A nosology for supernatural phenomena and the construction of the 'possessed' brain in the nineteenth century*

Valéria Portugal Gonçalves

PhD in Collective Health in Instituto de Medicina Social/ Universidade do Estado do Rio de Janeiro (IMS/UERJ).
Rua São Francisco Xavier, 524,
pavilhão João Lyra Filho, 7º andar, blocos D e E
20550-900 – Rio de Janeiro – RJ – Brazil

goncalves.vp@gmail.com

Francisco Ortega

Associate professor at IMS/UERJ.
Rua São Francisco Xavier, 524,
pavilhão João Lyra Filho, 7º andar, blocos D e E
20550-900 – Rio de Janeiro – RJ – Brazil

fjortega2@gmail.com

Received for publication in February 2011.
Approved for publication in April 2012.

Translated by Derrick Guy Phillips.

GONÇALVES, Valéria Portugal; ORTEGA, Francisco. A nosology for supernatural phenomena and the construction of the 'possessed' brain in the nineteenth century. *História, Ciências, Saúde – Manguinhos*, Rio de Janeiro. Disponível em http://www.scielo.br/hcsm.

Abstract

At the end of the twentieth century, supernatural phenomena such as so called trances and possession by spirits received a scientific classification, which includes the numerous diagnoses of the dominant psychiatry. At the end of the nineteenth century we can observe a process of scientific categorization of phenomena considered to have originated in superstition or popular imagination. In this work we show how trances and spiritual possession were studied by Franz Anton Mesmer and his followers when developing the concept of magnetism; by James Braid during the creation of his theory of hypnosis; and by Jean Martin Charcot, which marked the entry of hysteria into nosological classification. Despite the differences between these schools, we identify the use of the brain and cerebral metaphors as the foundation of theories of the mind.

Keywords: trance; spiritual possession; mesmerism; hypnosis; hysteria.

As from the fourth edition of the *Diagnostic and statistical manual of mental disorder*, DSM-4, (APA, 1994), there is included among the group of dissociative disorders a diagnostic category called disorders from possession trances. As a result, complex mental states, such as trances and spiritual possession, which are rife in the popular imagination or superstition, have gained the status of a nosological category, on the basis of official diagnostic classification by the leading schools of psychiatry. Trances and possession have been considered dissociative states since the third edition of the DSM (APA, 1980), when they ceased to form part of the group of hysterias. Until the second edition of the manual (APA, 1968), when Freudian theories dominated explanations of phenomena, such mental states, although not mentioned in the text, were placed in the category of hysterical neurosis of a dissociative type.

The appropriation by science of religious, cultural or supernatural phenomena forms part of a process which repeats itself in the history of science. The phenomena known as clairvoyance, xenoglossy and mediumship have been viewed as witchcraft, magnetic states and hysteria at different times in the history of civilization. This article shows the processes of classifying trances and possession states which were followed during the nineteenth century, starting with the theory of animal magnetism created by Franz Anton Mesmer (1734-1815) and his followers. Following this, we look at the creation of the theory of hypnosis by James Braid (1795-1860) and the classification of hysteria by Jean Martin Charcot (1825-1893), which finally opened the doors of academia to this phenomenon. The brain and cerebral metaphors were the common factor in these theories of the mind, which sought to render natural phenomena until then considered supernatural.

From the magnetic brain to the hypnotized brain

The Mesmerist movement, started by the Austrian doctor Franz Anton Mesmer at the beginning of the nineteenth century, was the subject of many attacks and accusations of charlatanism. Because of this its members had an interest in finding ways of obtaining scientific approval for the doctrine. For this purpose it was necessary to devise theories to explain phenomena which were considered occult, ecstatic or supernatural, using physiological terminology to transform mental states originating in mesmeric trances into natural phenomena, the mechanisms of which were located within the nervous system.

As it spread through Europe, the movement encountered ups and downs in its reception by academic circles, until it was finally overthrown during the nineteenth century, when its assumptions, according to certain authors, were reclassified under the heading of hypnosis (Bernheim, 1884, 1886; Sinnet, 1893; Oppenheim, 1985). However, according to Braid (1843), hypnosis represented a fundamental break with magnetism. Ordinary mental states, as well as extraordinary ones, such as trances and possession, were described in terms of electro-physiological explanations which had been proved since the end of the eighteenth century – galvanism and the theory of conductors, for example. These explanations represented fundamental contributions towards consolidating a materialist conception of the mind.

In creating a very particular method, considered by many to be eccentric, Mesmer claimed that he could cure various types of illness using magnets (Mesmer, 1779). The theory rested

on the supposed magnetism between celestial bodies and their corresponding influence on our own organisms (Alvarado, 2002; Gauld, 1992; Whorton, 2002; Mateo, 2004). Later he abandoned the magnets and, in his words, started to make use of his own body and personality, devising a method which he termed animal magnetism. Mesmer's theory explaining his treatment was based on the assumed existence of an ethereal fluid, which served as a means for the transmission of the influence of the heavenly bodies on the Earth, which was capable of being conducted through the human nervous system (Whorton, 2002; Mateo, 2004). This invisible fluid was responsive to the magnetism that was inherent in the operator or the magnetizer (Quen, 1976). For Mesmer and his followers, health depended on a balance of this vital fluid within the organism. The reputation of the founder of the theory was shaken after his methods were refuted in a negative report[1] issued by the commissioners of the King of France in 1784.

The most famous disciple of Mesmer, the marquis Chastenet de Puységur (1751-1825), was a doctor who sought to apply to the magnetic methods discredited thirty years previously a vocabulary which might convince medical academic circles to make a new assessment. He addressed an appeal to the members of the Faculty of Paris to examine the theories on the basis of what he believed was a sufficient argument for their consideration: the physiological alterations in such phenomena. In a document written in 1811, he made use of prestigious theses from the past, principally the discoveries of Newton, which merited a complete chapter in one of his works (Puységur, 1811).

Even in the preface to this document we can see the metaphors which he considered important in the difficult task of explaining, for example, somnambulism[2], which was then one of the most curious and interesting of the magnetic phenomena. He based himself on the discovery of galvanism, enshrined in Voltas piles, in order to demonstrate that mineral magnetism or electricity were results of greater or lesser acceleration in the movement of the universal fluid within the body. Wishing to establish that magnetism was not a question of mystical or superstitious processes, Puységur (1811, p.239) stated:

> Tell those credulous or superstitious beings, deluded by an apparent miracle that what they believe to be supernatural, because they are ignorant of its causes, that these facts are no more than a simple manifestation of the vital fluid's fermentation in man which occurs frequently. … Something that sages of former times already suspected, but whose existence, with the aid of somnambulism, cannot today be doubted. To the enthusiast, operating mystically or in good faith, these alleged prodigies are far from being the result of the influence of any familiar spirit or tutelary divinity, whose conceited opinion of himself makes them attribute such a result.[3]

Puységur thus shows that all these facts, including convulsions and cataleptic states, obey, in accordance with the law of the magnet and of electricity, the impulses of its magnetizer will. It is not only the driving force, but the generator and modifier of all magnetic manifestations and, as he wishes to show, all the phenomena are physiological and are no more than natural facts (Puységur, 1811, p.240).

Deleuze (1826), also a follower of Mesmer, believed that if the same commissioners who refuted his master had carried out their examination ten years later, they would have recognized the power of the will, they would have observed somnambulism, of which they

had no conception, and would therefore have arrived at totally different conclusions from those they had reached in such a hurry. He claimed that "if the doctors had been instructed with regard to magnetism …, it would have won a place among the factual sciences such as electricity; [magnetism] would have been clarified by the new research into the nervous system, and would in its turn have clarified such research" (p.10).

As regards the theory of the fluid, Puységur (1809) presented the explanation given by one of his patients when somnambulistic. When his patients were in this state, magnetizers stated that they observed a disproportionate increase in their mental faculties in relation to their waking state. It was in this manner that Puységur introduced a new way of acquiring knowledge, shifting the axis of knowledge authority towards the patient's speech when in a magnetic state. We note here that metaphors connected with magnetism and humors live alongside a cerebral cause for the course of the fluid in the body:

> Magnetism ... could be termed a form of preliminary optics, because, by means of it, we have the facility to see, to feel, to surmise and to judge effects clearly, as well as to order, omit and come to a definite conclusion on the vital magnet that we vulgarly call animal fluid. This restorer is driven by the will of the soul, which is a crude part, given that the soul we possess is not composed of matter. This magnet is, therefore, imperceptible and is taken from the center of the body to the heart and thence to the brain; it is through this domain that the will and action are born within us … When we are sick, this specific being [the magnet] is interrupted by the humors, which obscure and pale the initial clarity. The humors then rapidly reach the brain, and cause congestion related to an increase in fever. It is necessary to repel them [the humors] urgently if we do not wish to succumb. For this purpose a supplement for this magnet must be sought in order to fortify the individual. When it is present in sufficient [quantities], this magnet is the lord of the humors, it affects them rapidly, re-animates the blood, and consequently restores them to a proper balance (Puységur, 1809, p.201-202).

Other interpretations by followers tried to give an account of exceptional symptoms, such as, for example, the explanations of Léon L. Rostan (1790-1866), a French mesmerist who influenced the movement in Spain:

> The brain of the magnetizer secretes a fluid which is very similar to electricity. This agent does not remain a prisoner within the skin or the muscles of the magnetizer, but flows towards the outside with a certain force, creating a nervous atmosphere around it. This active nervous atmosphere of the magnetizer mixes with the passive nervous atmosphere produced by the receptive will of the magnetized patient. The mixing of the two nervous atmospheres, in which the magnetic *rapport* resides, produces a certain kind of modification in the nervous system of the patient and explains the communication of the desires and wishes, and even the thoughts of the magnetizer to the magnetized patient (Rostan quoted in De Pablo, 2006).

In many texts of the magnetizers, we see an alternation between materialist and immaterialist conceptions. There were times when the phenomena of somnambulism were treated as a supposed special state in which the patient was receptive to the knowledge of the mysteries of life, and able to grasp religious ideas such as the immortality and independent existence of the soul and to make predictions with regard to the future of the magnetizer himself. On the other hand, it is notable that these same magnetizers, when reporting to the

academic world, sought to reduce the abstract to something comprehensible in physiological terms. This change in attitude led Cazeto (2001, p.157) to claim that we should take a relative view of this naturalization process. For this author, the conceptions of Romanticism – which saw a connection between the individual and the totality of existence – permitted a tolerance of thought processes bordering between mysticism and science which does not exist nowadays.

According to Oppenheimer (1985), mesmerism initially explained its extraordinary methods in physical terms and survived incomprehension for a certain period thanks to the subsequent scientific acceptance of the role of imagination and suggestion, which gave predominance to the mind over the body. The sensationalist atmosphere that surrounded the cures of Mesmer did not obscure the common nature of his theories, at least from the perspective of his contemporaries. For Oppenheimer, just as with other cosmologies at the end of the eighteenth century, there was nothing original in the subtle magnetic fluid of Mesmer. The century was crowded with fluids – universal, vitalist, mechanistic, animist, subtle, magnetized and electric. The theory of Mesmer was only one of many which confidently offered a view of the fundamental physical reality. With the spread of the Mesmerist movement in the nineteenth century, the mental implications of animal magnetism started to attract the attention of the medical profession. In this context, hypnotism offered, according to Oppenheimer, a way out for the movement by freeing it from its associations with occultism and finally giving it a respectable scientific status. The first stages of this gradual transformation arose from the work of James Braid (Oppenheim, 1985).

Not everyone agrees with this analysis. Sinnett (1893) claims that Braid disparaged the source from which he drew his conclusions – which were not so unprecedented as he readily claimed – even though it had performed a service to the public by making available such a valuable therapeutic tool. Braid suffered accusations of plagiarism, which he refers to himself in his texts (Braid, 1843). One such accusation was that he had taken from the Indo-Portuguese mesmerist José Custódio de Faria, known as Abbé Faria (1746-1819), the notion that the cause of magnetism resided in the patient himself, and not in the will of the magnetizer (Sinnet, 1893; Bernheim, 1884, p.60). Some authors argue that it is possible to find in the practices of Abbé Faria the beginnings of the notion of suggestion (at least as a mechanism for producing somnambulism) made use of by Braid (Sinnet, 1893; Bernheim, 1884), improved by Ambroise Auguste Liébeault (1823-1904) and later developed by doctors of the Nancy School – whose leading exponent was Hippolyte Bernheim (1840-1919).

The Scottish surgeon James Braid[4] became known through his attempts to discover the neuro-physiological basis for the effects of magnetism on the mental states of patients. Contrary, however, to the allegations of Oppenheimer and Sinnet, Braid claimed that hypnotism represented a break with regard to animal magnetism. At the time he wrote his work, he did not receive any credit. It was only after his death that his method was finally subjected to examination by members of the academy (Cazeto, 2001). What seems the most interesting part of his research is his attempt to prove that there was nothing supernatural in mesmerist therapy, making use of neuro-physiology to explain it better within a comprehensible scientific model. His aim of distinguishing between hypnosis[5] and mesmerism led him to declare that "neuro-hypnosis" was a new method "entirely separate

from animal magnetism" (Braid, 1843, p.4). At one time he stated that the discovery of a new cause for the phenomenon enabled him to develop a more effective method.

With regard to the altered states which were normally found in hypnotized patients, Braid (1843, p.XII) declared in his book:

> There is a remarkable difference in the degree of suscepbility of different individuals to the hypnotic influence, some becoming rapidly and intensily affected, others slowly and feebly so. This is only analogous to what we experience in regard to the effects of medicines on different individuals, and especially as regards wine, spirits, and opium and nitrous oxide.

Braid (1843, p.XIV) presented certain comparisons between the symptoms of hypnosis and the effects of chemical substances on the nervous system. He emphasized, as the result of opium as well as hypnotism, the mental state at different stages:

> At one stage, [hypnotism] gives an extraordinary power of concentration of thought, or disposition to rapt comtemplation, whereas, at another stage, the discursive, or imaginative faculties are excited into full play, and thus the most expanded, bright, and glowing scenes and images are presented to the fervid imagination. Such effects are quite analogous to those described as resulting from the use of opium, and detailed by the late Sir Humphry Davy, as experienced in his own person, from the inhalation of the nitrous oxide.

According to the author, if the effects produced by hypnosis were analogous to those produced by chemical agents, i.e. essentially material, then the assumption that magnetism was based on the will or the gaze of the magnetizer was starting from a false conception. This fact supported the truth of his thesis and thus of the idea that it was no more than a matter of the physiological effects on the nervous system (Braid, 1843).

A constant concern in his work was the widespread prejudice against mesmerism because of the risk of it being used for immoral purposes. It should be remembered that in the famous report of the Royal Commission, which condemned mesmerism in 1784, there was a third and secret version requested by the king on the alleged potential for erotic use and misuse in the case of defenseless patients in a magnetized state (Quen, 1976). As regards these risks of attacks on the morality of patients, Braid (1843, p.10) claimed that with hypnosis, as induced by the method explained in his treatise, there were no grounds for censure:

> I have proved by experiments, both in public and in private, that during the state of excitement, the judgment is sufficiently active to make the patients, if possible, even more fastidious as regards propriety of conduct, than in the waking condition; and from the state of mobility, and exalted sensibility, either by being rudely handled, or even by a breath of air. Nor it is requisite this should be done by the person who put them into the hypnotic state… And, finally, the state cannot be induced, in any stage, unless with the knowledge and consent of the party operated on. This is more than can be said respecting a great number of our most valuable medicines, for there are many which we are in the daily habit of using ... and which can be administered 'without the knowledge of the intended victim'. (emphasis in the original)

When present at demonstrations by the French mesmerist Charles Lafontaine (1803-1892) on a visit to England, Braid (1843, p.35) did not abandon all his prejudices with regard to

the method, but at the second demonstration something caught his attention: the inability of the patient to open his eyes even when instructed to do so. He became convinced that this inability was not attributable to any of the causes mentioned in the works which he had read on mesmerism.

> It is a law in the animal economy, that by a continued fixation of the mental and visual eye, on any object which is not of itself of an exciting nature, with absolute repose of body, and general quietude, [patients] become wearied; and … the feeling of stupor of which they will soon experience the tendency to creep upon them, during such experiments, a state of somnolence is induced, accompanied with that condition of the brain and nervous system generally, which renders the patient liable to be affected, according to the mode of manipulating, so as to exhibit the hypnotic phenomena. As the experiment succeeds with the blind, I consider it not so much the optic, as the sentient, motor and sympathetic nerves and the mind through which the impression is made. (p.31)

Braid (1843) believed that the phenomenon of hypnosis was induced simply by an impression made on the nerve centers by the physical and psychic condition of the patient, without the interference of any agency. According to Braid, this did not occur through the excitation produced by the action of a hypnotizer, because anyone could auto-hypnotize by strictly following the simple rules established by him. In a passage in his book, he sought to explain that he did not believe that the mind was something which could be reduced to the brain. To support his position, he used the metaphor that the mind was a musician who needed his instrument, the brain, to reproduce his work (p.76). Later, his researches led him to investigate more fully the fact that ideas suggested during hypnosis could treat pathological beliefs or ideas, which he considered the cause of illnesses. Thus, some authors have identified a change of course in his researches, through his concentration on the psychological aspect of hypnosis (Roudinesco, 1994; Bernheim, 1884; Cazeto, 2001).

According to the study by Roudinesco (1994), the work of Braid brought prestige to research into hypnosis, leading to an encounter between the then recent discoveries of anatomy and pathology and of brain mapping. On the basis of such work, this therapy could be newly defined and taken up again by Charcot, Bernheim and Liébeault. The fluid theory was refuted and replaced by physical-chemical-psychological notions. For Braid, everything happened within the brain, and there was no exterior force as imagined by the magnetizers (Cazeto, 2001).

Unconscious cerebralization and cerebral hysteria

Hypnotism arrived in France through Eugène Azam (1822-1899), a surgeon who, coming across a particularly unusual case of hysteria, tried to repeat the feats of Braid, in a search to clarify what appeared to be a total mystery to him and his contemporaries. It involved the famous patient Félida X., whose symptoms resembled various descriptions of dual personality then current. His attention was drawn to the fact that Félida, in addition to showing all the signs of hysteria, sometimes evidenced a state that Azam (1887, p.106) preferred to call "a second condition." In this state she was subject to a change in temperament which changed

her personality from its normal melancholic tone to a happy disposition very different from the earlier character in other aspects. The transition between the two states was always preceded by headaches and a kind of sleep. Questioned as to what she believed to be the nature of her illness, she never claimed that she felt she was another person. Unlike similar cases, in one of her conditions (or states), she was perfectly capable of remembering "her two lives." According to Azam, her case did not correspond to the many cases reported by other doctors at the time as cases of dual personality or dual consciousness. Azam proposed that Félida, in reality, suffered from temporary amnesia, and the idea that the patient had two lives was simply an illusion which the absence of memory could create in the mind of the observer.

Azam compared this case with what had occurred in the researches of Braid on hypnosis in a state of somnambulism. Like the hypnotized patients, Félida also could not remember what happened during her fits (in one of her conditions). Despite this amnesia, Azam noted a difference which he considered fundamental: during her fits the patient (when she experienced what we today call "another personality") did not show symptoms of anesthesia or hyperesthesia typical of somnambulism. In her normal state, however, these symptoms were shown by the patient. Azam therefore distinguished the case of Félida from somnambulism and theorized that the hysteria could be explained by a memory change. For the theory of a memory change, he had a physiological explanation, based on the experiments of Claude Bernard (1813-1878) and Jules Bernard Luys (1828-1897), which established a relationship between the circulation of the blood and brain functions (Azam, 1887, p.121). According to these two authors, an increase in the flow of blood led to a stimulation of brain functions, while a decrease produced calm and repose. Sleep brought on by a slowing down in circulation was caused by the temporary contraction of the vessels that carry blood to the brain. So Azam (1887, p.122) produced this analogy:

> Let us take as an example a function whose location appears certain. The function of articulate language. So! If the vessels which carry blood to the third circumvolution of the left anterior lobe are diminished in caliber, this function will be altered, and the others will remain intact. In the same way, if memory is abolished, we are entitled to believe that this alteration must be due to a lessening of the blood flow to those parts of the brain whose integrity and organic perfection are indispensable to the functioning of memory.

In summary, Azam (1887, p.122) claimed that the cause of the amnesia in his patient was the momentary and periodic decrease in the flow of blood to certain parts of the brain. He considered, moreover, that this momentary contraction of the vessels was due to the state of hysteria in the patient, a state which would affect the contracting elements of such vessels.

When repeating the experiments of Braid, Azam (1887, p.13) said that he had not witnessed any of the "marvelous facts of magnetism," but he said that this research had helped him to understand how these phenomena could be reproduced. According to Cazeto (2001), the work of Azam influenced researchers of the time to associate the phenomenon of divided personality with hysteria[6], giving rise to the notion that such a division was due to a change in memory and diverting attention from suggestibility to physiology. Moreover, in bringing hypnotism to France he helped the schools of Salpêtrière and Nancy to naturalize

the phenomena of magnetism, incorporating them into a systematic nosological table, whose principal author was Jean Martin Charcot; in this way ignoring pathological factors, as postulated by Bernheim and his followers. Both schools, however, encouraged a reduction of mental notions in favor of cerebral physiology.

Another important line of studies in memory arose from the researches of Théodule Ribot (1839-1896), who concerned himself with cases such as those in which someone did not recognize himself as the author of actions which others informed him he had performed – suggesting the existence of more than one personality in the same individual. According to Ribot (1881), memory was only a particular instance of a larger event, whose roots lay deep in organic life. Like Azam, he also classified the most complex cases of dual consciousness, which were widely publicized in the 1880s as cases of temporary amnesia. In his theories, memory was not the only basis of the self-consciousness. There was another basis, namely the perception of our own body and its functioning, and this coenesthesia was the basis of memory, which in turn was a conscious fragment of this wider perception of vital functions. This wider perception contained, in addition to memory, an unknown component – taken together, these components represented the total manner in which we experienced impressions (p.83-85). Something like a "life feeling," the repetition of which gave it a place below consciousness and which was the basis of personality. In this way the self-consciousness was formed by memory, but was based on the perception of vital functions (Cazeto, 2001).

According to the explanations of Ribot (1881, p.25), "nervous activity is much more extensive than psychic activity: every reaction presupposes a nervous action, but the contrary is not the case." The state of consciousness was, according to the author, a specific state of the nervous system, and nervous activity is not ancillary to, but an integral part of, the perceptive event:

> It is the basis, the fundamental condition; providing it is present, the event exists in it; if consciousness is added, the event exists by itself; consciousness completes it, but does not constitute it. If one of the conditions for the phenomenon is absent, be it intensity or duration or others that we are unaware of, one part – the conscious process – disappears; the other part – the nervous process – still subsists. Nothing is left of the event save its purely organic phase. It is in no way strange, however, if later the results of this cerebral activity reappear; it occurred in fact, even if nothing noticed it. Once this is understood, everything related to unconscious activity loses its mysterious character and can be explained without difficulty (Ribot, 1881, p.25).

With these ideas, Cazeto (2001) believes that Ribot naturalized mental processes which were considered to be exclusively spiritual and thought of as superior. In a certain way, for Cazeto, Ribot reduced the psychic to the somatic by explaining mental phenomena in physiological terms. This theory led him to develop the concept of physical personality as a species of representation of somatic states, the self-consciousness being a result of this representation based on its physical constitution. He thus explained the variations in personality in accordance with somatic changes and the effects they produce on identity.

> If, then, it is admitted that organic sensations experienced in all bodily tissue, in all the organs, in all movements produced, in a word, in all bodily states, are represented to some degree and in some form in the *sensorium*, physical personality is nothing

> more than the sum of them. It follows that it must vary with the organic sensations and that these variations comprise all possible degrees, from simple indisposition to a total metamorphosis of the individual. The examples of dual personality, of which such a fuss is made … are merely extreme cases (Ribot quoted in Cazeto, 2001).

Cazeto (2001) observes that in the nineteenth century the idea of hereditary factors also gained in importance, and the concept of the pathological family seems to have derived from the popularization of old religious notions. Ribot's book *L'hérédité psychologique* dealt with precisely these ideas of heredity, with descriptions of pathological states and the possibilities of their transmission between generations in the family. At first Ribot (1894, p.138), in presenting his analysis, reinforced his arguments for an organic basis for mental states. He showed that diseases are transmissible, like all the features of external or internal structure, like all the various ways in which the normal state is organized, and that the same applied on the psychological plane.

The transmission of psychological abnormalities of all kinds, whether relating to the emotions, to crime or to madness, was admitted as the most general law of psychological heredity of unsound traits. According to Ribot, all mental states had an organic cause. According to the alienists, "madness may have purely psychological causes, as can be shown from the results of physiology, pathology, and clinical and microscopic observation; everything combines to overturn the theory that madness necessarily arises from changes in the organs and that the causes that produce it belong to the order of phenomena completely separate from material laws" (Leuret quoted in Ribot, 1894, p.139). In reply, Ribot (1894, p.139) recorded that, despite such categorical affirmations, the theory of Leuret was each day finding fewer sympathizers, "even among the philosophers."

> Ultimately, it [Leuret's theory] rests on our ignorance and our impotence, and is limited to saying that, in various cases, physical causes do not exist because we cannot see them. Beyond the limits past which the power of the microscope cannot go, however, phenomena are produced which, though they cannot be appreciated by our senses, are not the less material. Apart from this the idea of an illness of the spirit which is independent of all organic causes is so incomprehensible that even the spiritualists reject it. … As the immediate cause of madness is some unsound affection of the nervous system and that all parts of the organism are transmissible, it is clear that the hereditary nature of mental states is the rule. If we consider that thought is a simple function of the nervous system, or, on the contrary, that the nervous system is simply a condition for thought, that is of no significance here.

In his work, Ribot cites many cases of families in which mental illnesses were completely repeated over the generations, or other pathologies, also of a mental nature, manifested themselves. Among them are simple hallucinations (without alienation), in which the patient has no other symptoms except seeing ghosts – there being, in the majority of cases, reports of family members with this symptom.

In his celebrated *La Visionnaire de Prévorst* Kerner tells the story of the extraordinary 'visions' experienced by most of the members of the Hauffe family. The case of one of the brothers was less serious and without the complications brought on by the phenomena of ecstasy and catalepsy in the *visionnaire*.

> One form of monomania, rarer today but which was very flourishing three centuries ago, is known as possession or 'demon mania.' Such stories, which seem no more than fantasy today … were formerly a cruel and absurd reality. Possession was considered a crime by the tribunals of the time, punishable by death. This mental state, which was at that time described as supernatural, is actually transmitted by heredity (Ribot, 1894, p.147).

Another researcher who had a vital influence on the way the eminent French doctor Jean Martin Charcot thought and classified hysteria was Paul Briquet (1796-1881), author of *Traité de l'histerie*, a work considered to be the first systematization of the illness and responsible finally for the spread of the cerebralist idea. At the end of the third part of his book, Briquet (1859) devoted a chapter to the pathological anatomy of hysteria, in which he carefully constructed his theory. He examined various reports of anatomical and pathological studies carried out by other authors on hysterical women, in which the organs examined were principally the ovaries and the uterus. He sought to show that the classic idea that hysteria was a disorder of the sexual organs was mistaken, noting that the lesions found in these organs could be found in any patient who had died of other causes. He added that he had witnessed cases of hysteria in patients of the male sex.

Given the non-specific nature of the post-mortem findings relating to these organs, he chose to endorse the thesis of Charles Le Pois (1563-1633) and Thomas Willis (1621-1675), authors who in the seventeenth century had reached the conclusion that hysteria had its anatomical cause in the encephalon. His conclusions did not meet with a great reception at a time when only the genital organs were examined in anatomical and pathological studies of hysteria (Briquet, 1859).[7] With regard to the changes found in the brains of patients who had died of hysterical attacks, Briquet stated that he could not form definite conclusions, but, bearing in mind the phlegmasic changes that he frequently found, he believed there was such a connection between hysteria and meningitis, that it would be difficult not to suppose a direct relationship between the two. "In summary, even today anatomy does not explain either the site or the nature of hysteria; all we can posit is the existence of a certain degree of congestion of the blood in various parts of the encephalon or its principal extensions, a congestion which can be considered as nothing more than an accompaniment to certain hysterical phenomena" (Briquet, 1859, p.552).

Briquet concluded from this analysis that anatomical studies could not show that hysteria was dependent on a physical lesion. The object of these studies was to explore those parts which might be the site of prolonged hysterical phenomena and not mere organic consequences of attacks in their acute phase. The results, however, simply proved that the phenomena were dynamic and did not depend on any appreciable physical lesion (Briquet, 1859, p.552-553). It is curious that despite this finding of 'lack of material symptoms in hysteria,' Briquet never stopped referring to the brain to explain the phenomenon of hysteria. At the end of his analysis of anatomical and pathological studies, he showed his concern with the uncertain character of an organic substratum for the illness. He questioned whether the material nature of hysteria might be analogous to the nervous fluid, as the result of electrical activity, or whether hysteria involved a lesion which was not perceptible by our senses, or whether it might be similar to the wave motion of heat or light. He ended his reflections with

what seemed to be his pragmatic solution to the problem: "whatever may be the nature of this absence of physical lesions, it cannot be indifferent to treatment; it will serve to understand how it happens that simple modifiers of sensibility can act so powerfully on a large number of the principal phenomena of hysteria whatever its duration" (Briquet, 1859, p.553).

From cerebral hysteria to the 'possessed' brain

One of the many instances in which Briquet used the brain in order to reveal hysterical illness was in his approach to ecstatic phenomena. Briquet claimed that states of ecstasy are hysterical states with cerebral excitation taken to such a point that concentration on a single object leads to the temporary abolition of all other sensations and of other temporary movements. These states, produced by the concentration of the spirit on one object, were not uncommon at the time, and were typical of the mono-directional nature of religious ideas of life in the cloister, being very common among women. The author thus considered reasonable the numerous cases of ecstatic phenomena in women who had earned a reputation for sanctity or holiness. In this way he explained the historical cases of Elisabeth of Hungary, in 1207; Saint Gertrude, in 1281, and Saint Bridget, in 1343; Saint Catherine of Siena, in 1347; Joan of Arc, Saint Theresa and Madame de Chantal, in 1572; Maria d'Agreda in 1630; Madame Guyon, the correspondent of Fénelon, in 1688; and other cases considered to involve religious ecstasy and sometimes sanctified (Briquet, 1859, p.409).

Briquet (1859, p.409) considered ecstasy to be something inherent in most of the great epidemics of hysteria which occurred in religious houses and in places where "excessive devotional practices" and "abandonment to mystical ideas" had an important part in the process. According to the author, the convulsionaries of Cevenne were one of numerous examples: "some fall to the ground, lose consciousness, tremble all over and start to pray and prophesy. When one finishes, another falls to the ground and starts the process, sometimes two or three fall to the ground simultaneously" (p.409).

Just as he believed that sufferers from hysteria tended to get better as they grew older, "when advancing age dulls their sensibilities," Briquet (quoted in Cazeto, 2001, p.244) also made this prognosis in cases of hysteria with ecstatic attacks (Briquet, 1859, p.410). The author noted that this type of attack could take two forms: sometimes it was preceded by an ordinary phase of attacks consisting in spasms or hysterical convulsions, so that ecstasy was merely one of the manifestations of the attack: in the other form, the patient succumbed suddenly to ecstasy, without any prior manifestations.

The analysis that Briquet made of the pathological process through which the hysteria patient passed very much resembled the descriptions by Braid of the induction of hypnosis. Without doubt the pattern of hypnosis was significant in the scientific thought of the time. Finally, Briquet stressed his opposition to old ideas about the role of the genital organs in hysteria, which, although they had fallen out of fashion by that time, never ceased to form part of the thinking of Charcot, at least as a secondary symptom of the illness (Cazeto, 2001; Roudinesco, 1994).

As we have seen, Charcot interpreted the phenomena of hysteria, in the same way as cases of dual personality, always in comparison with his nosological system. Let us now look at a

'recipe' of Charcot, reproduced by his follower Paul Richet (1881, p.303-304), for a special type of hysteria:

> Suppose a second period in which all the strangest phenomena which constitute what we call 'clownism' multiply at will. Add to this the fury, the rage, the ravings, the disjointed movement which we have already described as part of the signs of this second period. Take all those which, during other phases of the attack, show something fairly extraordinary or marked by the predominance of painful elements, such as generalized contractions, or any horrible hallucination of the third period. You will have before you a kind of attack likely to inspire, with the passage of time, belief, horror or sympathy. It is exactly at this point a kind of fantasy. These attacks which we come across in our reality … are those which Charcot described as demoniac.

Richet (1881) analyzed demonic possession in accordance with the well-known classification of hysteria by Charcot into four phases. In the first phase, an epileptic stage was always easily recognizable; the 'clownism' is marked by a blinking of the eyelids and a vibration of the abdomen in partial tremors (p.304). In the second phase, the contortions with the body twisted into various positions involve the limbs being extended, so that if they are raised perpendicularly from the bed, they frequently become crossed by forced adduction (p.305). In the third phase, contractions normally persist, even though they may be short and incomplete. In the fourth phase, the patient returns to herself but the contractions do not disappear; the excruciating pain makes her beg for relief from the assistants. In short, it will be seen that these kinds of attacks are especially characterized by the predominance of painful contractions, and by the development of illogical attitudes or contortions which give such attacks the shocking aspect of the old cases of possession (Richet, 1881, p.308).

Having described the general picture, let us move on to the neuro-physiological researches carried out at the time, which supplied the explanatory models for the phenomena observed by these doctors. We should remember that, according to Charcot, the neuro-muscular hyper-excitability observed in hysterical patients was a particular feature of the muscles undergoing contraction, and was easy to demonstrate because it constituted a kind of anatomical and physiological proof. This fact gave reassurance to the observer with regard to the risks of simulation by the patient. When studying lethargy, Charcot discovered in this hyper-excitability a reflex phenomenon of the most primitive states of the nervous system, which permitted later advances on the more complex phenomena of the higher cerebral functions (Binet, 1889).

In catalepsy, the cerebro-spinal reflexes are at their maximum strength, thus leading to a state of contractions, which allows the muscles to stay for a long time in that position, and lending a power of contraction which was capable of overcoming any resistance imposed. It is said that, in fact, it is possible to support the body at its two extreme points, and that, even if a heavier weight is applied to it, it would not yield to the contraction. This is the explanation of the strange posture of episthotonos – the whole body contracted in the form of an arc – which is frequently seen in hysterical patients in a state of catalepsy, and consequently in demoniac contortions. In lethargy, the paradoxical neuro-muscular hyper-excitability can be explained only by a considerable exaggeration in the medullar reflexes, making it appear that the whole brain has been affected by inertia (Cullerre, 1887).

In his study of automatic behavior in catalepsy, Charcot (1889) observed a peculiarity of the patient in adopting the postures and positions of her limbs in accordance with the way in which her doctor placed them, rather like a tailor's dummy. This phenomenon was also described by the mesmerists in magnetized patients (Bernheim, 1884). Charcot postulated a higher integrating function, because the physiognomy of the patients also conformed with the gesture imposed. For example, on being placed in a position of prayer, the somnambulant patient soon started to manifest religious ideas, and the same thing occurred with other postures, such as fighting or aggression (Charcot, 1889; Binet, 1889; Cullerre, 1887). Charcot concluded that there was an automatic function of the brain which he called cerebral automatism or unconscious cerebration, an expression which Cazeto (2001, p.282) claims came from Ribot.

Another disciple of Charcot, Gilles de la Tourette (1857-1904), described the signs of diabolical possession as being permanent hysterical *stigmata*. He believed that in hysteria in its general form there was a common base on which had developed a set of phenomena which constituted the affliction. This common base, which could be concretely designated as a general hysterical state – leaving aside temperament, because he considered it more particularly on the psychic side – was formed by the conjunction of a large number of factors. Even this list was not complete, but a common thread united them: the tenacity, which made Charcot call them permanent *stigmata*. These permanent *stigmata* could be divided into somatic and psychic types. Among the former, the most frequent were alterations in sensibility – anesthesia and hyperesthesia. It was anesthesia that received the most attention in the work of Tourette (1895).

Tourette devoted himself to the diabolic *stigmata*. Among the signs of possession recognized by the Church, such as elevation of the body into the air and the ability to speak and understand foreign languages, were the marks which the devil imprints on the bodies of those possessed. For the author, these diabolic signs showed themselves in the histories of cases of possession as commonly as those in cases of hysterical anesthesia. In the autobiography of Jeanne des Anges, mother superior of the Ursulines of Loudun, published by Charcot, there is mention of formication. Sometimes her whole body was burnt. From being hemi-anesthetic or hyper-esthetic, Jeanne des Anges became totally anesthetic. She spent some nights in cubes of frozen water; other nights naked in the snow; sometimes she threw herself into clumps of thorns, so that she was found torn all over, or rolled in nettles the whole night (Tourette, 1895).

In a supplementary study to their *Études cliniques sur l'histéro-épilepsie ou grande hystérie*, entitled *Les démoniaques dans l'art*, Charcot and Richet set themselves to show the place of hysterical neurosis in art, at a time when it was not considered an illness, but a perversion of the soul due to the presence of the devil and his tricks. They opted for what they considered a retrospective study of medicine, like those carried out by Louis Florentin Calmeil (1798-1895), Émile Littré (1801-1881) and others, but with the novelty that they based their study on illustrated documents (Charcot and Richet, 1887). The high point of their study appears to have been the painting by Rubens, *St Ignatius combating the possessed* (Museum of Vienna), reproduced in their work. For the authors, the most notorious aspects of a major attack can be found there:

> It would be impossible to unite in one figure more shocking signs of major neurosis. From the seventeenth and eighteenth centuries, the work leads us to the demoniacs of

> today, that is to say, the men and women who are victims of major hysterical attacks. In the apparent incoherence there is a rationality arising out of a diseased process … in the same way as follows a grouping of all these phenomena, we see the indisputable signs of a pre-established order, the constancy and inflexibility of a scientific law (Charcot and Richet, 1887, p.956).

In French medicine, other researches contributed towards forming the thinking of the time with regard to hysteria. In the experiments of Charcot it was already possible to identify a gradual change in conceptions with regard to the mind and the states of division of the self-consciousness, with the rise of psychological notions. The Charcot (Salpêtrière) School emerged defeated in its rivalry with the Nancy School, but some aspects of his studies certainly contributed to the famous debate between Freud and Janet, at the turn of the twentieth century. The polarization between theories of dissociation and ideas of unconscious conflict gained importance in scientific circles, and the extraordinary phenomena remained within the field of hysteria for nearly the whole of the twentieth century, with the victory of Freudian theories.

Final considerations

In the nineteenth century, extraordinary mental states were considered natural phenomena on the basis of theoretical models which attempted to reinforce a materialist conception of the mind. Mesmerists, and subsequently orthodox doctors, in confronting extraordinary phenomena, shared a tendency to look in physiological mechanisms for explanations to provide an academic seal of approval for their researches.

A theory followed by doctors, mesmerism was however also practiced by people of various professions, such as showmen who were interested in entertaining their public in city squares. This provoked intense reactions in academic circles. The doctor who took his discontent furthest was James Braid, who was obsessed with the task of demythologizing the practice.

In an attempt to reveal any element of mystery in sessions of magnetism, Braid ended by developing a theory which was an important contribution to medicine. His aim was to search for physiological explanations for mental states which resulted from what he believed to be a cerebral condition. His theory, once scientifically approved, allowed mental states previously seen as extraordinary to become the object of scientific investigation. The explanation of physiological changes in the brain during the occurrence of such mental states was enough to free them from their previous association with charlatanism.

The new brain-oriented conception of supernatural phenomena allowed the systematization of a new nosology by the medical schools of Paris, which was able to wipe away all the history of superstition, re-telling it from a medical and scientific angle and leaving the field clear for new reforms to public health care. Freed from the bonds of religious ideology, medicine had the field to itself. For this purpose, it was necessary to incorporate within its nosological categories deviant behavior and attitudes formerly considered as religious phenomena. The location of the causes of these disturbances in the physiology of the brain allowed a political statement to be made, but it also represented the emergence of a new form of subjectivity, in which the brain became the reference point for the description of mental states and behavior.

NOTES

* This article is partly based on the master's degree thesis by Gonçalves (2008).

[1] In 1784, King Louis XVI appointed a commission to investigate animal magnetism, the American ambassador in France, Benjamin Franklin, being one of its members. The commission concluded that the fluid did not exist, and asserted that the effects of this type of treatment were due simply to the 'excited imagination of the patient' and to 'involuntary imitation.' This official condemnation had a strong negative impact on the spread of mesmerism throughout Europe (Gauld, 1992).

[2] Magnetizers, through the use of exposure to magnetic fields, induced in patients a mesmeric state of trance which was classified into three stages: lethargy, somnambulism and catalepsy. In somnambulism, the mental state which was described by Puységur (1811) and ignored by his master, the patient evidenced extraordinary faculties, such as the prediction of future events, and the guessing of diagnoses and the prescription of treatment with great success (Quen, 1976; Gauld, 1992).

[3] In this and other citations from non-English language, a free translation has been provided.

[4] Some texts consider James Braid as an English doctor, but in fact, despite living and carrying on his professional practice in Manchester, he was born and educated in Scotland (Gauld, 1992).

[5] Hypnosis was a term coined by Braid himself (1843) from the Greek *hypnos*, sleep. In his work he proposes a vocabulary containing various distinct terms, among them neuro-hypnosis; only hypnosis survived the scrutiny of his peers (Gauld, 1992).

[6] Charcot analyzed the so-called cases of split personality, comparing them to cases of somnambulism, but trying to locate them within his nosography of hysteria. He believed that these cases were a variation of the third stage of a hysterical attack, in which the passions predominated. Basing himself on certain ideas of Ribot, Charcot tried to understand the unconscious as an eminently cerebral process (Cazeto, 2001).

[7] Although Xavier Bichat (1771-1802) was considered the founder of pathological anatomy in the nineteenth century, Foucault (2004) reminds us that the practice already existed in previous centuries. Consideration of the birth of pathological anatomy was a mythical reconstruction of the nineteenth century, which this author considers a retrospective illusion in the history of medicine.

REFERENCES

ALVARADO, Carlos. A.
Dissociation in Britain during the late nineteenth century: The Society for Psychical Research, 1882-1900. *Journal of Trauma and Dissociation*, McLean, v.3, n.2, p.9-33. 2002.

APA.
American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, 4 ed*. Arlington: APA. 1994.

APA.
American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Diseases, 3 ed*. Arlington: APA. 1980.

APA.
American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, 2 ed*. Arlington: APA. 1968.

AZAM, Eugène.
Hypnotisme, double conscience et altérations de la personalité. Paris: J.B.Baillière et Fills Librairie. 1887.

BERNHEIM, Hippolyte.
Reponse à l'article de M. Binet sur le livre de M. Bernheim: De la suggestion et de ses applications thérapeutiques. *Revue de l'hypnotisme experimental et thérapeutique*, Paris, p.213-218. 1886.

BERNHEIM, Hippolyte.
De la suggestion dans l'état hypnotique et dans l'état de veille. Paris: Octave Doin et Fils. 1884.

BINET, Alfred.
Intensité des images. *Revue Philosophique et de L'Etranger*. Paris, tomo 23, p.473-497. 1889.

BRAID, James.
Neuroypnology or the rationale of nervous sleep considered in relation with animal magnetism. London: J. Churchill. 1843.

BRIQUET, Paul.
Traité clinique et thérapeutique sur l'hystérie. Paris: J.B. Baillière et Fills Librairie. 1859.

CAZETO, Sidnei José.
A constituição do inconsciente em práticas clínicas na França do século XIX. São Paulo: Escuta; Fapesp. 2001.

CHARCOT, Jean Martin.
Leçons du mardi a La Salpêtrière. Policlinique 1887-1889. Paris: E. Lecrosnier et Babé. 1889.

CHARCOT, Jean Martin; RICHET, Paul. *Les demoniaques dans l'art*. Paris: Delahaye et Émile Lecrosnier. 1887.

CULLERRE, Alexandre. *Magnétisme et hypnotisme*. Paris: J.B. Baillière et Fils. 1887.

DELEUZE, J.P.F. *Lettre a messieurs les membres de L'Académie de Médecine*. Paris: Béchet Jeune Libraire. 1826.

FOUCAULT, Michel. *O nascimento da clínica*. 6.ed. Rio de Janeiro: Forense Universitária. 2004.

GAULD, Alan. *A history of hypnotism*. Cambridge: Cambridge University Press. 1992.

GONÇALVES, Valéria Portugal. A naturalização dos fenômenos sobrenaturais e a construção do cérebro 'possuído': um estudo sobre a medicalização do transe e da possessão no século XIX. (Dissertação) – Mestrado. Instituto de Medicina Social, Universidade do Estado do Rio de Janeiro, Rio de Janeiro. 2008.

MATEO, David Nofre. *En els marges de la ciencia? Frenologia i mesmerisme en una cultura industrial, Barcelona 1842-1845*. Barcelona: Centre d'Estudis d'História de les Ciències. Universitat Autònoma de Barcelona. 2004.

MESMER, Franz Anton. *Mémoire sur la découverte du magnétisme animal*. Paris: P.F.R. Didot. 1779.

OPPENHEIM, Janet. *The other world: spiritualism and psychical research in England, 1850-1914*. Cambridge: Cambridge University Press. 1985.

De PABLO, Angel Gonzáles. Animal magnetism in Spanish medicine (1786-1860). *History of Psychiatry*, London, v.17, n.3, p.279-298. 2006.

PUYSÉGUR, Armand MarieJacques. *Recherches expériences et observations physiologiques sur l'homme dans l'état de somnambulisme naturel et dans le sonamnbulisme provoqué par l'acte magnétique*. Paris: J.G. Dentu, Imprimeur Libraire. 1811.

PUYSÉGUR, Armand Marie Jacques. *Du magnétisme animal considéré dans ses raports avec diverses branches de la physique générale*. Paris: J.G. Dentu, Imprimeur Libraire. 1809.

QUEN, Jacques M. Mesmerism, medicine, and professional prejudice. *New York State Journal of Medicine*, New York, v.76, n.13, p.2218-2222. 1976.

RIBOT, Theodule. *L'hérédité psychologique*. Paris: Félix Alcan. 1894.

RIBOT, Theodule. *Les maladies de la mémoire*. Paris: Félix Alcan. 1881.

RICHET, Charles. *Études cliniques sur l'histéro-épilepsie ou grande histérie*. Paris: Delahaye et Lecrosnier. 1881.

ROUDINESCO, Elisabeth. *Histoire de la psychanalyse en France. v.1: 1885-1939*. Paris: Fayard. 1994.

SINNETT, Alfred Percy. *The rationale of mesmerism*. Cambridge: The Riverside Press. 1893.

TOURETTE, Gilles de la. *Traité clinique et thérapeutique de l'hystérie d'aprés l'enseignement de La Salpêtrière*. Paris: E. Plon et Nourrit. 1895.

WHORTON, James. C. *Nature cures: the history of alternative medicine in America*. New York: Oxford University Press. 2002.