



Special Briefing

May 22, 2008

MINDBOGGLING: THE RIGHT BRAIN IN THE DIGITAL ERA

*“The great pleasure and feeling in my right brain
is more than my left brain can find the words to tell you.”*

– Dr. Roger W. Sperry,
accepting the 1981 Nobel Prize in medicine

This spring, two online bloggers died, both of heart complications, while plying their trade, without regular breaks, over an extended period of time. There was always more to know and more to write. Meanwhile, in South Korea, an online gamer collapsed and died after hours – well, actually, days – of playing a video game. Both types of activities – writing lengthy posts on the latest technology for an online publication and outmaneuvering competitive challenges in a graphic depiction of a unique universe – can create an “addiction” that keeps the mind “wired” and deeply engaged well past the time the body needs to disconnect. In the case of the three deceased online addicts, the body simply gave out, a signal that technology is triggering mind-body dysfunctions we hardly recognize and little understand. As one blogger admitted, when discussing his frenetic pace, “This is not sustainable.” (*New York Times*, 4/6/08)

Digital technology seems to have no limits in terms of speed. What at one time took seconds now takes fractions of a second. The speed of calculations in consumer digital products was once measured in thousands per second and is now in billions per second and headed upward. The Google search engine requires just 0.27 seconds to scan the World Wide Web, identify and then cite 4,430,000 different articles that relate to the phrase “left brain-right brain.”

We have yet to read those 4-million-plus articles about the left brain-right brain dichotomy. But we do know that understanding the value of both hemispheres of the brain and how they both are necessary for all human endeavors has become more valuable and more critical as digital speeds become more, well, mind boggling.



*“We have lots of information technology. We just don’t
have any information.”*

Right Brain Redux

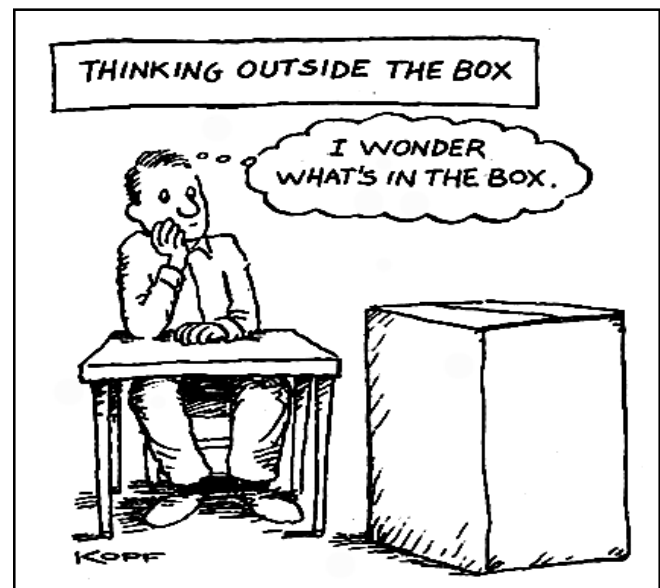
Roger Sperry received the 1981 Nobel Prize in medicine for discovering how the different lobes of the brain function. While working with patients whose links between the two hemispheres had been severed, Sperry learned that the two sections seem to have different capabilities and strengths, the left handling linear, analytical, linguistic and rational thinking and the right doing spatial, creative, pleasurable and imaginative thinking. In the years following Sperry's 1960s and later research, the hemispheric model of brain functionality became popularized, primarily through the work of Betty Edwards' *Drawing on the Right Side of the Brain* (1979), which used drawing exercises to help left-brain-dominant people access the capabilities of the right brain. (*New York Times*, 4/6/08)

Further research refined Sperry's thoughts considerably, revealing that the interrelationship between the two halves of the brain is much more complex than the original research had suggested. One development involved recognition that the difference between the two hemispheres is more about information processing than about distinct skills, with the left brain favoring a focus on details and the right brain preferring to take a holistic outlook – that is, the left “sees” specific trees (*i.e.*, the details), while the right “sees” the forest (*i.e.*, the whole picture). (*New Scientist*, 9/22/07)

One of the reasons that this perspective on brain capacity has recently enjoyed a resurgence in interest has much to do with the demands on human capabilities in the digital era. The digital-based hardware and software that individuals use more and more frequently for longer and longer periods of time have been getting faster and faster in “processing speed.” As a perhaps unanticipated consequence of faster tools, the pace of human work has accelerated as well. Yet unlike the seemingly limitless capacity of digital technology to accelerate its pace of performance, humans have their limits, as proven by the two bloggers – and one online gamer who succumbed to the relentless pressure to act more like digital technology and do more, faster and – they evidently thought – with no stops...proving that the body is not made of silicon.

Technology has relentlessly focused the user's attention on the specific trees – analyzing, computing and deducing results – all to the detriment of our need to see

the forest – imagining, envisioning and inferring a larger context and purpose. As employees spend more and more time tethered to omnipresent digital devices, companies have evidently been surprised by the limited insights about forests that the linear, left-brain technology and thinking can produce. As a result, corporations find themselves needing to ask employees to think “outside the box,” an implied admission that the rational processes responsible for creating the box in the first place are too narrow and restrictive to create the context and the innovation that companies now so desperately need. In short, companies are rediscovering the value of the right brain.



Mind Games in the Digital Era

Technology has focused on the trees and accelerated the pace at which each tree is examined, analyzed and dispatched. This accelerating pace of work has created a range of human – although not always humane – responses. Some are amusing, others futile and a few have created profitable markets.

Multitasking – This became the first response to the doubling and tripling of the pace and range of work. Over time, individuals came to believe that they could actually do more than one thing at one time – thereby doing twice the work, triple the work and so on. This is one part of the human mind tricking another into believing that something is taking place, when, in fact, it is not. **Research has shown that the evolved human**

brain cannot multitask. This physical limitation is most obvious when the tasks involve alternating between brain hemispheres. For instance, in MRI (magnetic resonance imaging) studies at Carnegie Mellon University in Pittsburgh, researchers learned that if a person tries to “multitask” language skills (centered in the left brain) and spatial skills (centered in the right brain) brain activity shifts back and forth. Since language is a brain activity learned early in life and typically is called upon most often in daily life, the left-brain activity tends to crowd out the right-brain activity. That is why driving (right brain, spatial) becomes more risky if done while talking on a cell phone (left brain, language). Beyond **talking** on the cell phone, a recent insurance industry study revealed that 66 percent of adults between 18 and 24 years of age **text message** while driving. Constant practice can improve the speed at which the brain oscillates between tasks, but as one writer noted after surveying all the research in the area, “a bottleneck in our brains means we are fundamentally incapable of true multitasking.” (*New Scientist*, 4/7/07; *Science News*, 5/10/08; *The Week*, 3/7/08)



Make Really Long Lists – Time-management books, seminars and consultancies became necessary for those hoping to keep pace with accelerating technology and related work demands. The old Day-Timer books seemed quaint in the new high-tech, caffeine-

driven and often drug-aided workplace. To help this new time-management mindset, the *Journal of Experimental Psychology* (JEP) noted that finishing work can take 50 percent longer if an individual switches among different tasks rather than staying with one task until it is completed and then moving ahead to the next task. [Note to those who think they multitask: read JEP.] Soon consultants were helping individuals eliminate every “wasteful” moment in their day, as if quiet or thoughtful time were somehow wasted time. Anxiety about work, these theorists insisted, can be overcome by simply compiling one complete list of all the jobs that one has to do. Making lists became so widespread that some counselors actually told individuals seeking a life partner to make a list of all the characteristics they sought in that partner. Lists rule! Meanwhile, research has shown that when individuals “let go” of all the details of work to be done, they make better decisions about how to address their chores – that is, the unconscious brain has a much greater capacity for information digestion and assessment than does the conscious brain, even with its long lists. (*BusinessWeek SmallBiz*, 2/08; *New York Times*, 2/21/08)



Make Things Shorter – The standard-issue description of a digitally comfortable individual has been one of a multitasking, attention-span-deficient junky,

linking to thousands of people everywhere. In an earlier *Briefing*, we noted how everything outside of work – books, television shows, movies, operas, and other things that require time to consume – were being condensed to fit into the operating mindset (read: shrinking attention span) of the digitally engaged and work-hassled employee. New television programs, fretting media moguls seemed to say, had to have brevity as a primary characteristic, seemingly imitating YouTube, the place where amateurs post the short films they manage to have time to create. For instance, the new television show “Tracey Ullman’s State of the Union” reflects the comedienne’s perspective: “It’s like a YouTube-mentality show. I don’t think anyone’s got the focus at the moment for 14-minute sketches, so I decided to make it fast and furious.” In fact, research has shown that people shift attention because of lack of intensity in the task at hand. The more complex and dense – not how quick-moving – the subject is, the more likely they are not to be distracted, as was the case unto death of the bloggers cited earlier. (*USA Today*, 3/27/08; *New Scientist*, 12/15/07; see also “Busyness and Business: Connecting with the Enabled and Hassled Consumer,” **IF 2811**, 4/26/07)

Devices such as BlackBerries helped users accelerate their tasking pace by making work available 24 hours per day, 7 days every week. As a result, the BlackBerry became seemingly obligatory for those seeking to manage their steadily increasing workload, as did new kinds of software, various online services and faster/larger digital systems. As if to suggest what these kinds of tools actually do to humans who depend on them, when the BlackBerry system failed in early 2007, individuals reported experiencing withdrawal symptoms. “I started freaking out,” one user admitted. “I quit smoking 28 years ago,” chimed in another, “and that was easier than being without my BlackBerry.” Of course, adding more technology is like adding another lane on the freeway, and civil engineers have shown that very soon the new lane is as crowded as the others were before – in other words, traffic increases to its maximum inefficiency. And then, even more lanes (technologies) are needed. (*New York Times*, 4/19/07)



Create a Bubble – When information comes too fast for the above responses to control, then eliminating what is not wanted becomes the preferred tactic. Cancel subscriptions to unread publications, use RSS software to prioritize and avoid news (or information in general) that is not sufficiently engaging or immediately useful, let others online decide what is important and read and/or watch that, and live in what has been called the “Daily We,” a bubble world of one’s own creation.

More Technology – The next answer – or perhaps the perennial answer – has involved acquiring more technology to help maintain the torrent of work and to grind through the rising mountains of information.

The digital era has made that possible. In a past *Briefing*, we described the barriers that keep individuals from truly seeing what is before them, especially if they would rather not see what is there. On that list was “certainty,” the feeling that one already has it right, and therefore new information, especially information that contradicts that certainty, is simply unnecessary. Interestingly enough, studies have shown that people with a strong sense of certainty, when confronted with solid evidence that contradicts their convictions, actually cling more forcefully to those challenged beliefs. Creating a bubble of preferred information comforts those with certainty – as well as those just desiring certainty to avoid the nagging worries associated with the reality of uncertainty (for the other barriers to intelligence see “Hearing and Accepting Intelligence: Sometimes It’s Not About Acquiring and Delivering Intelligence,” **Special Briefing**, 4/26/04).

These soothing yet questionable responses are the consequences of human minds trying to discover operational shortcuts in order to give the feeling of staying ahead of the accelerating pace of digital technology. It could well be a fool’s game. Because humans may be bumping up against their upper bounds in terms of mental and especially emotional speed and because the consequences of highly technical, analytical thinking are causing huge economic stresses right now, some individuals are starting to “rethink” how they think. And that has led back to right brain-left brain research.



Holistic and Digital

Even as digital technology continues to break activities, subjects and relationships into bits and pieces of data, we have seen some humane actions that serve as countermeasures to technology’s distortion, or rather disturbance, of the mind. For instance, the study of philosophy – the exploration of human thought – has started to gain popularity among students. In 2002, Rutgers University in New Jersey graduated 50 philosophy majors, and this year the class is twice that size. At City University of New York, during the same years, the number of philosophy majors increased by 51 percent, and campus-wide enrollment in philosophy courses increased by 18 percent. A decade ago, 765 colleges offered undergraduate philosophy programs, and now 817 do. One philosophy student at Rutgers explained the shift in interest among those in her cohort. “All of these things [discussed in philosophy courses] make the world a smaller place and force us to look beyond the bubble we grow up in.” (*New York Times*, 4/6/08)

If those students take a history of philosophy course, they will come across a wide range of thinkers who have spoken positively about the intuitive, imaginative and creative aspects of the human being, especially as they relate to aesthetics. If students are exposed to that strand of thought, they could easily move from philosophical studies of what humans have thought to the psychological studies of how people think, soon landing on Sperry and the ensuing research on left brain-right brain capabilities.

In his book *A Whole New Mind* (2005), Daniel Pink suggests that computer capabilities emulate the skills associated with the left brain, essentially relieving humans of the need to sharpen or enhance that set of skills. Instead, humans need to focus more on the capabilities associated with the right brain, skills that digital technology has had less success emulating. “It’s just that after a few generations in the Information Age,” Pink has said, “many of our high-concept, high-touch muscles have atrophied.” Pink was putting into the contemporary context a bias that Sperry himself had noted years earlier. “Our educational system as well as science in general,” Sperry noted in 1973, “tends to neglect the nonverbal form of intellect. What it comes down to is that

modern society discriminates against the right hemisphere.” In the digital era, that “bias” has become even more pronounced. (*New York Times*, 4/6/08)

Now that the damage is starting to mount in the economic sphere, much of it caused by an excessive dependence on the rational, mathematical and linear thinking used to create complex, and evidently faulty, financial instruments, more and more leaders are looking around for other ways to think about current conditions. Many are landing on the values and capacities of human thinking associated with the right brain.

All the complexity in the world can hardly be grasped by a person thinking about specific trees. One scientist noted the problems associated with the

interesting but in itself insufficient discovery of the human genome by noting, “Thinking the genome explains life is a little like learning a foreign language by memorizing the dictionary.” Putting all the bits and bytes of data about the tree into a context that captures the whole forest (and, in fact, the whole tree) is becoming more valuable...and more difficult. After wandering down the rational, linear path to its current impasse of mind-boggling proportions, individuals may need to start “drawing” on the right side of their brains when thinking about work and life, thereby placing digital technology and its related left-brain thinking in a larger context – that of the whole human being.

