commission feared that convulsions could become habitual, finally occurring without magnetic stimulus. They would reach epidemic proportions and become inheritable. In fact, the Review of the physicians even claimed that the convulsions were carcinogenic. As convincing as I find the argumentation of the members of the commission concerning the theoretical status of TAM, NAM, and HAM, their arguments concerning the use or abuse of magnetic treatment are just as unconvincing. In my view, the only convincing argument for or against the therapeutic use of HAM, or any therapy for that matter, is whether it eases the suffering of the patient without keeping him from what might be a better therapy. Whether such a therapy also possesses a corresponding theory is of secondary importance.

IV. Conclusion

To sum up: we are left with the curious fact that Mesmer, without being influenced by and participating in the romantic movement initiated by Schelling, on the one hand created one of the most romantic versions of romantic science. On the other, he believed that his theory TAM accorded completely with the mechanistic paradigm of the natural science of his time.

The report of the Paris Academy was a reasoned attempt to prove the contrary. But as it turned out, this report did neither convince Mesmer, nor did it convince those who remained or became adherents of Mesmer's views. Quite to the contrary, they were sure that the commission was wrong. From this resulted a significant change as to Mesmerism's claim to be regular natural science: after 1784 Mesmer did not care any more about the approval of TAM by standard natural science.

The French Revolution meant a great setback for Mesmerism. Soon Mesmer found it safer to leave Paris and seek refuge in Switzerland and keep a low profile. He was so

successful doing this that, by the mid-nineties of the 18th century, both TAM and its originator had fallen into almost complete oblivion. But there occurred a remarkable revival in the new century. A few years before Mesmer's death in 1815 his teachings became popular again. Everybody thought that he had died years ago, and was surprised to learn that he was still alive.

But the revival of Mesmerism occurred in a context that was completely different from its origin. As I said Mesmerism was originally intended as part of regular natural science. Now, at its revival, it was immediately integrated into the romantic movement that saw itself as an alternative to natural science, or even as its only true realization.

It is an interesting cultural phenomenon that one can observe up to the present day periodical revivals of romantic science in general and Mesmerism in particular. Most of what carries the label "holistic" these days is, for example, of that sort.

It does not seem far fetched to suppose that this search for alternatives to natural science will continue also in the future. People seem to be unsatisfied with the supposedly arid and impersonal results of natural science as we know it. They want a world that is more enchanted. And they create it for themselves, regardless whether these creations stand the test of reasoned scientific methodology.

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