

# A Culture of Distraction

## What we risk by being so unfocused and how to start paying better attention

By Maggie Jackson

Not long ago, I decided to get together with an old school friend I hadn't seen for years. Emails sallied back and forth, like bumper cars bouncing off one another, with no solid hits. After repeated cancellations and postponements, we finally set a date for lunch. Arriving at his office, I waited while he finished a meeting, took a phone call, dashed around. It was long past midday when we hurried to a nearby cafe, then he mentioned that he'd eaten already. I gulped a sandwich, he half-heartedly sipped a soft drink then raced back to work.

It was all very friendly yet afterwards I stood on the street corner for a few minutes feeling unsettled. I thought we were going to catch up but instead I got the face-to-face equivalent of one of those fast-moving montages you see in pop videos. During our brief time together, my friend joked uneasily about his inability to focus on anything in life.

We all share the joke. Studies suggest that nearly a third of workers feel they do not have time to reflect on, or process, the work they do, with more than half juggling too many tasks simultaneously that they find it difficult to get jobs done. One yearlong study found that workers not only switch tasks every three minutes during their workday but that nearly half the time they interrupt themselves.

Distraction is part of the human condition. But now every force conspires to magnify that inattentiveness: technology means that distraction is everywhere. We're almost always within reach of something to fill our brains. Mobile phones, iPods, portable DVD players, television, email, games consoles, Facebook, personal data assistants ... the list goes on. How often do you sit in the car without turning on the radio or enter a hotel room without switching on the TV? Even places that once offered some quiet respite from the electronic buzz all around us - the cafe, the waiting room - are now connected wirelessly to the world wide web.

We are able to tap into 50 million websites, 1.8 million books in print, 75 million blogs and other snowstorms of information, but we increasingly seek knowledge in Google searches that we digest on the run while juggling other tasks. Through technology we can contact millions of people across the globe at the touch of a button, yet more and more we connect with even our closest friends and family via instant messaging, and the fleeting meetings we do have are punctuated by pings and beeps and multi-tasking.

Day by day our hectic lives erode our capacity for deep focus and awareness, so much so that I often wonder whether future generations will even experience the hard-fought pleasures of engaging deeply in thought and conversation. Will focusing become a lost art, quaintly exhibited alongside blacksmithing at the historic village ("Look, darling, that man in twentieth-century costume is doing just one thing!")?

Today, people are so dazed they have almost no time to reflect on the world around them, much less their futures. Amid the glittering promise of our new technologies and the wondrous potential of our scientific gains, we are nurturing a culture of fragmentation and detachment. In this new world, something is missing and that something is attention.

Attention is "the taking possession by the mind, in clear and vivid form, of one out of what seem several simultaneously possible objects or trains of thought," wrote psychologist and philosopher William James in 1890. "It implies withdrawal from some things in order to deal effectively with others, and is a condition which has a real opposite in the confused, dazed, scatterbrained state which in French is called *distraction*."

James came tantalizingly close to understanding at least one aspect of this mysterious phenomenon whose inner workings eluded philosophers, artists, historians, and scientists for centuries. But today, we know much more about attention, and all that we are learning underscores its irrefutable importance in life.

Attention is an organ system, akin to our respiratory or circulatory systems, according to cognitive neuroscientist Michael Posner. It is the brain's conductor, leading the orchestration of our minds. Its various networks – orienting, alerting, and the executive – are key not only to higher thinking but also to morality and even happiness.

Yet increasingly, we are shaped by distraction. James described a vivid possessing of the mind, an ordering, and a withdrawal. We easily recognize that these states of mind are becoming less and less a given in our lives. The seduction of virtual universes, the allure of multitasking, our allegiance to a constant state of motion: These are markers of a land of distraction. This is why we are less and less able to see, hear, and comprehend what's relevant and permanent, why so many of us feel that we can barely keep our heads above water, and why our days are marked by perpetual loose ends.

Nearly a third of workers feel they often do not have time to reflect on or process the work they do. More than half typically have to juggle too many tasks simultaneously and/or are so often interrupted that they find it difficult to get work done. Yet we are our own efficiency experts, relentlessly driving ourselves to do more, ever faster.

We are adapting to a new world, but in doing so are we redefining “smart” to mostly mean twitch speed, multitasking, and bullet points? Workers on average spend just 11 minutes on a project before switching to another and, while focusing on a project, typically change tasks every 3 minutes, interruption scientist Gloria Mark's research shows. This isn't all bad. Modern life demands nimble perception, and interruptions often usher in a needed break, a bit of information, or a “eureka” thought.

Once we're distracted, however, we take about 25 minutes to return to an interrupted task and usually plunge into two other projects in the interim. Mark, to her surprise, discovered that nearly 45 percent of these interruptions are self-initiated. We are training ourselves to flit from task to task, even as we sense that our ability to focus, be aware, and reason may be eroding.

We have cause to worry. Kids are the inveterate multitaskers, the technologically fluent new breed suited for the lightning-paced, many-threaded digital world, right? Yet for all their fluency, kids show less patience, skepticism, tenacity, and skill than adults in navigating the web, all while overestimating their prowess, studies show.

Meanwhile, nearly 60 percent of 15-year-olds in the United States score at or below the most *basic* level of problem solving. Many high school students can't synthesize or assess information, express complex thoughts, or analyze arguments. In other words, they lack the critical thinking skills that are the bedrock of an informed citizenry and the foundation of scientific and other advancements.

Is it just a coincidence that they lack the skills nurtured by the brain's executive attention network, the seat of our highest-level powers of focus? While undoubtedly the reasons for this state of affairs are myriad, what's certain is that we can't be a nation of reflective, analytic problem solvers while cultivating a culture of distraction.

Children need to learn to respond to the pace of the world, but also to reason and solve problems within this new era, asserts educator Jane Healy in *Endangered Minds* (Simon & Schuster, 1990). “Perhaps most important,” she writes, “they need to learn what it feels like to be in charge of one's own brain, actively pursuing a mental or physical trail, inhibiting response to the lure of distractions.”

The antidote, of course, is attention. But to cultivate a *renaissance of attention*, we must understand its workings and have the patience and wisdom to envision its possibilities.

On the trail of decoding attention, Mike Posner – unarguably the greatest attention scientist of our time – is invariably two steps ahead. He's the opposite of a magician, who spins illusion from our propensity for distraction. Posner has spent a lifetime bringing the mysteries of the brain to light, so that we can better chart our own lives.

Throughout his early career, Posner crafted simple time-based experiments and probed stroke victims' deficits. He created an ingenious way to measure attention, a seemingly impossible feat that has come to be called "the Posner test." He helped put the field of cognitive neuroscience on the map, unveiling in the process what he'd surmised all along: the networked nature of attention. In a visionary paper now largely forgotten, he outlined its tripartite workings – in 1971.

If our three networks of attention – orienting, alerting, and the executive – are comparable to an organ system like digestion, then *orienting* is akin to a cognitive mouth, a gateway to our perception, the scout. Orienting is focus deluxe, the acrobat that allows us to perceive something new, swivel our attention to it, and determine its importance.

Healthy human 6-month-olds can look where a caregiver looks, then by 18 months, understand when they are sharing a moment of focus. This is *joint attention*, a seemingly simple but extraordinarily rich moment of first connection, courtesy of the orienting network. One of the first signs of autism is a deficiency in it; autistic children miss others' "bids" for sharing attention and don't initiate shared focus. Orienting is our bridge to one another. Lose the will to focus deeply, to point the compass of our lives in one another's direction, and we become islands.

Orienting is eager, but *executive* attention has swagger. The executive network is our troubleshooter, a sheriff who moonlights as the judge, with a long reach and a heady power that is, alas, easily corrupted. Yet without this capacity, the brain is a lawless patch of cerebral country. Encounter a snake on the trail? Write your will? Multitask? Quit smoking? Almost all new, difficult, dangerous, or complex challenges or occurrences prompt a 911 to executive attention, whose résumé touts "selection" and "control," with a specialty in "conflict resolution" and "catching mistakes."

Day to day, we know that the cultivation of control, judgment, and planning skills is not easy for anyone. Yet we cannot reshape a culture built upon split focus and info-skimming without harnessing the powers of this network.

*Alerting* is the gatekeeper network, the caretaker who turns the lights on and off in our cerebral house. Simply put, alerting is wakefulness. It comes in many flavors, from a coma to a coffee buzz, and is as necessary to life as the air that we breathe. Still, the study of alertness has long received short shrift, aside from focusing on how long workers can stay awake. "I don't think people have realized how difficult and complicated the alerting process is," Posner says. "It's a very complex state."

Hour by hour, alertness ebbs and flows. When we awaken, we suffer "sleep inertia," a 20-minute stint of "dampened responsiveness." Then we grow more alert all day, until evening. This fluctuating "tonic" alertness is rooted in the brain's right hemisphere, while "phasic" alertness – the get-ready feeling triggered by a teacher's bark or a starting gun – is thought to be left-brained. Humble alerting hoists the flag of wakefulness. It's our ticket to the beautiful world around us. When we race breathlessly through life, detached from our surroundings and addicted to a kind of hyperproductive, mindless mobility, we are short-circuiting this third power of attention.

When I met with Posner at his home in Oregon, I asked him a question: What does he think of William James, the thinker who spearheaded research into psychology in this country a century ago? In some ways, the parallels between the two men are intriguing. Both unpretentious, they share a gift for distilling big, thorny concepts. Lucid writers and charismatic lecturers, they dedicated their careers to the development of human potential. But no, James is not Posner's hero.

James was a genius, Posner said, but he was really a philosopher, not a scientist, in the modern sense of the word. And on one essential point, the philosopher and the scientist certainly diverge. James thought that attention could not be highly trained "by any amount of drill or discipline." Posner and others are beginning to prove him wrong.

Five months after visiting Posner, I was wheezing my way up a long flight of stone steps leading to an ornate stupa perched on the side of a Colorado mountain. Far below lay a scattering of low buildings, a Buddhist

retreat that looked part summer camp, part conference center, hidden in remote country 120 miles northwest of Denver.

Having only acclimatized for a day, I felt queasy and scattered as I reached the top. But I removed my shoes, tiptoed into the stupa, settled onto a cushion on the floor among a dozen statue-still people sitting before an immense gold Buddha – and vainly tried to meditate for the first time in my life. In-out-in-out-*relax-and-focus-on-each-and-every-breath*. What-does-this-have-to-do-with-attention?

This otherworldly spot, far removed from the barren confines of most psych labs, was nonetheless the site of history's most ambitious scientific study of attention training to date. The brainchild of an intense Buddhist scholar and a feisty New York-born neuroscientist, the project had a simple aim – to study how meditation practice affected the attention skills and social and emotional health of a group of people. The execution was complex: By the time I arrived at the Shambhala Mountain Center, Clifford Saron of the University of California at Davis and his crew had compiled 1,700 hours of data that will take years for his research team and collaborators to sift through.

The Shamatha Project, named after a Buddhist term for cultivating attention, sits at the crossroads of a set of discoveries that could make attention training, meditative or not, a normal part of life. By itself, mindful breathing is a “completely useless skill,” observed Buddhist scholar B. Alan Wallace. Yet this technique, one of a huge roster of meditation practices, opens the door to controlling and then training the mind, just as musicians practice scales and athletes do drills to build up to a superior performance.

Can attention be trained? To Wallace, who has meditated 10,000 hours in solitary retreats over 35 years, the answer is already in. But he believes that science can help unpack the intricacies of meditative attention, just as meditation is the perfect canvas for scientifically understanding how attention can be shaped. He and Saron emphasized that they aren't studying Buddhism but rather the attentional training within the tradition. “It's fundamentally a nondenominational pursuit,” Saron quipped.

Four days after visiting the Shamatha Project, I met Saron again, this time at a monastery-turned-conference-center set on a cliff overlooking New York's Hudson River. Dozens of neuroscientists were gathered for an annual meeting organized by the Mind and Life Institute, a Colorado nonprofit that supports the study of meditation.

Just two decades ago, no career-minded scientist would have pursued this work. Now, gleanings from contemplative brains routinely make headlines. Hospitals offer mindfulness-based stress reduction programs. Neuroscientists are studying nascent efforts to bring meditation into classrooms. Attention, however, is a new focus in this budding subfield of brain science, and so the meeting hall was packed as neuroscientist Amishi Jha took the stage to relate her landmark findings.

Jha compared 17 novices taking an eight-week introductory course in meditation with 17 experienced meditators studying at a one-month retreat. Before and after the courses, she gave them Posner's Attention Network Test, a 20-minute computer exam that measures efficiency in each of the three networks. The veterans demonstrated better executive attention than newcomers at the start, then showed greater improvement in alerting after their retreat. The novices made robust gains in orienting, suggesting to Jha that meditation might sharpen focus first, then a wider wakeful awareness.

But more than the training effects, what surprised Jha was rare evidence of carryover: Meditation boosted people's prowess on laboratory tasks wholly distinct from the specific practice of mindful breathing. “It would be as if learning to ride a bike helped you be a better tightrope walker,” Jha told me. In her study, eight weeks of meditation training boosted scores on tests of a type of orienting that involves spatial skills.

“The whole point is generalizability in training,” breathlessly related Jha, who found in meditation a few years ago the cognitive booster rocket she desperately needed to cope with life's stresses. “If you spend 30 minutes a day and it makes a difference in the quality of your attention – that is powerful.”

We are not born with a fixed allotment of focus, William James. We're on the verge of learning how to meet head-on a distraction-charged world. Mounting evidence of our attentional malleability, for example, is inspiring Posner and his colleague Mary Rothbart to urge schools to train children in attention. If adult focus can be sharpened in just eight weeks, why not tackle young networks at their most sensitive stages of development?

Posner and Rothbart have developed five kid-friendly exercises that tone executive attention skills including self-control, planning, and observation. Six-year-olds trained in seven half-hour sessions showed a pattern of brain wave activity similar to that of adults and a marked gain in executive attention. Four-year-olds jumped six points on IQ tests, driven by sharp upswings in culture-free aspects of intelligence, such as fluid thinking and nonverbal reasoning. Among both groups, those worst off in attentional skills at the outset gained the most. The implications are vivid.

In another corner of the world, psychiatrist Leanne Tamm is coaxing eight- to twelve-year-olds with ADHD through attention training tasks developed in the 1980s for people with brain injuries, such as hitting a buzzer when they hear a certain word on a story tape played in a noisy room. She is also working with three- to seven-year-olds, teaching them to reconnect with families over block stacking, card matching, or word games that bolster attention, self-regulation, and memory. Not far into her study, teachers and parents report exciting changes, and children are thrilled both to receive the attention they crave and to begin to understand the nebulous concept.

"Kids are always told to pay attention, but they don't know what that means," Tamm says. "One of the most critical elements is giving them a common language for what it means to pay attention." *A language of attention*. Only when we speak this language can we bestow on others the irreplaceable gift of our attention.

Attention is not always within our control. The unexpected, the changeable, the novel, even the habitual abduct our focus, intrude upon our awareness, and pull us off course for a time. Yet used well and nurtured carefully, our networks of attention are our foremost means to shaping our lives. They give us extraordinary ways to master ourselves and our environment, offering growth, connection, and happiness. Accepting a culture of eroding attention relinquishes this potential for sculpting our futures.

To paraphrase psychologist Walter Mischel, we don't always want to exercise our highest powers of attention – yet if we cannot focus, observe, or judge well, the choice is lost. Today we have the potential to know, shape, and utilize a full quiver of attentional skills to combat a culture of distraction. We can create a renaissance of attention, recover the ability to pause, focus, connect, judge, and enter deeply into relationships and ideas, or we can slip into numb days of diffusion and detachment. The choice is ours.

*Excerpted from the book Distracted: The Erosion of Attention and the Coming Dark Age, 2008 by Maggie Jackson.*