Hemihypnosis, Hypnosis, and the Importance of Knowing Right from Trend

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Abstract

The hypnosis community may be buying into a neuroscience fad concerning brain laterality. Accustomed to deflating folkloric claims about hypnosis, researchers and practitioners of hypnosis have come to appreciate the danger of lingering myths and the importance of dispelling legends. Tales are ubiquitous, however, and claims relating to the left or right hemispheres require both context and substantive data. Here we sketch the gist of brain laterality findings and their relevance to the hypnosis community.

Keywords: Brain laterality, lingering myths, left hemisphere, right hemisphere.

Over the past decade and certainly in various interactions throughout the 2008 Annual Meeting of the American Society of Clinical Hypnosis in Chicago, we have heard many colleagues appeal to brain laterality. These individuals typically consider the left brain as verbal, linear, computational and scientific while describing the right brain as spatial, intuitive, emotional, creative and artistic. Informally, many would further intimate that the left hemisphere is the apotheosis of the rational, hierarchical style of

the West, while the right brain represents the allure and inscrutability of the East. Our attempts to probe the scientific underpinnings of these views led us to write the present piece. Here we show that although right versus left brain function may differ, it is important to fully appreciate the characteristics of these differences before claiming to tap specific lateral potentials with techniques such as hypnosis.

History

Early dissections by Broca and Wernicke likely inspired many modern theories concerning the laterality of the human brain (Broca, 1865; Wernicke, 1874). Consequently, initial therapies targeted one or the other side of the brain. For example, a technique known as metailotherapy involved the application of metal discs, and later magnets, to one side of the body in order to transfer symptoms from one side to the other, only to later claim that these psychic transfers produced changes in personality and intellect (Binet & Feret, 1885). Hypnotic techniques were also developed, especially in France, to hypnotize each side of the brain separately (Chertok & Stengers, 1989). In one case report, the hypnotized person concurrently displayed terror on one side of the face and delight on the other via inducing the hemispheres to hallucinate an attack by dogs and a pleasant celebration, respectively (Dumontpallier & Magnan, 1883). Despite a campaign to discredit metailotherapy (Bernheim, 1885), visions of a future shrouded in magnets and

Hemihypnosis lost its credibility, however, once it became evident that its proponents had erroneously assumed that one could gain access to a brain hemisphere by having patients cover one eye while directing their attention to the other. Neuroanatomists discovered the partial decussation of the optic tract only later (i.e., demonstrating that each eye actually projects to both hemispheres), thus razing the podium of hemihypnosis, metailotherapy and other dual-brain techniques (Harrington, 2008; von Gudden, 1870). Neurological science then experienced a 40year lull, roughly spanning 1920-1960, with little to no mention of the dual brain (Harrington, 1987). Thereafter, the cycle rekindled anew with the split-brain

operations of the 1960s. However, most brain-laterality researchers from this second wave were probably unaware that they were repeating history.

It is troublesome, not to say frustrating, that today few people realize that it is still a matter of controversy whether split-brain studies have painted an accurate depiction of right-brain verbal capacities in normal people. Judging from past events, we may be setting ourselves up to repeat history for the third time with yet another dose of a brain laterality wave. Contextualizing dual-brain mythology, in the remainder of this piece we sketch the gist of the findings and their relevance to the hypnosis community.

The Making of a Brain Tale

Most of what guides our modern insights regarding brain laterality came about in the 1960s, largely from research on individuals who had undergone "split-brain" operations for the relief of intractable epilepsy. Because neurosurgeons effectively separated the two sides of the brain, it became possible to assess the capacities of each hemisphere (Gazzaniga, 1998). Only the left side of the brain could name or verbally describe objects or words presented to it, while the right remained speechless-relying on visuospatial identification. In other words, the right brain of at least some patients retains the capacity for language comprehension and could direct the left hand to point to the written names of objects it had seen, or point to objects whose names it had seen. The right brain's ability to comprehend language was clearly below that of the left, but this still came as something of a surprise, since a century of research on the effects of damage to the left side of the brain had suggested that the intact right brain had little ability either to understand or to produce language (Bogen, 1997).

The two sides of the brain provide a few puzzles. On the one hand, a colleague from our institution reported in the Harvard Business Review that managing an organization involves faculties identified with the brain's right hemisphere (Mintzberg, 1976). On the other hand, a split-brain researcher once remarked that

"it could well be argued that the cognitive skills of a normal disconnected right hemisphere without language are vastly inferior to the cognitive skills of a chimpanzee" (Gazzaniga, 1 983). Although this latter view elicited strong rebuttals from other split-brain researchers (Levy, 1983; Zaidel, 1983), most people still think that with a comparable number of neurons, the cogitating left hemisphere outshines the incapable-of-higher-order-cognitions right hemisphere (Corballis, 2007). To obfuscate things even further, reports of the relative merits of the right-hemisphere in business have persisted (Alder, 1993; Joseph, 1 992) including through lucrative ventures such as Superlearning and Neuro-Linguistic Programming (0'Connor & Seymour, 1993). Nowadays, mostly the internet is responsible for fueling such claims.

Based on neuroanatomy, 19th century scholars have put forward the idea that primitive peoples might be more right-brained than those from industrialized cultures (Luys, 1 879). The harmful fable of right-brained simpletons has been so appealing that it continues to loom, although modem scientists have provided compelling data to put it to rest (Chrisjohn & Peters, 1986). In fact, so many refutations have cropped up to mar the dual-brain tale that in 1977 the editor of Psychology Today dubbed it "fad of the year," and foreshadowed its demise (Goleman, 1977). Unfortunately, it was still going strong one (Hatcher, 1983; Liddon, 1989; Molfese &Segalowitz, 1988;Zdenek, 1985) and even two decades later (Alder, 1993;Hoppe & Kyle, 1997; Omstein, 1998). It shows little signs of abating even now, with websites offering right-brain experts to help businesses and managers, and old laterality themes being recycled periodically (Annette, 2002; Springer & Deutsch, 2001). One case in point highlighting the public's fascination with brain laterality was the success of a book - purported to teach people how to draw by exploiting the spatial and creative powers of the right brain - which sold over 2.5 million copies (Edwards, 1979) and then printed a second edition (Edwards, 1999).

Hypnosis, which was at the core of the first historic dual-brain revolution under the nom deplume hemihypnosis, slowly made its

way into the second laterality wave. Amidst anthropologists arguing that differences between the two sides of the brain might explain cultural differences (Paredes & Hepburn, 1976), and popular-science portraying the right hemisphere as the creative but paranoid instigator of scientific ideas (Sagan, 1977), educators began to lament the emphasis on lefthemispheric values in schools and the lack of effort to develop our children's right-brain strengths (Garrett, 1976). Some have even suggested ways to enhance right-brain participation in the classroom, including greater tolerance to both children's wrong answers and their excursions into dreams and fantasy (Brandwein, 1977). Thus, it was predictable that some scholars would recommend the greater use of interventions such as meditation, yoga, and hypnosis (Grady & Luecke, 1978).

While the first dual-brain surge construed the right brain as inferior to the left which stood for the primitive, uncivilized, even feminine, side of human nature - this position primarily echoed the prejudices of a leading, "civilized," male-centered Europe. Modem conceptions are more respectful of the right brain, sometimes elevating it to a creative genius struggling to escape (Joseph, 1992). This trend however, probably owes more to contemporary predilections than to psychophysiological facts (Hugdahl & Davidson, 2003; Zaidel & Iacoboni, 2003). Indeed the popularity of a theory may owe more to the culture of the age than to evidence (Hogan, 2001).

The specialization of function that characterizes the right and left hemispheres has led to efforts relating brain laterality to hypnotic response (Hilgard, 1975). Studies measuring cerebral dominance report altered cerebral asymmetry under hypnosis, in favor of the right hemisphere. Evidence supporting this view comes from reports describing findings such as significant positive correlations between the tendency to move the eyes to the left (i.e., right hemisphere) and hypnotic susceptibility (Bakan, 1 969) and dichotic listening tasks demonstrating a significant shift toward a left ear advantage (i.e., right hemisphere) during hypnosis (Frumkin, Ripley, & Cox, 1978; Pagano, Akots, & Wall, 1988). In a study of bodily responsiveness to suggestions, right-handed participants were more responsive on the left than the

right side of the body (Sackeim, 1982). These findings propose that hypnotic responsiveness is associated with right hemisphere function and is congruent with right hemisphere involvement in visual imagery, altered time sense, disinhibition, and creativity (Gruzelier, Brow, Perry, Rhonder, & Thomas, 1984). Thus, brain laterality is very much a vibrant theme in hypnosis research.

Conclusion

Humans have asymmetrical brains - a fact of considerable interest and importance. We belong to an ancient phylum known as the Bilateria, which established bilateral symmetry as the default condition (Palmer, 2004). This evolutionary adaptation is apt for a world that is essentially indifferent with respect to left and right and certainly influences psychological functions (Corballis & Beale, 1976). We scarcely repudiate asymmetries in the way different functions manifest in the brain. The problem, however, lies in the simplistic notion implying that the two hemispheres reify opposite ways of flunking, and that the right hemisphere's talents have been co-opted.

It is important to appreciate that variations in neural computation correlate with anatomical and functional brain asymmetries. For example, the asymmetrical representation of language confers some disadvantages, such as a slight bias toward processing words heard in the right ear or seen on the right side of space, and a corresponding bias of spatial attention and spatial processing toward the left side of space. Nonetheless, unprincipled reference to the brain science can make explanations speciously palatable (Skolnick-Wesberg, Keil, Goodstein, Rawson, & Gray, 2008) and may legitimize dubious practices. Unscrupulous therapists and self-proclaimed educators, not to mention those who are simply uninformed, offer ways to unleash that veiled potential and unlock the treasure within through venues such as music, meditation or hypnosis (Joseph, 1992). It would behoove members of our society to be judicious and reconsider the facts (Corballis, 2007).

We would like to point out the little-heeded observation of our esteemed colleague, Brenda Milner - one of the founders of

modern neuropsychology and a meticulous researcher of cerebral asymmetry - who explicitly warned against overemphasizing the asymmetries of the brain at the expense of the considerable overlap in function between the two sides (Milner, 1971). Thus, while it may be appealing to embrace the notion of the left hemisphere as the interpreter and source of executive consciousness (Gazzaniga, 2000), left-right symbolism likely reflects why the majority of humans are right-handed across societies (Corballis, 2003) albeit anecdotal exceptions always lurk (Holloway, 1957).

The main point of the present piece should be clear and dear: while brain laterality engulfs veridical variations (e.g., anatomical), practitioners of hypnosis should be careful regarding the interpretation of the size and nature of these differences. When we permit uncorroborated "urban legends" to evade scientific scrutiny, they may become grist to the practitioner's mill. Science strives to offer an explanation of facts or phenomena, but in constructing theories scientists often go beyond the evidence. In this regard, our abovementioned account of brain asymmetry may contain a smidgeon of the very transgression we so vehemently advocate against. And yet, two waves of mythology have befallen the left and right brains - both involving hypnosis. If we are not careful, history may repeat itself yet again.

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