

This article was based on an interview I held with the late Dr. Leonard Shlain, a brilliant surgeon and author. His daughter Tiffany is carrying her father's work to the next level: to learn more, visit <http://www.moxieinstitute.org/tiffanyslain>.

Negotiating the freeway towards San Francisco's California-Pacific Medical Center, where he is chief of laparoscopic surgery, Dr. Leonard Shlain presses the eject button on his new car's console (past models were Jaguars, but now that he's a conscious consumer, it's a Prius). Out comes "The Count of Monte Cristo," a story that has had him riveted ("I actually had to pull over at one point to find out what happened," he admits). But he's going to be operating on someone's carotid artery this morning and needs to concentrate; so, for the moment, the story is on hold. Is his patient left or right-handed? Was the injury to the left side or the right side of the brain? "This is an important factor in how I'll approach my job," he explains. "Carotid procedures hold a special fascination for me; operating on carotid arteries requires that I understand how the brain works." Shlain has long been fascinated by right / left hemisphere differences in the brain, as well as by modern art and science. Ruminations concerning the puzzle of consciousness, the right / left split and the connections between cubism and relativity "tumbled like clothes in a dryer" through his mind, and he's been ironing out the wrinkles over the years. His thoughts emerged as an award-winning book in 1991. *Art and Physics: Parallel Visions in Space, Time, and Light* (HarperCollins) proposes that innovations in art prefigure major discoveries in physics; it is presently used as a textbook in many art schools and universities. The book covers the classical, medieval, Renaissance and modern eras. In each, Shlain juxtaposes works of famous artists alongside the paradigm-shifting ideas of great thinkers. Pairings include Giotto and Galileo, Da Vinci and Newton, Picasso and Einstein, Duchamp and Bohr, Matisse and Heisenberg, and Monet and Minkowski.

The youngest of four children of first generation Russian emigrants, Shlain loved building model airplanes and enjoyed drawing as a child, and fancied himself a budding artist. He considered psychiatry as a career, but chose the dramatic life of a surgeon (think 'Magnificent Obsession'). "It was romantic, challenging and intensely exciting."



Also an Associate Professor of Surgery at UCSF, Shlain knows firsthand what it's like to be under the knife. At thirty-seven, he had passed his Boards, become a fellow of the American College of Surgeons, and had a university teaching position, a wife, three children, and a "tiger-by-the tail" burgeoning practice. Things were going according to plan when he found himself "sitting on the edge of a hospital bed dressed in the half gown of a post-surgical patient" — he'd just been told that a biopsy had come back malignant for a Non-Hodgkin's Lymphoma.

His subsequent treatment and recovery led Shlain to participate in a 'death and dying' seminar. "An organizer of one of the workshops was familiar with my recent

encounter with the grim reaper and thought it would be neat to have a surgeon provide his perspective from both sides of the scalpel,” he recounts. His story was later included as a chapter in *Stress and Survival: The Realities of a Serious Illness* (a compilation edited by Charlie Garfield). Unbeknownst to him, Stanford’s radiation department had xeroxed his chapter to hand out to incoming patients, and a medical school had made it required reading for junior students beginning their oncology rotation. “My career as a writer emerged from the single worst experience of my life,” notes Shlain. After a fortuitous encounter with a New York agent, he learned that eight major publishers were interested in that single chapter becoming a book. “For the next year I was a man possessed. I wrote early in the morning before surgery, on vacations, on weekends, and while waiting for cases to begin in the surgery suite.” Shlain says he approached the art of writing as he had approached the acquisition of the skills necessary to become a surgeon. “I knew that proficiency begins with considerable practice and the emulation of experts. I had always been a voracious reader (he particularly likes Dostoevsky, and enjoys Hemmingway, Steinbeck, Melville and Dickens); even when I was in the midst of the most demanding rotations of my surgical training, I always had a paperback in my back pocket.”

Seven years after the success of his first book, a second emerged: *The Alphabet Versus The Goddess: The Conflict Between Word and Image*, (Viking) hit the national bestseller list within weeks after publication in 1998. Conceived during a tour he took to Mediterranean archaeological sites in 1991, the book discusses his theory that with the development of the alphabet and the rise of literacy, a right-handed, left-brained dominance was created (the hemispheres of the brain control opposite sides of the body), birthing a patriarchal culture that diminished women, goddesses and sacred images. While he appreciates the gifts of literacy and literature, Shlain points out that the writings of Marx, Aristotle, Luther, Calvin, Confucius and many other male writers advanced and perpetuated patriarchal values, particularly through the Bible, the Koran and the Torah. “In the ancient world, during polytheism, people weren’t killed for their religious beliefs,” he states. “With the rise of Christianity, Islam and Judaism, we began fighting over whose One God was The Right God.”

In a fascinating discussion enhanced by anatomical understanding, Shlain postulates a difference between the eye and the ear, between speaking and listening: he characterizes the eye’s function and speaking as being more active and male, while he sees the ear’s architecture and listening as being more receptive, or female. As a society, we focus more on speaking and seeing than we do on listening and hearing. The human eye contains specialized ‘cone’ and ‘rod’ cells, which Shlain associates with left and right sides of the brain, respectively. Interestingly, men’s eyes have more cone cells (which hone in on close focus), while women’s contain more rod cells, which see images as a whole gestalt. So, the sexes literally see things differently. (Finally, an explanation for why men often cannot find something in the refrigerator; as for why women talk so much—they see more, so there’s more to say!)

A passionate person, Shlain enjoyed a tumultuous courtship with his wife of seventeen years, and endured an equally tempestuous divorce. Single for seventeen years afterwards, he remained fascinated by the differences between men and women and, though reticent to “get back in the game,” always thought most people unconsciously seek soul-mates. He met his second wife, Ina, a judge, on a blind date and, for him, the myth of a divided soul finding its other half has become reality. “We’re two control freaks who don’t like conflict,” he says, adding that, “somehow, that really works for us. When we cook together, I, in the manner of my professional training, place my

hand palm-up without looking away from the slicing and dicing and bark, “Tomato!” Ina laughingly intones; “motion overruled.”

Every chapter in each of Shlain’s books is titled with provocative, often juxtaposing dyads, such as Athens / Sparta, Illiteracy / Celibacy, Menarche / Moustaches. “It goes with the right / left duality that so characterizes our reality,” he says. His latest work, *Sex, Time & Power: How Women’s Sexuality Shaped Human Evolution* explores why *Homo sapiens* evolved so differently than other animals. His conclusions that women evolved the power of choice regarding whether or not to engage in sexual intercourse once they connected it with childbirth, that menses evolved to teach the species how to tell time, and that women’s loss of iron through menstruation and other avenues resulted in a balance of power between the sexes (as men learned to hunt and bring home the bacon that restored her depleted reserves) are well researched, elegantly stated and just as plausible as other explanations. Critics have focused their complaints about Shlain’s ideas on the fact that someone other than an artist, scientist, anthropologist, paleontologist or linguist has written with such authority on subjects which they believe should be pioneered by academic experts in those fields. “Important contributions are made to many areas by lay-persons,” suggests Shlain. “Theories are often put out there as ‘Just So’ stories and are later proven to be valid.” Besides, as he states in the introduction to *Sex, Time and Power*, as a surgeon he has had a lot of time to deeply ponder the mystery of blood and the fact that, though the variables of most of 26 numbers on a chemistry panel are gender neutral, men normally have a 15% higher concentration of circulating red blood cells than a healthy woman has. The understanding of hemoglobin and the role that iron plays in the dance between the sexes became a quest that Shlain pursued meticulously.

Recently popularized theories about the Holy Grail having been Mary Magdalene herself point to the reemergence of the ‘Divine Feminine’ or, as some prefer, the return of the Goddess. Shlain’s Mediterranean archaeological tour had ended at Ephesus, where the ruins of the largest shrine to a female deity in the Western world, the Temple of Artemis, lie. “Our guide had told the legend of Jesus’ mother, Mary, coming to Ephesus to die, and pointed out the hillside on which her remains were purported to have been buried,” he writes. Asking himself why, if the legend were true, Mary would have chosen a place sacred to a “pagan” goddess as her final resting place, he began to question what had caused the disappearance of goddesses from the ancient Western world. “There is overwhelming archeological and historical evidence that during a long period of prehistory and early history both men and women worshiped goddesses—what in culture would have changed to cause leaders in all Western religions to condemn goddess worship?”

Goddess isn’t all ‘alphabet bashing’. With unprecedented advances in image technology, Shlain (who is himself right-handed, but ambidextrously talented) thinks we are witnessing the dawn of a new language, one that is reintroducing the voice of the right hemisphere. “I hear a lot of talk about how we’re destroying life as we know it. How about a different scenario—that we are in the process of evolving into something different?” he asks. In his mind, the rise of images through the media, along with the use of computers, is a positive evolutionary development. Where writing has traditionally required the use of the right hand and the left brain, keyboards and screens engage both, like a musical instrument. (Typing was a step towards hemispheric coordination, but was predominately engaged in by female secretaries). Computer keyboards are tapped by both sexes; “just think of all those male left hands on keyboards, stimulating their right brains,” exudes Shlain, who also feels that relationships are reinforced by technologies like e-mail, cell phones, and beepers.

So, what's the doctor's prognosis for the world? "We have a whole new set of problems now," he tells audiences throughout the United States and Europe. A keynote speaker for such diverse groups as the Smithsonian, Harvard University, the Salk Institute, Los Alamos National Laboratory, NASA, and the European Union's Ministers of Culture, Shlain's message about the future is upbeat. Besides the merging of the hemispheres (a global metaphor, perhaps?), Shlain points to historical shifts that he likens to Hegel's philosophical "Thesis, Antithesis and Synthesis" model. Just as The Renaissance gave way to the Reformation, which then transformed into the Enlightenment, so the 1960's were completely converted in the 1990's, which appear to be headed in a completely different direction in the 2000s. "The flood of images in which we now live is restoring a long-lost balance between our linear left brain hemispheres and the visual right ones, bringing an end to a 5,000 year reign of misogyny."

Himself a Renaissance man, Shlain's next book concerns Leonardo DaVinci, but will be "nothing like what's on the market now." In addition to having raised three highly creative and contributory children (of his many roles in life, he most cherishes that of father) and having won several literary awards for his visionary work, Shlain also holds a number of patents on innovative surgical devices having to do with stapling, cutting and cauterizing. Like his scalpel, Dr. Leonard Shlain uses words and concepts to fulfill the mandate he has hanging above his writing desk: a quote from Franz Kafka urges writers to create books that can be wielded like a pickax to shatter the frozen sea within the reader's mind. "If a book didn't change the way the reader thought about the world, then Kafka deemed it not worth writing," he reports. Using this as his credo, the successful author finds unique metaphors for conveying complex concepts and weaving in a dizzying array of facts to support them. In doing so, he accomplishes his stated mission to "set the reader's mental ice floes grinding against each other." Whatever your take on Shlain's theories, reading his books is a provocative and thoroughly enjoyable adventure. Describing himself as a storyteller by nature, the man loves the "luxuriant diversity" of English. He has painstakingly avoided technical jargon, yet throws in the occasional unfamiliar noun, verb or adjective. "At times, I could not restrain myself from trying to rescue a few of my favorite words from what I fear may be their impending extinction." Get out your dictionary, sit back, and prepare to be both educated and entertained.