

ESSAY REVIEW

Psychic Phenomena and the Brain Hemispheres: Some Nineteenth-Century Publications

The Night-Side of Nature: Or, Ghosts and Ghost Seers (Volume 1) by C. Crowe, London: T. C. Newby [1848].

Modern Necromancy in *North American Review*, 80:512–527 [1855].

Automatic Writing—II by F. W. H. Myers, *Proceedings of the Society for Psychical Research*, 3:1–63 [1885].

Duality of the Brain: A Theory of Mind-Reading and Slate-Writing by R. C. Word, *Southern Medical Record*, 18:81–89 [1888].

The Double Personality, and the Relation of the Submerged Personality to the Phenomena of Modern Spiritualism by A. N. Somers, *Psychical Review*, 1:314–323 [1893].

Psychology and Spiritism by C. Lombroso. *Annals of Psychical Science*, 7:376–380 [1908].

Writing in 1839, physician Henry Holland stated: “I am not sure that this subject of the relation of the two hemispheres of the brain, has yet been followed into all the consequences which more or less directly result from it” (Holland 1839:151). One of these “consequences” is the work about ESP and brain hemispheric functioning which started mainly in the 1970s (e.g., Braud & Braud 1975, Broughton 1976, Maher & Schmeidler 1977; on these and other studies see Williams 2012). The authors of reviews on the subject (Broughton 1975, Williams 2012) mentioned the speculations of Frederic W. H. Myers (1885a) about automatic writing, telepathy, and the hemispheres, but they presented few details, and did little with other early contributions, which is the point of this Essay Review (see also Harrington 1987). I will summarize here ideas about the relationship between psychic phenomena and the brain’s hemispheres published between the mid-Nineteenth Century and the first decade of the 1900s. These early ideas present examples of how neurological concepts filtered into beliefs and theoretical work about various psychic phenomena.

The Background for Ideas about Psychic Phenomena and the Brain's Hemispheres

Physiological ideas regarding the mind, and various psychological experiences, flourished during the Nineteenth Century as a consequence of the growth of the biological and medical sciences.¹ The field of neurology was particularly important, as it passed through a revolutionary stage during this period, in which various methodological, clinical, and theoretical developments changed the field (Brazier 1961, Spillane 1981, Young 1970). These developments, including electrophysiology and localization of brain functions, led to the discussion of the immediate historical and theoretical context of the ideas about psychic phenomena and the hemispheres comprising them.

The rapid development of neurology in the Nineteenth Century led to an interest in physiological explanations for psychic phenomena and related psychological anomalies such as mediumistic and hypnotic trance, and hysterical dissociation (e.g., Beard 1877, Haddock 1851, Prince 1898). For example, Azam (1887) argued that the well-known double personality case of Félida X. could be explained through peculiarities of the circulation of blood in her brain. Among the hypotheses presented to explain reports of alleged psychic phenomena, particularly those reported to occur in the presence of mediums, one group of physicians offered a variety of neurologically and psychophysiology based notions. Some of them were hallucinations, suggestion, unconscious reflexes or movements, and perceptual and memory errors (e.g., Beard 1879, Carpenter 1874, Hammond 1870).

Another group, who felt that the reports provided evidence for the occurrence of genuine psychic phenomena, proposed that such phenomena manifested themselves by the action of some “force” acting through the brain, and through other parts of the nervous system, to produce external effects.² Although such concepts of force come from antiquity (Amadou 1953), they were particularly influential in the Western world through the movement of mesmerism and its concept of animal magnetism. This force was considered by many during the Eighteenth and Nineteenth Centuries to be intimately related to the vitality of the body and to be the agent behind the mesmeric trance, healings, and many other phenomena reported by the mesmerists (Gauld 1992). One such explanation of physical phenomena was the speculation of John B. Dods (1795–1872), lecturer on Spiritualism and defender of the system of “electrical psychology,” that “electro-nervous” or “electro-magnetic” forces existed that were related to the “*involuntary powers* in the back of the brain. . . .” (Dods 1854:33). Dods emphasized that the brain was double, having a “front brain”—the cerebrum—in charge

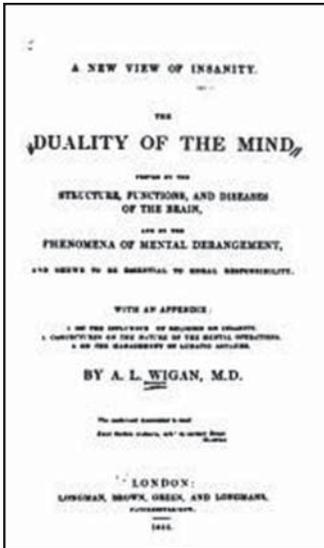
of “voluntary” powers (e.g., volition, reason, understanding), and a “back brain”—the cerebellum—related to “involuntary” powers (e.g., control of body functions, instincts) (Dods 1854:56–57). The authors of other books published around the same time also argued that these biological forces coming out of the human body could explain phenomena such as movements of objects, raps, and many of the phenomena of Spiritualism (Rogers 1853, Samson 1860). In addition, other writers speculated on the role of the brain in the emission and reception of energies responsible for thought-transference (e.g., Houston 1892).

Interest in the brain and in the functions of the hemispheres also flourished during these times. Although some researchers defended a unitary or an equipotential view of the functions of the cerebral cortex (Flourens 1824:236–241), the emphasis on localization began to be more widely accepted with the development of clinical and experimental neurology (Young 1970).

Particularly important for the support of the localization model were later clinical observations of cases of aphasia induced by brain lesion or disease (Broca 1861/1960, Dax 1865, Jackson 1878–1879)³ and experimental studies with animals (Fritsch & Hitzig 1870/1960) regarding the importance of the cortex in motor activity and electrical excitability of the hemispheres. Paul Broca’s (1824–1880) work with aphasic patients in the 1860s led him to suggest that speech was regulated by the left hemisphere (Broca 1861/1960).⁴

In general, a variety of ideas and controversies flourished during the period and reflected both the difficulties clinicians experienced in making sense of some of their observations, as well as the paucity of research. Nonetheless, these and further developments during the Nineteenth Century and the first two decades of the Twentieth Century led to the acceptance of the concept of left hemispheric dominance and the right hemisphere as the minor one (Benton 1972, 1976, Harrington 1987:Chapter 3).⁵

However, and regardless of dominance, the concept of duality of the brain was a popular subject for discussion during the Nineteenth Century (e.g., Brown-Sequard 1874, Holland 1839:151–167, Maudsley 1889, Wigan 1844). Some physicians argued against the trend that the right hemisphere had no important function and suggested that this hemisphere was involved in a “geographical” vision center (Dunn 1895), mirror writing (Ireland 1881, Mills 1894), “automatic speech” (Jackson 1868/1915), and control of writing movements (Lichtheim 1885). Others speculated on the possibility of discordant action of both hemispheres to explain some psychopathological syndromes (Ireland 1891, Luys 1888), particularly so-called cases of double personality (Holland 1839:162–163, Wigan 1844:391–398). Arthur



Wigan's 1884 *Duality of the Mind*

Ladbroke Wigan (d. 1847), an influential writer in this line of thought, also tried to explain déjà vu, autoscopy, somnambulism, and sleep and dreaming using the concept of discordant or alternate function of the two hemispheres (Wigan 1844:84–87, 126–127, 370, 372–375). In addition, there was a hemi-hypnosis movement that assumed that each brain hemisphere could be hypnotized separately and cause different phenomena in opposite sides of the body (for a review, see Harrington 1987:185–205).

A New View of Insanity

Regardless of all this interest in the double brain, the idea of different hemispheric functions does not seem to have been generally accepted at the time. This may be appreciated in criticisms of Wigan's book

(Anonymous 1845), and in the comments of supporters of the idea (Lyon 1895:107–108, Wilks 1872:162).

Regardless of the acceptance of such ideas, the application of many of them reflected more than the progress obtained in the discipline of neurology. They represented attempts to naturalize the unusual and the paranormal, a trend discussed in other contexts (e.g., Alvarado & Zingrone 2012, Gonçalves & Ortega 2013). Harrington has argued that some of the Nineteenth Century interest in the double brain was a strategy to naturalize the occult:

There was no denying that both the medium and the madman gave evidence of possessing "two minds". . . . Nevertheless, said the medical men, these phenomena all had their source in the lawful workings of the nervous system and were fully explicable in naturalistic terms. (Harrington 1987:110)

However, and as Harrington (1987:153) has also discussed, these attempts to naturalize the phenomena of dissociation and of Spiritualism did not consist only of a single reduction to brain activity. In addition to these arguments, a variety of neurological speculations, and the double brain in particular, was implied in what was considered true paranormal functioning (e.g., Beard 1877). In the rest of this review, I will discuss the latter through examples of speculations of the functioning of the brain's hemispheres.

Speculations on Psychic Phenomena and the Brain's Hemispheres

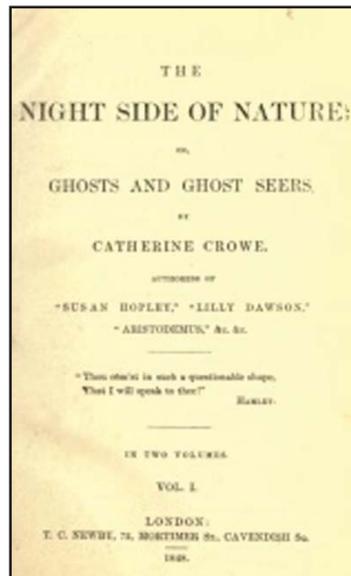
Catherine Crowe's Ideas in The Night Side of Nature

Catherine Crowe (1790–1876), a well-known British novelist in Victorian times (Stephen & Lee 1950:257), published a two-volume work called *The Night Side of Nature* in 1848 (Crowe 1848). Described as “one of the best collections of supernatural stories in our language,” the book was also criticized for “being exceedingly credulous and uncritical” (Stephen & Lee 1950:257). Its chapters dealt with spontaneous experiences such as psychic dreams, apparitions of the living and of the dead, hauntings, and poltergeists. The book was influenced by the publications of German writers on occult and psychic topics, although the opinions of persons from other countries, particularly England, were also included.

In her book, Crowe showed that she was aware of Wigan's ideas on the duality of the brain and mentioned them to explain “double or alternate consciousness” and déjà vu involving the cerebral hemispheres. Crowe was not convinced by Wigan's speculations about déjà vu and pointed out that presentiments of future things were particularly difficult to explain in this way (Crowe 1848:Vol. 1:98–99).⁶

Although ideas on the polarity of animal magnetism can be found in the writings of Franz Anton Mesmer (1734–1815) (Mesmer 1779:76) and others in the middle 1800s (Dods 1854:54–55, 62–63, 148–14, Reichenbach 1849/1851:179–219), Crowe seemed to have been influenced mainly by the ideas of German writers regarding changes in the polarity of the organism during altered states of consciousness and illnesses (Crowe 1848:Vol. 1:45–49).⁷ Sleep and sickness, for example, were conceptualized as a change from a positive to a negative polarity in the human organism. As Crowe (1848:Vol. 1:97) wrote to relate these ideas to the hemispheres as explanations for clairvoyance,

the senses, being placed in a negative and passive state, the universal change of the immortal spirit within . . . becomes more or less free to work



Crowe's 1848 *The Night Side of Nature*

unclogged. That the soul is a mirror in which the spirit sees all things reflected, is a modification of this theory. . . . Another view . . . , as maintained by Dr. Wigan and some other physiologists that our brains are double, it is possible that a polarity may exist between the two sides, by means of which the negative side may, under certain circumstances, become a mirror to the positive. (Crowe 1848:Vol. 1:98)

Crowe pointed out that this idea involving the brain seemed difficult to reconcile with the observation that the psychic impressions “occur most frequently when the brain is asleep” (Crowe 1848:Vol. 1:98), though she was aware of the uncertainty of knowing “how far the sleep is perfect” (Crowe 1848:Vol. 1:98).

Crowe further wrote: “The theory of one-half of the brain in a negative state, serving as a mirror to the other half, if admitted at all, may answer as well, or better, for those waking presentiments, than for clear-seeing in dreams” (Crowe 1848:Vol. 1:108–109). However, Crowe preferred a more spiritual theory in which, under certain conditions, “the spirit may perceive, by its own inherent quality, without the aid of its material vehicle. . . .” (Crowe 1848: Vol. 1:109).

Anonymous Writer in the North American Review

Writing in the *North American Review* in 1855, an anonymous author tried to relate mediumistic phenomena to the cerebral hemispheres (Anonymous 1855).⁸ From the beginning of the paper it is made clear that the author believes that “the least tenable hypothesis of all is that which attributes the phenomena under discussion to the agency of departed spirits” (Anonymous 1855:513). It is said later in the paper that there is evidence

which favors the belief that [mediumistic communications] have their origin in some peculiar mode of the medium’s own consciousness, enlarged and modified indeed, in some instances, by the consciousness of members of the surrounding circle. (Anonymous 1855:515)

Such an idea was consistent with other Nineteenth Century attempts to counter spiritualistic explanations of psychic phenomena using the concept of psychic abilities of the living, in this case the projection of a biological or nervous force from the body of the medium (Dods 1854, Rogers 1853, Samson 1860).

The brain was mentioned when the author suggested ideas to explain mediumistic phenomena. The concept of “duplication” of the organs of the body was stressed. “The right and the left half of the body are in more respects counterparts than complements of each other. . . . The brain, too,

is double throughout. . . .” (Anonymous 1855:517). Each hemisphere was seen as capable of acting independently of the other in situations of cerebral disease. The concept was used to explain cases of “double consciousness,” particularly that of Mary Reynolds (1785–1854), a well-known early case of multiple personality (Plumer 1860).

The author considered electro-magnetism as the vital element in the human organism. This led him to explain double consciousness as “the consequence of some peculiar condition of animal electricity or sensitiveness to electro-magnetic influences. . . .” (Anonymous 1855:521), a topic consistent with ideas about electricity in the mesmeric and spiritualistic literatures (Alvarado 2008). It was further said that:

The vertebrae are, as it were, the successive plates of a galvanic battery, of which the skull is the apex, while the spine, culminating in the brain, constitutes, like the acid in the artificial battery, a continuous and cumulative creator and channel of the electromagnetic force. Of this force the nerves of sensation and of voluntary motion are the conductors. . . . The living battery, as ordinarily charged, may suffice to keep but one hemisphere of the brain in action, while an excessive charge may keep both hemispheres in simultaneous action.

This theory may account for the rappings, phosphoric lights, table tip-pings, and other physical phenomena, reported in connection with the pretended spiritual intercourse. (Anonymous 1855:521)

While the author implies that the accumulation of an overcharge of the nervous system inducing simultaneous action of both hemispheres is an important aspect of the explanation, no clarifying details are offered. Another postulate considered the possibility that the medium used environmental energy to produce the effects, and that veridical mediumistic communications in the presence of persons present who knew the correct answer could be explained by “electro-magnetic communication . . . between the intensely stimulated brain of the medium and the brains of those composing the circle” (Anonymous 1855:522).

Frederic W. H. Myers on Automatic Writing, Thought-Transference, and Other Phenomena

Frederic W. H. Myers (1843–1901), a pioneer in psychology and psychical research, and a founding member of the London-based Society for Psychical Research (SPR), published in the 1880s interesting discussions on the nature of automatic writing and its possible ESP components (Myers 1884, 1885a, 1885b, 1887a, 1889).⁹ The idea of unconscious muscular movements to explain phenomena such as table turning and automatic writing was



**Myers' main article about the
 brain hemispheres**

developed before Myers presented his ideas on the topic (e.g., Carpenter 1874:279–315, Chevreul 1833, Faraday 1853), but Myers further developed these ideas and incorporated various other concepts such as ESP information as well as psychological and physiological factors. “Unconscious cerebration” and telepathy were proposed by Myers to account for most of the cases he discussed in his papers;¹⁰ he also argued that a secondary consciousness handled the telepathically acquired information in automatisms, and that automatic writing was only one example of several motor and sensory automatisms (e.g., vocal, visual, or auditory). For purposes of this review, I am primarily interested in Myers’ speculations on the cerebral hemispheres and

the above-mentioned phenomena.

Myers was influenced in his speculations on the brain’s hemispheres by two main factors. First, by Nineteenth Century publications on aphasia and related problems (e.g., Bernard 1885, Charcot 1884, Ogle 1867, Pitres 1884). Second, by speculations by the Reverend P. H. Newnham regarding the role of the right hemisphere in explaining mediumistic communications of low moral character obtained through Newnham’s wife’s mediumship in 1871. Newnham, Vicar of Maker (Devenport, England), and an early SPR member, recorded in a diary in 1871 his observations of planchette-writing with his wife as medium. Myers (1885a:8–23) published extracts of Newnham’s diary (but he seems to have been unaware of the previous ideas discussed here and of E. W. Cox’s [1809–1879] brief reference to “unconscious activity of one of the brains” in relation to planchette writing [The Psychological Society of Great Britain 1876:196–197]). Newnham’s reference to low moral aspects of the communications referred to lies in the automatic script. In his opinion, such communications perhaps could be explained by postulating the action of the right hemisphere. Because of lack of education, the right hemisphere was considered by Newnham to show the same tendency for lying that children show in an early stage of their education process (Myers 1885a:22). This idea that the right hemisphere was the untrained and uneducated one was common in the Nineteenth Century and by no means unique to Newnham nor to Myers (e.g., Brown-Sequard 1874:333, Ogle 1867:89, 121–122, Wilks 1872:157).

Myers created his own terminology to refer to the operation of the two

hemispheres. His terms indicated the use of both hemispheres (ambi-cerebral), the right (dextro-cerebral) and left hemispheres (sinistro-cerebral), as well as one hemisphere (hemi-cerebral) (Myers 1885a:42).

He considered the similarities between “supernormal” automatic writing and the “writing performed by patients who have . . . only the partially untrained half of the brain to rely on,—those centres which habitually initiate the graphic energy having been destroyed or rendered temporarily useless by accident or disease” (Myers 1885a:34). This is what many clinicians called *agraphia*, but which Myers preferred to



Frederic W. H. Myers

call *agraphy*. In making this comparison, Myers pointed out that in both conditions the subject was occasionally unable to write and that sometimes repetition of letters or senseless words appeared. Transposition of letters and mirror writing were also considered as pointers to right-hemispheric action in writing problems (Myers 1885a:33–34).¹¹ A comparison was made between left-handed children’s writing mistakes and mistakes in automatic writing scripts, finding similar problems in both. An attempt was also made to relate swearing and low moral communications in automatic writing and planchette scripts to the “swearing of the aphasic patient” (Myers 1885a:45). All this led Myers to conclude that:

The inco-ordination of agraphy and the inco-ordination of rudimentary graphic automatism . . . arise from the same cause; from the employment in the act of writing of untrained centres in the right hemisphere of the brain. . . . (Myers 1885a:38–39)

In later publications, Myers (1885c, 1886a, 1886b) returned to the topic and suggested that the right hemisphere had in its “inferior evolution, traces of that savage ancestry which forms the sombre background of the refinements and felicities of civilised man” (Myers 1886a:228). Myers (1885a:31–33) discussed evolutionary concepts as related to telepathy and

automatic writing, and was clearly influenced by John Hughlings Jackson's (1835–1911) ideas on the evolution and dissolution of the nervous system (Myers 1885a:24, 45).¹² In some of his publications, Jackson (1878–1879, 1884) discussed swearing and interjectional expressions in aphasics as emotional and rudimentary processes related to Thomas Laycock's (1812–1876) concept of reflex action, and affirmed that the right hemisphere was related to the automatic and involuntary use of words.

Myers wrote further to clarify these ideas and to relate them to thought-transference:

I hold that in graphic automatism the action of the right hemisphere is predominant, because the secondary self can appropriate its energies more readily than those of the left hemisphere, which is more immediately at the service of the waking mind. . . . Nevertheless, I hold that it uses the *right* hand habitually, being unable to overcome the incompetence of the *left*. But in its right-handed writing I should expect traces of dextro-cerebral influence occasionally to occur; and this I maintain that I have shown to be the case, first in the *reversed words* and secondly in the *mirror-writing*, which graphic automatism so frequently shows . . .

And here I must remind the reader that *occasional* indications are all that we can expect to find in tracing the "seat of election" of supernormal cerebral automatism. The lines will not be as sharply drawn as they sometimes are in cases of traumatic injury, or of congenital defect. For beside the alternated action of specialised centres, which I am here suggesting, other and profounder departures from normality are likely to be involved, and *their* results may be such as to leave no more than a mere hint discernible of such comparatively minor change as the replacement of some sinistro-cerebral by some dextro-cerebral centre of sight or speech.

Such a hint . . . I believe that we have got in experimental thought-transference, as well as in graphic automatism. The reader may remember that in [previous publications] we detailed some experiments in which the image of an arrow and other figures, were telepathically seen by Mr. Smith sometimes in an *inverted*, but more often in a laterally-inverted or *perverted* position. . . . (Myers 1885a:43–44)¹³

Myers also presented an example of reversal of thought-transference impressions observed in 1884. The subject saw

letters appear in her field of mental vision in *reverse order* . . . I placed the word NET behind her, and looked fixedly at the letters. She said that she saw successively the letters T, E, N. I next chose SEA, and she saw A, E, S. . . . (Myers 1885a:44)

Later in the paper, Myers (1885a:50–60) related automatic writing to

the ideas of Jean-Martin Charcot (1825–1893) on “word seeing” and “word writing” centers in his scheme of speech and writing (discussed by Bateman 1890:39–41, see also Charcot 1884 and Gasser 1995) proposing that the “seat of election” of the secondary self that controlled automatic writing was in the right hemisphere and used the sensory and motor centers of that hemisphere in expressing itself. Myers basically extended this idea to include telepathically acquired information.

In later writings, Myers (1886a:651–652, 1886b:227, 1887b:499–500) related the right hemisphere to multiple personality, and to genius (Myers 1892:355–356). Particularly interesting were Myers’ later speculations on spirit communication and the right hemisphere:

I think it is possible that our left hemisphere, having been more constantly used than our right hemispheres, may be more crowded and blocked (so to say) with our own already fixed ideas. An external intelligence wishing to use my brain, might find it convenient to leave alone those more educated but also more preoccupied tracts, and to use the less elaborated, but less engrossed, mechanisms of my right hemisphere. (Myers 1899:386)¹⁴

R. C. Word on Mind-Reading and Slate-Writing

R. C. Word (died 1890), professor of physiology at Southern Medical College (Atlanta, Georgia) and Managing Editor of the monthly journal *Southern Medical Record*, published in that journal his ideas on the relationship of the brain’s hemispheres to mind-reading and slate-writing (Word 1888). Word accepted both mind-reading and slate-writing as real phenomena. Although he stated that he was aware of the problem of fraud in slate-writing, he went on to defend the reality of the phenomena on the basis of his personal experiences with mediums (Word 1888:88). However, Word was ambiguous about what he meant by slate-writing. In some parts of the paper it seems that he referred to automatic writing rather than to the concept of “direct writing” (Word 1888:87, 88), in which letters or traces are supposed to appear on a surface without the use of the medium’s or any person’s limbs.

Like previously mentioned writers, Word related the concept of the double brain to double personality cases. He also related what we now call panoramic memory to the “doubly-aroused and excited brain” (Word 1888:86).

Word wrote that although “the two brains ordinarily act as a unit, they may, and sometimes do, act separately, and this possibly in cases wherein no disease exists in either hemisphere as a cause for non-action” (Word 1888:85). He then suggested “that under certain peculiar circumstances one

side of the brain may converse with the other side” (Word 1888:85). This was offered as a hypothesis to explain the above-mentioned phenomena, as will be seen in the discussion that follows.

Word stated that the mesmerized person “is in a passive or receptive condition, which I will term electro-negative” (Word 1888:86). In this condition the person is under the influence of the mesmerizer. “He is wholly passive, and his brain and entire nervous system receives its impressions from the mesmerizer” (Word 1888:86). Word considered the mind-reader a highly developed “electro-negative subject” who became so sensitive as to be able to obtain information from other person’s minds. These, and other phenomena, were ultimately explained through the action of a nervous electrical force presumably generated by the medium’s nervous system. The ideas were extended to the concept of different electrical charges on each half of the brain in special circumstances. A “reversal or shutting off of the usual or normal electric or nerve currents passing between the two hemispheres” (Word 1888:87) deprived the brain of its normal work. As Word further wrote:

In this condition the electro-positive side may ask questions which may be automatically answered by the electro-negative side. Herein we find an explanation of what is called slate-writing. . . .

Under these circumstances any incident or memory which is latent in the brain is liable to be revived and to be automatically and unconsciously reproduced by the medium, and when thus presented comes with all the force of conviction of a communication from a third or an outside party.

Thus the slate-writer gets messages from his or her own brain, or if brought into *rapport* with another party may get mental impressions from him also. (Word 1888:87)

Word later said in the same paper that an electro-negative subject could get mental impressions by *rapport* with persons in a circle. As he wrote to relate this concept to the brain’s hemispheres:

For this, it would seem to be sufficient that only one side of the brain be in the passive or electro-negative state, in which case the thoughts of the medium, as well as the thoughts of any member of the circle, are liable to be automatically written.

It is possible with some mediums that both sides of the brain may become electro-negative, in which case they pass into a hypnotic or trance condition, which is no other than the mesmeric state. (Word 1888:88)

A. N. Somers, *Mediumship, and the "Submerged Personality"*

Another discussion of the topic comes from an article written by A. N. Somers (1893) in the American journal *Psychical Review*. Somers recognized from the beginning that human beings' neural systems were binary, or double, regarding its structure and their functions. Under abnormal physiological or psychological causes, the doubling of personality could take place.

Both brain hemispheres, Somers maintained, are connected by crossing fibers that kept them functioning together. This pattern of joint function was influenced by hereditary factors and by early training. But "if deranged the activity may be double or alternating in acts of double personality (or mediumship)" (Somers 1893:316). These factors capable of changing the system thus included "disease, fatigue, or psychical inactivity of the dominant cerebral hemisphere" (Somers 1893:317); that is, the left hemisphere.

The author saw trance as one of the conditions helping human beings gain access to their submerged personality. This, and other states, also helped a person to contact aspects of the opposite sex that were hidden in every person, thus explaining sexual perversions. This was because the cerebral centers involved in these processes could become more active than the usual dominant ones. In Somers' view:

Previous to these changes the only outlet for the cerebral contents of the submerged personality was in dreams, visions, or illusions, and occasional instances of equal activity with its double under intense excitement. . . . The various processes used in the 'development of mediumship' are sure to transfer this privilege from the ascendant to the submerged personality. (Somers 1893:319)

Following the prevalent tradition during the Nineteenth Century (Harrington 1987), Somers considered the left hemisphere to be the dominant one. This was because he believed this hemisphere was formed early on around the same time as sex differentiation was taking place. If it were not for some influences from the maternal system (from the mother's side), everyone would be male and the right hemisphere would



Title page of Somers' 1893 article

be atrophied. In Somers opinion: “Femaleness is a conservative check on that tendency. . . . Left-handedness, double personality, and mediumship could never exist but for this check” (Somers 1893:321).

Somers also made some interesting observations about temperature changes and pulse rates:

I have found the right cerebral hemisphere of a right-handed medium rise in temperature one and a half degrees while in trance, and *vice versa* with a left-handed medium. In both instances the temperature of the quiescent hemisphere fell a degree during the trance, due to increased circulation in the hemisphere that took on greater activity when its opposite became hypnotic. I have gained the same results by hypnotism repeatedly. (Somers 1893:322)¹⁵

Somers also observed a diminution of pulse and respiration rate presumably related to a switch from the ordinary active hemisphere to the opposite one. Under these circumstances the submerged personality comes forward and can be shaped through suggestion. The medium, then, can impart information that is not in his or her consciousness nor in recollections.

Cesare Lombroso on Observations of Handedness with Mediums

Cesare Lombroso (1836–1909), a well-known Italian psychiatrist and criminologist, was interested in the topic of handedness.¹⁶ His ideas should be considered in the context of his concepts on criminology, in which criminals were seen as examples of physical degeneration and atavism (Lombroso 1884b). According to Lombroso, “motor and sensory lefthandedness” was one of the aspects in which criminals were similar to creatures “beyond our own race” (Lombroso 1911:368). As he further wrote,

criminals are more left-handed than honest men, and lunatics are more sensitively left-sided than either of the two. That fact indicates that in criminals and lunatics the right lobe predominates very much more than in normal persons. While the healthy man thinks and feels with the left lobe, the abnormal thinks, wills, and feels more with the right. . . . (Lombroso 1903:443)¹⁷

In the same paper, Lombroso speculated on the discordant action of “the two lobes of the brain” to explain double personality, and discussed mirror writing along similar lines (Lombroso 1903:442, 443). In an earlier paper, Lombroso (1892) argued that writing mediums are in

a state of half somnambulism where, thanks to the preponderant action of the right hemisphere due to the inactivity of the left hemisphere, [the

medium] does not have consciousness of the fact and believes he writes under the dictation of someone else. (Lombroso 1892:148)

Lombroso was also interested in right–left hand differences regarding mediumistic phenomena. As he wrote,

almost all of the spiritistic phenomena of the medium have their origin on the left side . . .^[18] or are perceived on the left side even when they come from the right, and that sinistrality is temporarily transmitted also to the controllers of the medium. . . . Hence it follows that in the trance the work of the right hemisphere of the brain prevails, the one least adapted to psychical work and which participates least in the activity of consciousness. (Lombroso 1909:182)



Cesare Lombroso

Of particular interest here is the mention of the transfer of left-handedness, which is a reference to observations by psychiatrist Enrico Morselli (1852–1929) published about medium Eusapia Palladino (1854–1918) using hand dynamometers (Morselli 1908).¹⁹ A discussion of this requires a brief digression.

In the past, hand dynamometers have been used for neuropsychiatric examinations (e.g., Charcot 1883–1884:285, Morselli 1884) and as a test of hand preference (Parsons 1924:72). A number of studies using this instrument to measure the level of hand-grip strength were done with Palladino and her sitters on the assumption that the measurements reflected expenditure of “psychic forces” in the production of physical phenomena (Lodge 1894:326–327, Morselli 1908: Vol. 1:315–319, 351–352). “Dynamometer readings,” wrote physicist and psychical researcher Oliver J. Lodge (1851–1940), “were taken before and after each seance, in order to ascertain, if possible, the source of the energy. . . .” (Lodge 1894:331). Morselli reported losses in group grip strength measures after seances, measured in kilograms, but emphasized differences in energy losses between the right and the left hands. On one occasion (N = 11, including the medium), the right hand had a loss of 46 Kg, while the left hand had a loss of 66 Kg (Morselli 1908:Vol. 1:317). In a later experiment, the right hand had a loss of 40.5 Kg and the left 99 Kg (N = 12, including the medium) (Morselli 1908:Vol. 1:352).

A particularly interesting observation was recorded in a séance held in



**Title page of Lombroso's 1908 article
Psychology and Spiritism**

1901. According to Morselli, Palladino, usually left-handed, became right-handed after the séance. However, this does not refer to the medium's use of her right hand, but to the fact that she gained 6 Kg in the right hand and lost 2.5 Kg in the left hand after the séance (Morselli 1908:Vol. 1:351–352).²⁰ Morselli found especially interesting the fact that his own “dynamometric type” was changed from right (his normal) to left. His readings showed a loss of 16 Kg in the right hand, while the left hand had a gain of 7 Kg after the séance. He noticed that before a materialization was observed in the séance, he had his left hand on the medium's head. Morselli speculated that a force emanating from the medium

during the production of the materialization “came into my nervous centers . . . , passed partially into my arm, and rendered me left-handed” (Morselli 1908:Vol. 1:352, my translation).

Morselli did not speculate on the hemispheres, but Lombroso (1908:378) related the incident to the action of the right hemisphere. Lombroso considered Morselli's observations a confirmation of “Audenino's hypothesis of transitory left-handedness in the abnormal state” (Lombroso 1908:378). This was a reference to Audenino's (1908) concepts postulating that temporary left-handedness could occur in abnormal states (e.g., epilepsy, intoxication, madness, somnambulism, trance) because they provided access to primitive and atavistic tendencies normally diminished by education.

Lombroso also had something to say regarding automatic writing mediums. In his opinion, the idea

that only one hemisphere of the brain acts, preferably the right, while the left remains inert, thus explaining the unconsciousness of the right lobe,—an explication based on the extemporized left-handedness of many of the mediums. . . . (Lombroso 1909:158)²¹

although considered of help to explain automatism, may have some difficulties in explaining cases in which more than one spirit communicator manifested at the same time.

Discussion

The ideas discussed here may be considered an interesting but forgotten chapter of the history of hemispheric functions and attempts to explain or find physiological correlates of psychic phenomena. They were certainly influenced by the Nineteenth Century interest in finding specific cerebral localizations of diverse functions, and particularly by concepts and discussions on the duality of the brain (Harrington 1987). In fact, the concepts of duality were discussed in the medical literature before and during the period covered in the present paper. While these ideas may be interpreted as part of the trend of Nineteenth Century science to conceptualize the phenomena of consciousness in natural terms, it was also an example of how spiritualists and psychical researchers appropriated neurological concepts as part of the workings of the supernormal.

There are some interesting differences in the concepts presented and the approaches taken by the writers discussed above. The concepts of unorthodox forces were emphasized or implied by Crowe, the writer in the *North American Review*, and by Word, but not by Myers, Somers, and Lombroso. The latter writer discussed concepts of psychic forces in relation to the Palladino mediumship, but not in terms of the brain and its hemispheres (Lombroso 1892, 1909). Also, only three writers emphasized the importance or function of the right hemisphere (Myers, Somers, and Lombroso), although they considered it to be the primitive one. Likewise, only three presented their ideas with some attention to neurological aspects (Myers, the writer in the *North American Review*, and Somers), and two with ideas about polarity of energy in the nervous system (Crowe and Word).

Of the examples discussed here, Myers is of special interest in that he attempted to put his speculations into the context of knowledge of aphasia and agraphia in the 1880s.²² As far as I know, he was the first person to point out that some of the mistakes in ESP reception may be indicative of right hemispheric function, a view considered by some modern writers (e.g., Ehrenwald 1975:394–396).²³

While some of Myers contemporaries were aware of his ideas regarding automatic writing and the brain hemispheres (e.g., James 1889:555, 1890:Vol. 1:400, Janet 1889:415–419), later commentators have not mentioned such ideas, as seen in texts about automatic writing (e.g., Honegger 1980, Muhl 1930, Stevenson 1978). This suggests that his articles discussing the subject had little impact or influence after publication.

In fact, the five authors discussed in this Essay Review seem to have had little or no impact on psychical research at the time they proposed their ideas. (In addition, the authors themselves do not quote the publications

of their predecessors.) We may speculate on some reasons for this: (1) the publications were scattered over a long period of time with occasional long intervals between them; (2) there was a general emphasis on the importance of the left hemisphere over the right during the period in question; and (3) the reports usually had a low circulation or were published in obscure sources (this may particularly apply to the *Annals of Psychical Science*, the *Southern Medical Record*, and the *Psychical Review*).

The first modern writers on the relationship between psychic phenomena and the hemispheres—William G. Braud, Richard S. Broughton, and Jan Ehrenwald—were not aware of the old speculations when they started to think about the topic, and claim they were influenced mainly by other factors,²⁴ particularly by developments in modern hemispheric research (for reviews of hemispheric research in those crucial years see Bryden 1982 and Dimond 1972). Ideas from Eastern traditions, research on altered states of consciousness, and studies of “split brain” patients, as seen in Robert Ornstein’s (1972) influential book *The Psychology of Consciousness*, also may be considered an important factor that influenced modern parapsychologists to pay attention to right and left hemispheric differences. Other developments in parapsychology during the 1970s, such as EEG and other physiological correlate studies (Morris 1977:705–710), also may have provided some theoretical background for the interest in the relationship between parapsychological phenomena and the hemispheres.

Regardless of these considerations, the material discussed herein is interesting in its own right. It illustrates an attempt to relate psychic phenomena to neurological processes, and thus normalize such controversial manifestations by association with the biological. In addition, these writings also show the wide range and impact of ideas about the brain on society since even psychic phenomena were seen through the neurological glass. Consequently, these ideas should be of importance to the history of views concerning the brain, as well as to the history of conceptual developments in parapsychology.

Notes

¹ The progress of neurological thought during the Nineteenth Century has been discussed by Clarke and Jacyna (1987) and Finger (1994). On general ideas about physiology and the mind during the period, see Jacyna (1982), Smith (1973), and Young (1970). The idea of localizations of sensory and motor functions in the brain was an important aspect of neurological thought (Finger 2010, Kaitaro 2001, Young 1970), as was the related study of aphasia (Benton 1981, Tesak & Tod 2008). A discussion of physiological ideas related to the mind in the context of

developments in mesmerism, phrenology, Spiritualism, and psychical research in England is presented by Oppenheim (1985:205–266).

- ² Ideas of psychic forces, fluids, and human radiations were developed during the Nineteenth and Twentieth Centuries to explain psychic phenomena of all sorts, among them mediumship (Alvarado 2006, Ungaro 1992).
- ³ For reviews of Nineteenth-Century thoughts on the effects of hemisphere lesions and disease on aphasia and related disorders, see Bateman (1890), Benton (1981), and Harrington (1987). Among the many studies of Nineteenth Century aphasia, see the work of Henderson (2008), Jacyna (2000), Lorch (2016), and Roth (2002).
- ⁴ LaPointe (2012) discusses Broca's influential work (see also Harrington 1987:Chapter 2). It has long been argued that Marc Dax (1770–1837) had precedence over Broca in his discovery of the role of the left hemisphere in relation to aphasia (e.g., Roe & Finger 1996).
- ⁵ For an example of the lack of importance given to the right hemisphere in the non-medical literature, see Flammarion (1886:786).
- ⁶ Discussing the “sentiment of pre-existence” in relation to reincarnation, spiritualist Hudson Tuttle wrote:

To Plato . . . such might be satisfactory evidence; but to us, with the knowledge we possess of physiology and of the brain, *they* are of no value. The double structure and double action of the brain, by which impressions are simultaneously produced on the mind, fully explain the sentiment of pre-existence. For if these impressions . . . are not simultaneously produced, the mind becomes confused, and the weakest impressions are referred to the past. (Tuttle 1871:204–205)

- ⁷ A later discussant of the topic was Hector Durville (1900:40–45, 49). He questioned the idea that the “magnetic force” and the “nervous fluid” were the same agent in light of observations of contralateral hemispheric functions. Durville argued that “if the magnetic force were the nervous force it would follow, as does the nervous force, the length of the nerves and the hemispheres of the brain would be of opposite polarity to their corresponding sides” (Durville 1900:49). It is asserted that this is the case because the right side of the body is positive and the left side is negative. The concept of polarity was also present in the Eighteenth and Nineteenth Century electrophysiological literature (Brazier 1961, 1984).
- ⁸ According to Reeves (1979:188, 199), the author was A. P. Peabody (1811–1893), editor of the *Review*.
- ⁹ On Myers, see Hamilton (2009). Myers is particularly known for his ideas about the subliminal mind and its relationship to psychological

and parapsychological phenomena (for an overview, see Myers 1903; see also Gauld 1968 and Kelly 2007).

- ¹⁰ “Unconscious cerebration” was Carpenter’s term for unconscious creative automatic action (see Carpenter 1874:515–543 and Cobbe 1870).
- ¹¹ In this instance, Myers follows the ideas of Ireland (1881:367), who related mirror-writing to the right hemisphere. A paper by Lichtheim (1885:450), also seen by Myers, mentions the right hemisphere in relation to writing (not mirror-writing).
- ¹² Jackson, an important figure in Nineteenth Century neurology, has been discussed by Engelhardt (1975) and by Greenblatt (1977). Harrington (1987:Chapter 7) has reviewed Jackson’s ideas on duality.
- ¹³ These experiments are a reference to the thought-transference studies of the early SPR researchers using Blackburn and Smith as agent and percipient (Gurney, Myers, & Barrett 1882:80, Gurney, Myers, Podmore, & Barrett 1883:166). Controversy was generated when Blackburn confessed (though Smith denied) that they were using trickery (Anonymous 1911, Gauld 1965, Hall 1964:104–109).
- ¹⁴ For later speculations on the role of the hemispheres in the production of automatic writing, see Honegger (1980) and Muhl (1930:36).
- ¹⁵ In a second-hand remark, it was stated that different temperatures were recorded on the two sides of the head of writing and trance mediums in France by Chavée (The National Association of Spiritists, 1876:202).
- ¹⁶ On various aspects of Lombroso, see Knepper and Ystehede (2013). Bulferetti (1975:352, 439–458) discusses his psychical research. Harris (1980:53–54) presents a brief overview of Lombroso’s ideas on left-handedness.
- ¹⁷ See also Lombroso (1884a). Other Italian physicians who shared Lombroso’s ideas on handedness were Audenino (1907) and Lattes (1907). For a review of alleged connections between left-handedness and different forms of pathology or socially rejected or unacceptable behaviors, see Harris (1980:51–65).
- ¹⁸ In mentioning spirit communications on the left side of Mrs. Piper, a well-known medium, Lombroso (1909) referred to the “usual spiritualistic left-handedness . . .” (p. 117). A more recent study on the relationship of the spatial position of perceptions of spirit guides and hemispheric pathology has been published by Fenwick, Galliano, Coate, Rippere, and Brown (1985).
- ¹⁹ On Morselli’s interest in psychical research, see Brancaccio (2014). Eusapia Palladino was one of the most influential mediums in the history of psychical research (Alvarado 1993). In an earlier publication, Lombroso (1892) discussed Palladino, as well as hysterical and

hypnotizable individuals, as pathological examples of the functioning of cerebral centers. With Palladino he proposed that the paralysis of some of those centers augmented the activity of the motor centers to the point of transmitting a force outside of the body that caused the physical phenomena of mediumship. This position was criticized in the Spiritualist press (Anonymous 1893).

- ²⁰ The significance of these findings may be questioned, among other things, by noticing that at least on one occasion the medium's right hand obtained a higher reading than her left *before* the séance (Lodge 1894:327, with readings of 47 vs. 38, respectively). This may be an indication of the unreliability of the use of dynamometers to determine hand preference, as discussed by Audenino (1907:27). Other problems may be pointed out with this approach (e.g., lack of double-blind conditions), but my purpose in this review is not to discuss issues of validity nor to evaluate the material discussed here from the point of view of modern developments.
- ²¹ Théodore Flournoy's (1900:64) observations of allochiria with medium Hélène Smith are of interest in this context.
- ²² This trend was followed years later by Jan Ehrenwald (1937, 1948) in a series of publications attempting to relate ESP with neuropsychiatric problems. However, and even though Ehrenwald (1931:684) had discussed anosognosia in relation to the right hemisphere in a previous paper, his speculations on the role of the right hemisphere in ESP phenomena developed much later (Jan Ehrenwald, personal communication, August 10, 1985, and September 6, 1985; Ehrenwald 1975, 1976).
- ²³ Reversals and other distortions of ESP messages have been discussed by other writers from the point of view of psychological processes (e.g., Irwin 1978:118, Warcollier 1931:334–335).
- ²⁴ William G. Braud, personal communication, September 18, 1985; Richard S. Broughton, personal communication, September 9, 1985; and Jan Ehrenwald, personal communication, September 6, 1985. See also some discussions on the hemispheres in the parapsychological literature in relation to ESP and states of physical and mental relaxation and out-of-body experiences, as well as "transpersonal consciousness" (Braud & Braud 1974:242, Roll 1974/1975:159).

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