

The Brains Behind Breakthrough Strategies

by

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Part 2: Making It Happen

In my new book, *Get Out of Your Own Way*¹, I explore some relationships between how our brains work and our ability to achieve all we want from our professional and personal lives. In these essays I apply that same kind of analysis to considering how organizational leaders can create and implement breakthrough strategies. I dealt with the creation of such strategies in part one; here in part two I address their implementation.

A Lot to Overcome

In part one I described how the amygdala – the brain’s ancient fear center – obstructs strategic *thinking* by raising concerns about everything that can go wrong with a new idea, often turning those concerns from the molehills they usually are into mountains of worry that limit our ability and even our willingness to even think about breakthrough ideas. That reaction, as I showed in part one, is so embedded within us that often we don’t even notice it.

Because fears about what can go wrong are also at the heart of what is often labeled “resistance to change,” it’s worth considering a little more fully how the amygdala affects the *implementation* of new strategies.

Your amygdala’s primary concern is with keeping you (and itself) alive. It wants to know every single thing that might threaten you in any way. So your brain collects information about awful outcomes like the most fanatical conspiracy theorist, and delights in dredging up more and more of that information.

That’s one reason why most of our brains like television so much – one good evening of TV and we’ve got plenty more information about catastrophic outcomes. Of course, you know at some conscious level that a lot of what’s on television is just made-up stories (even the “news” is just someone’s story about something that happened), but at its core your brain doesn’t really separate “fact” from “fiction.” As part of a database of things to worry about, your brain treats television shows, magazine stories, movies, and gossip as seriously as it treats your actual life experiences.

Organizations, as collections of individual brains, have extraordinarily deep reservoirs of awful stories about what can go wrong when we take any risk at all or do anything differently. Although organizational theorists keep coming up with new ideas about overcoming resistance to change, a few million collective scenarios of what can go wrong are very hard to overcome.

Add to that another phenomenon – our brain’s inherent fear of loss, which it tends to weigh more heavily than the likelihood of gain when making decisions – and you find that changing things is a very difficult undertaking indeed. (The psychologist Daniel Kahneman won the Nobel Prize in part for his research on loss aversion in decision-making, and loss aversion has recently been found to be hard-wired in monkeys’ brains, as well.²)

What to Do?

The business literature is full of solid and valuable texts about implementing change. Many contain ideas that help. It's interesting to note, however, how many books and articles there are about wonderful things that once were happening at companies that have now sunk bank into the pack or even failed outright, and how many stories in the business press have crowned a next great breakthrough leader – who quickly sinks from sight.

Forbes magazine annually names a “Company of the Year,” based on past performance and projected staying power. The winners would seem to have the right to proclaim themselves “great,” yet since 1995 more than half of them have suffered precipitous declines almost immediately after being named.³ Being king of the business hill one day doesn't tell much about a company's future – of the 1955 Fortune 500, 70% are now out of business.⁴ Of the companies on the 1979 Fortune 500 list, 40% no longer exist.⁵ Of those on the 2000 list, 30 percent were gone within four years.⁶ The data show that excellent companies one year rarely sustain that excellence for long; visionary companies built to last, often don't; and organizations that move from good to great get passed by almost as soon as they're crowned.⁷

The nature of our brains, as I describe in considerable detail in *Get Out of Your Own Way*, explains a lot of the succeed-and-decline phenomena seen in the business world. We're much more inclined, neurologically, to settle for what's good enough or, if we achieve greatness, to then back off from the next levels of what's possible.⁸

Five Keys

The great business observer Henry Mintzberg noted many years ago that we tend to make plans using the rational, analytical, linear-thinking side of our brains (for right-handed people, that's the left side of the brain), but we tend to manage using the intuitive, impressionistic side.⁹ Big plans for bringing about change may be carefully drawn up in accordance with all the most recent thinking, but whether breakthrough thinking becomes reality is really determined by the thousands of daily events, interactions, and decisions that occur spontaneously as leaders interact with their organizations.

In my thirty years of consulting, teaching, observation, and research, I have found that the ability to make change happen depends on how those spontaneous moments are handled. In that context, I have identified five keys for using your brain in the most effective way to achieve what others might think is impossible. A continual awareness of those keys is the best strategy for successfully implementing change.

I will discuss each key briefly in the pages that follow. I have listed them on the next page in a simple format. If, after you read the rest of this article, you see the value in attending to these keys, you might wish to copy the list and keep it somewhere for easy reference – on a wallet-sized card, for example, or in a prominent place in your day planner.

The essential principle underlying the effectiveness of the keys is that in the midst of the all the activities and demands that inevitably make up the life of an executive, there are moments when a little energy applied in the right way will advance positive change, and those moments lead the way to more and more moments – which you will come to recognize more and more clearly – that sustain the momentum toward achieving breakthrough change.

The right moments can come to you anytime. You just have to see them and seize them – but it's not easy to do that, because our brains usually want us to do the opposite, as I will explain.

You don't need to master the latest neuroscience to appreciate the enormous leverage the right moments provide. In essence, those moments permit you to tap into sources of inner power that usually become submerged beneath the everyday bustle. It's like the difference in marketing between accumulating small "impressions" – the number of times an ad gets seen – as opposed to changing consumer attitudes in one dramatic moment.

Most impressions are fleeting and pretty inconsequential, even though they can add up to what is called "share of mind." If, for example, your carbonated beverage is on billboards, in commercials, and in print ads, all those little impressions might cause some people to remember your product when it's time to buy or order a beverage. But if you can get Julia Roberts or Tiger Woods to consume your beverage on camera at some big award ceremony with so much delight that it seems the beverage is more gratifying than the award itself, then you get a thousand times the leverage.

When you seize the right moments in the right ways, you get that same kind of leverage for making breakthroughs happen. That not only keeps you on track toward accomplishing what matters to you and your organization, it also provides the additional insight, awareness, resilience, emotional stability, and clarity that help you get there faster and with less strain. Heeding those moments streamlines everything you do so you require far less energy to advance.

The Five Keys

Direction, not motion

Focus, not time

Capacity, not conformity

Energy, not effort

Impact, not intentions

Key 1: ***Direction***, not motion

It's not how busy you are or how fast you're moving, it's how effectively you are advancing in the right direction.

Most executives' lives are made up of constant motion. Meetings, briefings, memos, reports, phone calls, hallway conversations, lunches, dinners . . . the activity stops when you finally wear down at the end of the day, not when it's finished, because it never is.

Despite all that activity, you always know that there's more – more to know, more to consider, more to do. Our brains are not made for today's manic pace, and it's all they can do to barely keep up. The eminent scholar of consciousness Robert Ornstein has said, "The human mental system is failing to comprehend the modern world."¹⁰

The new science of neuroeconomics shows that when we are faced with a lot of choices – among similar competing products, for example – we tend to fall back on the same choices we have made before. That's the amygdala's fear of newness and our overall loss-aversion at work: we'd rather be satisfied with something familiar than take the risk of being disappointed

with something new, even if the possibility also exists that something new might actually be better.

The more we can run on ingrained habits and preprogrammed routines, the happier our brains are. In today's more-more-more world, practically all of us are fueled by stress, which has become so normal that we hardly notice it. This stress-centered drive is called "tense energy"; it's sparked by hormones like adrenaline and cortisol, which detonate small, lethal explosions in our organs and arteries as they're released, punctuated by stimulants like caffeine, sugar, rushing, tension, and deadlines. "The stress is killing me," we tell each other as we then proudly enumerate all the things that are "driving us crazy."

I'm often reminded of a simple decorative plaque that my mother once purchased, an acorn glued on a piece of wood, with the inscription, "The hurrier I go, the nuttier I get." To move open-space breakthroughs forward, you have to remain keenly aware of what's mere motion and what's true direction. Uncommon successes can be achieved if you make open space goals an integral part of your life's direction and daily attitude. Many techniques for noticing and acting on the moments that provide direction and not just motion are described in *Get Out of Your Own Way*. Here are a few that might help you right now.

Crunch the time. Set a change goal far enough into the future and everyone will find a way to resist it: as sources of action or inaction, our fears about today almost always outweigh our hopes for tomorrow. So look at your long-term change goal and ask how you would approach it if your life depended on achieving it in one-fourth the time. You'll quickly identify which aspects of your change plans stimulate real direction and which are primarily motion. List the key actions you've boiled your plan down to, and be alert to situations when you can focus on those actions.

Include the future in your thinking. In the press of day-to-day, minute-to-minute decision-making, it can be hard to remember, as the saying goes, that your purpose was to drain the swamp and not to fight off the alligators. Remain focused on direction at each important decision you make by asking, "With this choice, what will be the likely impact on our overall change goal?"

Use automatic drivers. I mentioned automatic drivers (ADs) in the first part of this essay and promised to tell you more about them in this part. They are concrete ways for keeping the most important things uppermost in your mind so you're more likely to perceive ways of advancing those most important things even in the blur of your daily activities. I mentioned how stepping outside each morning to gaze at the horizon and think about new ways of moving my own long-term goals forward is an important AD for me. You can pick anything that works for you, but you should make it part of your regular routine. Some clients of mine have pasted their change goals on the faces of their clocks. You can also obtain free or inexpensive software for your computer that will pop up regular reminders of your automatic drivers. You can set your watch alarm to go off at a specific time as a cue. You can email yourself reminders. Here's a brief list of the kinds of cues to which you can link reminders of what truly matters.

Time Cues – We all do certain things at certain times, and we all, to varying degrees, watch the clock. Create drivers related to time and back them with other forms of stimulus (for example, the ringing of a mobile phone or a quick positive music riff in an e-mail or text message, a vibrating mobile phone), and your brain will tend to stop being so caught up in worrisome minutiae and get into the swing of automatic forward movement.

Energy-Level Cues – When your energy dips during the day and you start longing for a jolt of caffeine or a splash of cold water (or a nap), that can be an automatic driver. Instead of drooping, what can you do that turns your energy back on, whether that's a physical action or shifting your thinking briefly to something that truly energizes you?

Deadline Cues – There's nothing like a looming deadline to get the blood rushing; that's one reason why compressed timelines can be very positive for sparking unexpected ingenuity and helping you accelerate progress toward open-space goals. Pause just for a moment as you face a deadline and ask, What's next? How can my work on this necessary task position me for a step toward the goals that matter most? Then, consider how you can make an automatic driver out of every deadline you face, so each time your adrenaline rises you take a moment or a minute or five minutes to separate what's truly important from what's just urgent?

Sound Cues – When the phone rings, it catches your attention – it's an automatic driver. Then there is the sound of a doorbell, a knock on the door, a car horn, an alarm. Instead of getting irritated, why not use at least some of these sounds as a prompt to remember and advance your change goals?

Awareness Cues – If you begin to notice, for example, that certain events make you anxious, you might use that very first twinge of anxiety as an automatic driver to focus away from motion and toward direction.

Key 2: Focus, not time

It's not how well you plan your time, it's how effectively you put your attention on what matters most . . . in advance and as it unexpectedly appears.

I have always been determined to try to make the most of every minute. Even when I was just a boy, I read time management books as though they held the secrets for not wasting a single second, and I put their ideas into practice. By the time I was into my twenties I had developed my own comprehensive system for – I thought – squeezing every useful second out of every day.

As I was working on a consulting assignment many years later, I learned that the revered statistical-quality-control expert W. Edwards Deming was consulting to the same company I was, and would be coming soon to lead a workshop for managers on how to operate more efficiently. Deming's methods for getting more quality while using fewer resources made him one of the most sought-after and influential business thinkers ever.

I wangled the opportunity to pick him up at the airport, figuring I'd learn another trick or two and also secretly thinking that maybe Dr. Deming would get some new ideas from everything I was doing to become more efficient. We talked in the car on the way to his hotel, and when we arrived there I asked if he would take a moment to hear what I was doing. Famously gruff, he nonetheless agreed to sit in the lobby with me.

Out of my briefcase I retrieved my thick, worn leather day planner, with its post-it notes bristling from every corner. I opened it to a page full of tick-marks, priority rankings, alternative activities to fill any unexpected downtime, inspirational quotes, observations about inadvertent timewasters I needed to eliminate – everything I had built into my one-step-after-another-no-faltering system.

Dr. Deming took the book from my hands and stood up. I thought he was about to ask if he could take it with him to his room and study it. Instead, he walked to a trashcan and dropped it in. I still remember the resounding thud when it hit the bottom.

Sitting back down next to me, he said, “If you focus on that, there's no chance to pay attention to these.” And he retrieved from his breast pocket a list he had created on the airplane, of unexpected opportunities to advance his work that he had noticed during the day.

I believe I still remember the exact words he said next: “You can get so busy being planned by your planner – writing everything down, afraid and guilty whenever you don't, worried about the clock and not about whether you are truly making any difference in the world. You master the minutiae and miss life along the way. I can see that's not what you want, but it's what you're doing.”

The full focus of our attention is the most precious resource any of us possess, yet in our distraction-packed world, the scarcest thing of all isn't ideas or talent or money or willpower, it's attention itself. “Focus is the base of a mental pyramid,” says neuroscientist Sean Drummond. “If you boost that, you can't help boosting everything above it.”¹¹

The kind of attention you need to stop rushing and tune in to a key moment arises from another brain function I discussed in part one and promised to say more about here: emotional experiential memory (EEM).¹² When a moment means something special – when it evokes a strong emotion in you that connects to something that excites you, personally, and not just right now but forward, into a better future – you're much more likely to use that moment to advance change. Whenever EEM is activated it enables you to judge information and opportunities more effectively, to turn down irrelevant distractions and persist through obstacles toward your more deeply desired outcomes.¹³

To illustrate, let's suppose that you are someone who is deeply concerned about ovarian cancer, which kills over fifteen thousand women each year in the United States alone. Many of those deaths could be prevented by a simple change in the way doctors relate to their patients. Ovarian cancer is known as “the whispering disease” because its initial symptoms – including a bloated feeling and frequent urination – can easily be taken lightly by a doctor. Your challenge is to cause doctors to be exceptionally aware and vigilant when women describe such seemingly-benign symptoms and to take the simple next steps that can lead to a diagnosis. But doctors are very busy. So how can you cause busy doctors to notice and act on those “whispering” symptoms?

The Ovarian Cancer National Alliance (OCNA) is doing just that. Through an OCNA-sponsored program, teams of ovarian cancer survivors travel together to medical schools and meet with small groups of third-year med students as part of the regular curriculum. The survivors describe their experiences and, often, their misdiagnoses. They tell what it's like to live with the very high likelihood that their cancers will eventually return. They explain how an extra step of focused attention in a doctor's office might have resulted in earlier diagnosis, which would have lessened not only their suffering but their risk of dying from the disease.

The medical students, so often up to their eyeballs in dry books, detailed lectures, and demanding examinations, respond very powerfully to talking with real people about their very real experiences. The students' emotional awareness of the crucial moments they will have in their future practices, when women describe symptoms that might easily be underestimated, is greatly heightened. Lives will be saved in those moments.

As Harvard Business School professor John Kotter points out in *The Heart of Change*, "Behavior change happens mostly by speaking to people's feelings... In highly successful change efforts, people find ways to help others see the problems or solutions in ways that influence emotions, not just thought."¹⁴ To be sure that you are maintaining the right focus instead of just putting in time, consider the following advice.

Create islands of focus. You may not even notice this if you and everyone around you are pushing nonstop, with failing focus and rising problem-solving time, but if you work more than twenty or thirty minutes straight on one task, your focus wanes and the time it takes you to solve problems can increase by up to 500%.¹⁵

So it makes sense to set aside at least one "protected" hour – or even a half hour to begin with – during the day when distractions and interruptions are avoided, when you can work sequentially on the two or three different tasks or relationships with the highest priorities for moving change forward. During each of those periods, stay intently tuned in to what matters above all. Devote twenty to thirty minutes, tops. After that, your productivity starts sliding, whether you recognize it or not. Then deliberately and fully let go of that and move to a different focus.

Give your brain a break. Knowing that half an hour of intense concentration is about all your brain can handle at a stretch without starting to lose your its powers of attention, it pays to get really good at stepping back and regaining your focus. Despite its reputation for logic, reason, and liner analysis, the thinking brain all too readily unravels, spinning out of control and losing much of its analytical power.¹⁶

Get out of your head. The smarter you are, the more you may think you know where to focus your attention and what to ignore. But this creates what scientists call the "mindset problem."¹⁷ Whenever we have special expertise at something, we have to be able to step outside it, or else our narrow brilliance constricts our view of the world and we can't make room to see things any other way. We fail to look deeper, pass by unexpected opportunities, and ignore potentially useful strategies. Whenever you're applying something you're already good or great at, watch out. Practice letting go of that all-knowing view and, instead, take the frame of a beginner for a few moments. See what you sense. I'll bet you'll be amazed at what comes to you.

Bring all your senses into play. What is called *all-sensory imagery* can have "profound effects on improving physical performance and psychological functioning."¹⁸ Being open to the entire sphere of activity and insight around us is at least as pivotal as zeroing in on one thing.¹⁹

You may have seen images of pre-Columbian Incan or Mayan individuals with large ear decorations. The ears were pierced and decorated in this way at the end of lengthy ceremonies celebrating the cultures' history and the importance of being attuned to the "voices" of the natural world. As one anthropologist writes, "The piercing of their ears and the insertion of ornaments served to ensure that the lessons they had received would 'penetrate' their hearing

and be remembered. . . [T]he ear-piercing ceremony was designed to ‘open up’ the participants’ ears.”²⁰

As it turns out, we are now recognizing the crucial role of the brain’s hearing-related systems – particularly the auditory cortex – in providing us with true balance and orientation in the world.²¹ Not just physical balance and orientation, it turns out, but also emotional: a part of the auditory cortex known as Broca’s area centers our senses and balances our focus.²² You don’t have to go as far as the Incans, but it’s good to keep remembering how much difference sharpening your attentive hearing can make.

Your vision can be a great source of insight, too, and in subtle ways it can also limit you. Observations of people who have had their sight restored after being blind show how much brain capacity goes into our highly-sophisticated routines for distinguishing and relating to what we see – and how much potential observation power we lose because we already have those instant categories for everything. A scientific journal’s account of a man who had his sight restored after 43 years of near-blindness shows how powerful those categories are: “Although he has seen faces everywhere since the first day his vision was restored, they simply don’t coalesce into recognizable people. Their expressions – their moods and personalities – elude him entirely. Even his wife is familiar to him only by the quality of her gait, the length of her hair, and the clothes she wears.”²³

While being thankful for what our brains can do with visual input, it’s also worth imagining how much more we might perceive if everything had to be figured out anew. A restaurant in Zurich, Switzerland, called The Blind Cow, is always fully booked months in advance. Its success secret? Food is served in pitch darkness. Every bite is a taste experience unfiltered by the expectations that sight creates: “blind tasting” at the highest sensory level!²⁴

The application of your senses to recognizing important moments in new or deeper ways is subject to the rules of neuroplasticity that I described in part one – the more you do it, the better you become at doing it.²⁵

Hook moments to personal meaning. Almost always, the world is way beyond our brain’s limited powers to make meaning from complexity. In our mind’s eye we can see the phrase “one billion hungry children” and it has little emotional connection for us until we sit at the bedside of a single dying child. Are all snowflakes really different? The brain cannot tell and does not care. Keep looking for the specifics related to the change you’re aiming at that your brain and its emotional experiential memory can relate to.

Make room in your schedule for “doing nothing”. Get up and leave the room on a “doing nothing walk,” or some such carefree act – because when you do that, a lot can happen, none of it the way the brain had planned. When you do nothing – or nothing hurried or the same – the brain slows, even for a few moments, and all of a sudden, the hyper-reactionary brain areas seem to chatter less and other deeper ways of sensing and knowing can appear.²⁶ Ellen Langer, a psychologist at Harvard, has found that just pausing to “tune in” increases solution-finding and creative energy.²⁷ She calls it “soft vigilance” – back off the effort to see more, more deeply.

It’s often intelligent to be less busy and more productive in the right areas for your own goals – so take hunch breaks, vantage point pauses, perception shifts. Thinking too hard, over-concentrating, interferes with new learning, applied expertise, and creative insight.²⁸ Pausing actually speeds us through difficult tasks, uncluttering the brain’s neural firing chaos.

Whenever you make a mistake, pause and shift gears. Take a moment to place your attention on what's right – and how you can build on that – instead of getting stuck on what's wrong. Bypass the brain's natural tendency to over-stress or over-focus on mistakes, which just reinforces neuronal networks that aren't useful.²⁹ Instead, take a little break and then shift your attention to something constructively different that moves your attitude and life forward.

Jot notes. Carry a small daybook so you get at least some of your brain's juggling cerebral images onto paper and out of your way. A new thought, however trivial, in the midst of an important thought can put your constructive attention into a tailspin. It can start you multitasking even when there's no need to. The second you turn your attention away from your main focal frame, it rushes outward in all directions. Your brain's happier that way, but your goals recede. Your brain does not have the active memory space to keep advancing several streams of thought at once.³⁰

Take quick notes if important things (or seemingly important ones) distract you – and then turn back to what you were doing. Save your notes for another time, when you can give them proper attention. Move your attention onward, and come back to reflect later. What you wrote down might seem utterly inconsequential later, in which case you can toss it. If there's good stuff there, you can turn back to it and build that one good idea into three more when you're in the proper attentional frame of mind.

It's no coincidence that many of the world's most innovative and successful people carry daybooks. For example, Richard Branson, founder of the Virgin Group, Howard Schultz, creator and chairman of Starbucks, and Doug Sharp, president of BSB Design, have each filled many notebooks with ideas, questions, and reflections. They have all recognized how to free their brains' focus powers to hatch the next great idea without missing what matters along the way.

Key 3: Capacity, not conformity

It's not how good you are at copying others or making incremental improvements, it's how bold you are at unlocking hidden potential – in yourself and others — and applying it in new ways.

As I have said, our brains love conformity and the status quo: they figure there's safety in numbers, and if everyone else is doing something then it must be safe for us to do it too. While leading change, you have to get everyone out of that mindset – beginning with yourself.

As I described in part one, we have more than one brain: in addition to the thinking brain in our heads, we have real brains in our guts (the “enteric nervous system”) and in our hearts, and it's also seeming more likely that we have a brain in our spine, too.

Those brains, along with some parts of the brain in our head, have the ability to sense when we're not living up to our best potential, when we're missing opportunities to do more, or when something is just plain wrong with what we're doing – and they'll tell us that. It's just that we too rarely pay attention to that information, because business so often distrusts the valuable logic of the heart and the gut.

To break free from conformist thinking and find the extraordinary capacity you and others have for creating breakthroughs, try some of the following approaches.

Remember what your job is. The entrepreneur Paul Hawken once described the essence of management as “the art of making problems so interesting and their solutions so constructive that everyone wants to get to work and deal with them.”³¹ That’s a great way to open up everyone’s capacity. As a small exercise, ask at your next staff meeting or change-related meeting, “Which of the challenges we’re facing are most interesting to you? Which are least interesting?” A good discussion can follow.

Dust off those other brains. Using all four of your brains multiplies your capacity. Dismantle the obstacles that prevent you and others from doing so. Since intuitions are often hard to express, don’t let people jump on a dissenter who hesitantly says, “I’m not sure ...” Instead, say “Tell us more.” Some leaders go around the table twice at meetings to give people a chance to put hunches into words. To sharpen your intuitive thinking, you have to get out of your own way; to foster it among those around you, you have to get out of their way too. Learn to be all right with a “felt sense” that’s telling you or someone else something that can’t quite be articulated.

Question orthodoxies. Gary Hamel, author of the best-selling strategy book ever, tells his clients that they must question all the orthodox beliefs of their industries if they want to really change things. Let’s say you’re a banker; Hamel might ask you (among other things) to make a list of ten things a customer would never expect a banker to do, and then figure out which ones would separate you from the pack in positive ways if you went ahead and did them. That’s a way of unleashing new capacities.

Drop your tools. There’s an overall principle of creating breakthroughs that was well expressed by the insightful organizational scholar Karl Weick. Studying the tragic deaths of 27 firefighters in two wildfires, he found that when the blazes unexpectedly turned toward the firefighters and they had to flee, they carried their equipment with them instead of dropping it to be able to run faster, and that was why the blazes caught up with them, even as they were within sight of safety. “Drop your tools,” Weick advised his readers, advancing ten reasons why we all tend to cling to our tools even when we should let them go.³²

Dropping your tools is not the same as throwing them away – you can always come back and pick them up again. But some of the head-brain thinking skills we have acquired and been rewarded for can weigh us down at critical moments, so it’s good to test how far you can get without them. Let’s look at a few examples.

First, many of us are quite good at looking back and critiquing what’s already happened, but not so good at moving forward into the unpredictable, messy future. As often as you can, resist looking backward and deliberately aim all of your brains forward, so they can help you sort out what’s next, and what’s beyond that, increasing your odds of making wise decisions and of adapting in the best ways to changing conditions.

Second, we can also be quite good at zeroing in on right now, giving it the once-over from every possible perspective of what’s wrong and how that’s likely to harm us. Again, at times when you’re inclined to do that, permit your other brains to extend your awareness and senses farther into what’s coming, for as far forward as you can imagine. Throw in some unexpected twists and turns in your imagination so you build the robustness of your capacity to look forward.

Third, the ancient negative brains exert great pressure on us to build lives based on safe, secure routine. Your three brains will draw distinctions and defy that tendency...if you let

them.³³ It is the ability to meet new situations with new tools based on fluid openness, and not with the old ones of your fixed attitudes and predetermined reactions, that results in living toward your best and highest goals.

Fourth, many of us can analyze decisions in several linear, rational, analytical ways. Being so thorough is a positive trait, up to a point. But eventually, we must act, and many of us are instinctively inclined to hem and haw, to seek more data, to succumb to what some psychologists have started to call “decidophobia.” Putting all your brains to work, from the beginning, makes you more comfortable with choosing and moving forward. Paul Van Riper, a retired Marine Corps lieutenant general who was almost shot in half by enemy fire during his first tour of duty in Vietnam when he took out a North Vietnamese machine gun emplacement, ran the Marines’ leadership and combat development program in the 1990s. He changed the way decision-making was taught there.³⁴

Van Riper noticed that in the swirl and confusion of war simulations - let alone actual combat - rational decisions always seemed to come up short. “We used the classical checklist system,” he told an interviewer, “but it never seemed to work. Then we’d criticize ourselves for not using the system well enough. But it still never seemed to work, because it’s the wrong system.”³⁵

Studies by researcher Gary Klein caught Van Riper’s attention. Klein found that when the highest performers make decisions they don’t logically, sequentially, and systematically compare all available options. Instead, they size up challenging situations almost instantly and then *act*, drawing on gut instincts, intuition, pattern recognition, and some rough simulation of options.³⁶ To Van Riper this seemed to correlate to how people had to make decisions on the battlefield. Leaders there don’t ponderously weigh alternatives, they simply notice what’s unique, grab the first idea that seems good enough, then the next, and the next after that. To them it doesn’t even feel like “deciding.”³⁷

When you pause even for a moment to focus on uniqueness, that lets the brain leap into what I have already noted as *fluid intelligence* instead of getting bogged down in *crystallized intelligence*, where all new problems and opportunities are met with old solutions and rigid past attitudes.³⁸

Today the Marine Corps applies what it calls “decision tempo” to beat analysis paralysis. At the heart of decision tempo is the “seventy percent solution”: if you have 70 percent of the information and feel 70 percent confident, move forward with a decision. Often a less than ideal action, swiftly and expertly executed, stands a good chance of success, whereas no decision and no action stand no chance at all.³⁹

Recognize ancient patterns. In the hunter-gatherer environments where our brains developed, it was almost always wisest to side with the most powerful person. There were not teams in the sense I have talked about them here, there were just groups lined up behind leaders. Independent thinking and asking questions could get you into trouble with the leader, who expected loyal conformity as your principal contribution. Today, even though it’s widely recognized that such command-and-control leadership is less effective than involving others, it nonetheless seems that we often prefer to see an individual take charge, even if he or she fails, than to see a team take responsibility and succeed. The craze over the past few decades for exalting “heroic” leadership in business and elsewhere taps into an ancient viewpoint that does not always serve us well today.

Think of Shakespeare. Some scholars are now saying that the plays we attribute to Shakespeare, among the greatest works of genius in all civilization, were probably created by a team. Shakespeare was a member of one of the two companies granted permission to stage plays in London. That company, The Lord Chamberlain's Men, remained intact for many years, and each member made a distinct contribution to the way the plays evolved. Richard Burbage, for example, was the company's chief actor, and some scholars believe that he had a large hand in shaping not just how a role was performed, but in the development of the characters themselves over time.

The acclaimed Shakespeare scholar Andrew Gurr, author of many books about Shakespeare and editor of some editions of the plays, writes, "A company of Elizabethan players had to work as a team, and it is misleading to pick out individual members as the key creative forces." William Shakespeare, Gurr says, was an important member of the team, but perhaps not an overarching solo genius whose brilliance left everyone else standing on the sidelines inertly waiting for what he'd come up with next.⁴⁰

It's interesting to consider how differently we might view the capacity of teams if the possibility of artistic genius as a product of felicitous group collaboration had been presented to us, instead of, or in addition to, our more typical romantic and individualistic perception of the often lonely, even "tortured" sole creator.

Key 4: Energy, Not Effort

It's not how hard you try or how long you work, it's how effortlessly you get more of the right things done.

Making change can often be draining. As much as it might be portrayed as an invigorating journey toward a new and better place, to many executives it often feels as though the treadmill has been sped up to an even higher level. Or we might use the analogy that change expert Anthony Athos has used to describe the rigors of transformation:

What about the caterpillar? You're going about your business, you've got all these little legs and they all can walk and you don't fall down and you know how to eat green leaves. You're really good at it; you're just fat and furry and you're really a competent caterpillar. And then somebody comes along and tells you its time to transform yourself. The caterpillar says, "Why would I want to do that?"

And he weaves this little thing around himself, and as the light goes down, every time he weaves the little thing more, he begins to notice that his legs are falling off, and that he's drying out and rotting, and at some moment it all goes black.⁴¹

As Athos says, you might emerge as a butterfly and eventually forget all the scary unpleasantness it took to get there. But while it's happening, your brain is telling you that all you're going to become is a more incompetent caterpillar.

All the factors I've discussed earlier in this article come into play to sustain momentum for change when the going gets rough: holding on to an emotionally-compelling vision, setting automatic drivers to move you in the right direction, and being willing to "drop your tools"

and try some new ones, to name just a few. But just as important is the ability to sustain and streamline your energy.

If you try to get through by effort alone, by trying harder and longer than anyone else, you probably will exhaust yourself and those around you. Trying harder is generally a prescription for disappointment and dissatisfaction; it's trying differently that changes everything.

Our brains have some amazing features that have been called “alertness switches.” They can help you create and sustain high levels of energy –and it's the right kind of energy: calm energy, as opposed to the tense energy that I described earlier. I describe how these switches operate in *Get Out of Your Own Way*, and discuss them at considerable length in my 2005 book, *Flip The Switch*⁴²; here are some of the simplest ways for you to create continuous high levels of calm energy in your life. They might even seem *too* simple to you, but the fact is that very few of us do them consistently enough to reap the huge benefits. Try them conscientiously for a few days, using automatic drivers to remind yourself of these simple, natural practices that most of us neglect. Then decide whether their effect on your energy is as dramatic as I believe it will be.

Breathe the most air, live the most life. To a remarkable extent, how you breathe is how you live: oxygen molecules are the central fuel for energy molecules.⁴³ Most of us barely breathe at all. Instead of only filling your chest with air, allow your lower ribs to expand, opening your diaphragm so you really fill your lungs. Every time you do that, you turn up your energy engine another notch. Deeper, very relaxed respiration enables you to stay on top of stress and keep your metabolism. With practice you'll automatically monitor your breathing.

Uplift your posture. There are few more powerful ways to raise and sustain energy than to ease your posture *upward*, which frees your breathing and raises your energy level.⁴⁴ Much of our technology prompts us to assume a head-forward posture, and all our neck-bending pursuits – like reading, watching TV, and peering at a computer monitor – numb the spine and constrict our breathing. It seems like everyone is slumping these days. That posture exacts a toll on our energy and alertness.

Zero tension, maximum flow. If you live and work with tense people during the day, it's easy to end up feeling more tense yourself. But if you want the best kind of energy, then take charge of tension by releasing it, fast.⁴⁵ Do a quick check of your muscle tension right now. First, tense and relax your shoulders. Then shift attention to other parts of your body in sequence, tensing and relaxing your jaw, then your neck, your back, your arms, and so on, right to the tips of your toes. Even your tongue is probably carrying excess tension, whether or not you're talking! This kind of tension wastes energy and throws your body chemistry out of whack.⁴⁶ Monitor your physical tension level, and whenever you're tensed up, calm down.

Sip ice water. Fluids move hormones into exactly the right places for sustaining energy, and those same fluids eliminate toxic wastes that can accumulate and wear you down. As little as a 4-to-5-percent reduction below optimal water requirements can reduce your concentration and performance by as much as 30 percent.⁴⁷ Sipping just over two cups of ice-cold water raises metabolism by 30 percent for the next 90 straight minutes and burns an average of 25 calories.⁴⁸ There's an added potential benefit from this, too: sipping four 16-ounce glasses of ice water during the day will burn approximately 100 extra calories. That may not sound like much but it's the equivalent of running about 10-15 minutes a day. In a year, this 100 calories a day amounts to 36,000 calories – burned preferentially from abdominal fat⁴⁹, and that means you could theoretically burn off about 10 extra pounds of abdominal fat just by sipping ice

water or some other sugar- and calorie-free beverage.⁵⁰ This doesn't mean you can skip the exercise, of course, but sipping a bit of extra cold water every half hour during the day adds an extra source of energy to your life.

Move more. Any type of muscular activity stimulates your sympathetic nervous system and helps keep your alertness high.⁵¹ Think of your muscle fibers as energy-producing furnaces. They need to be stoked throughout the day, not just once in a long while. They thrive when they're used. They wither when they're not. After just two weeks of inaction, major muscle groups can begin to lose tone.

It's a mistake to think you have to head to the health club or try to cram all the muscle toning you need into intense workouts. The alternative is to build in some brief strengthening activities during the day. That way, if you miss a formal workout, you're still fine. In your office, or taking a break from a meeting, you can stand up and loosen up. Do a few toe raises or tense your forearms as you open and close your hands (this builds muscle tone in your forearms and revs up energy). You can do a few modified push-ups (leaning into the wall if you don't like getting down on the floor) or toe curls using your body weight as resistance.

Catch the light. To our ancient metabolism, spending the day indoors is all but equivalent to spending the day in darkness, and it stimulates the inherent physiological processes associated with sleeping.⁵² As light increases, brain signals raise your metabolism.⁵³ More than you might imagine, light is an "on" switch for the brain and senses. It shifts metabolism upwards and gives you a burst of energy. So become a light harvester: Every morning, lunchtime, afternoon, and evening, seek out some bright light. A minute or two outside in sunshine is great. On a cloudy day, you can get a similar benefit by standing or working in an area of increased indoor lighting, even for a few moments here and there.

Snack smart...and often. *When* you eat can matter as much as *what* you eat for turning up your metabolism and keeping it set on a healthy high level. Whenever you skip between-meal snacks, blood sugar falls and you are likely to experience increased fatigue and tension.⁵⁴ Eating smaller, nutritious meals and snacks helps to stabilize blood-sugar levels, which in turn optimizes memory, learning, energy and performance.⁵⁵ When you go for four or five hours at a stretch without eating, your blood-sugar levels drop and your energy wanes.

Shift your eyes and mind away. Hour after hour, the tiny muscles in your eyes use more energy than any other muscle fibers in your body. Without a brief rest for both the mind and eyes every half hour or so, they become tired and produce overall fatigue and localized tension in the neck and shoulders.⁵⁶ So change the view. If you've been doing close-up work, take a few moments to blink your eyes and look at more distant objects, such as a picture or poster on the wall, or the scene out a nearby window; if you've been scanning faraway scenery, switch to focusing on something nearby. These easy actions help provide a brief and vital rest for the most active eye muscles, prompting a healthy exchange of fluids in the eyes and providing increased oxygen and other nutrients.

One of the most fascinating, beneficial characteristics of these energy switches in your nervous system is their cumulative effect in keeping you streamlined in moving through your day. With increased alertness you are better able to catch yourself getting tense or getting sidetracked and change it on the spot. If you take just one of the simple actions I've described, you will notice a subtle but detectable change in your physical and mental responses. If you then use another energy booster after fifteen to thirty minutes – or even the same one – the cumulative effect is even more pronounced.

When you're moving through everyday hassles with a brain that's hyper-reactive to each and every negative, reactive impulse, a negative spiral kicks in. As you automatically and unconsciously make mountains out of molehills, the brain gets more and more anxious about smaller and smaller problems until it actually reacts as if you were under siege from a horde of invaders from 40,000 years ago. And all of a sudden that's precisely how it feels. To break this pattern, observe your thinking patterns and actions. Implement a sequence of actions, perhaps tied to automatic drivers, that tone muscles, keep you up and moving, and shift your thoughts and attention forward into the future you are building today.

When the going gets really rough, you run the greatest risk of overreacting or misreading important signals, and such inappropriate responses can severely damage the prospects for change. When stress or pressure are highest, you have to not only desire calm and think calmly, you have to condition your brain and nervous system to *be* calm and thereby *keep* you calm.⁵⁷ Use some or all of the following strategies to accomplish that.

(1) *Observe your interaction with the pressure point:* Catch yourself the moment you start trying harder, and, instead, shift gears and come at everything differently. This significantly increases the chances you'll come through successfully, with minimal struggle and strain.⁵⁸

(2) *Increase your skill at doing the opposite of what everyone else does under pressure:* Loosen up, flow more, extend your senses (instead of letting the amygdala, RAS and other fear centers narrow them and blind you to opportunities popping up in the midst of turmoil and stress), travel lighter, and stay curious. This lets the positive parts of your brain stay free to serve you so you can more effortlessly change course and improvise in the face of the unexpected twists, turns, and stumbles going forward.⁵⁹ It also helps your alertness switches remain in the "on" position.⁶⁰ It's easier to manage life's pressure points when you're standing outside your old ruts and routines looking in.

(3) *Toughen up – practice putting yourself under increased pressure:* Yes, actually invite brief installments of increased pressure into your life and work. Doing so toughens the resiliency pathways in your brain and body, making you better able to handle pressure smoothly and recover from it rapidly.⁶¹

Two systems that begin at the hypothalamus are crucial for toughness and calm energy. In one, the hypothalamus responds to stress by signaling for the release of adrenaline from the adrenal glands. In the other, stimulus from the hypothalamus triggers the release of cortisol from the adrenal glands. Adrenaline and cortisol are both stress hormones. In individuals who have developed toughness, the normal level of activity in both systems is steady and low: tough people are at relative ease under most everyday circumstances, and their physiological responses reflect this calm energy. But when tough people face a sudden threat or spike in pressure, the hypothalamus-adrenaline system springs into action smoothly and effectively, while the hypothalamus-cortisol system remains relatively stable. As soon as the emergency is over, the hypothalamus-adrenaline system readily returns to normal, and the hypothalamus-cortisol system stays low.

Such a calm and appropriate reaction prevents depletion of the important brain neurotransmitters, called catecholamines, that affect mood and motivation. That means that people with toughness return to a balanced and productive state of mind quickly, even after stressful or threatening situations.

Not so for people lacking toughness. Their reactions tend to be more excessive and long-lasting, nearly paralyzing, even in the face of ordinary everyday hassles. The amygdala and RAS get involved, blaring warnings that ramp the stress even higher. Those neurotransmitters, the catecholamines, can become depleted to the point of provoking helplessness and depression. With each challenge, small or large, people lacking toughness over respond, feeling the neurochemical aftershocks throughout their mind, emotions, and body, and they end up with not only poor effectiveness in the moment but with less confidence in their future ability to cope with pressure.

This doesn't mean you don't get butterflies whenever pressure rises. As you prepare to respond, blood gets diverted from your stomach to your muscles, and this can create a slightly queasy or nervous sensation. But when you toughen up, this becomes a minor awareness, something some top performers call "racehorse nervousness" – excitement and readiness for whatever comes next, the race – which is a positive feeling, not a barrier.⁶²

The first key for toughness is to practice staying calm no matter what, and to progressively challenge yourself to get better at it. Watch a scary movie – whatever level of fright that's just above your current comfort zone, for example – and consciously practice staying calm and curious throughout. If you get too uptight, turn off the movie and calm down, *way down*. Repeat, increasing your toughness for suspense and uncertainty. Depending on your fitness level, you might consider gradually speeding up during exercise and then slowing down, then speeding up again.⁶³

Your goal is to increasingly turn moments of rising pressure into a catalyst for ingenuity and solution-finding. Instead of being immobilized by body-gripping tension, raging anger, a pounding heartbeat, or gut-wrenching panic, when you toughen up and learn to stay calmer, your brain is better able to help you use the pressure as a prompt to flow with things for a bit or get really curious about inventing a better way through it. As you build confidence in your ability to stay calm and effective in an expanded range of situations, your two toughness response systems waste less effort in the face of each new threat or challenge. More effective responses lead to better coping, which in turn makes for an even smoother mind-body response pattern. Result: You get really tough and life's craziness is much easier to manage.

(4) *Envision calm effectiveness.* One of the ways you change the brain into more of an ally is to periodically mentally rehearse for pressure situations. Even for half a minute or a minute, imagine pressure hitting and see yourself staying calmer, on top of things, seeking solutions instead of resisting.

(5) *Get past the past – in a single second.* If a problem hits and you mishandle it at first, insert a pause in the action and reboot your nervous system for a few key seconds. Relax your eyes, jaw, tongue, and hands, releasing all tension. These specific areas prompt deepened relaxation throughout the body. If you can safely close your eyes for a moment then do it. Think of absolutely nothing, as if your mind is a blank screen. Now open your eyes and switch back into gear. Aim your full attention forward.

There's a reason you don't see consistent top performers throwing temper tantrums.⁶⁴ Like them, you want to take a few very calm moments after a missed shot or wrong answer or other muffed action to consciously release the feeling of that negative experience before the RAS can magnify it out of proportion. Then re-direct your full focus ahead to the next step, or

briefly visualize the action-replay happening perfectly as if it had actually succeeded, which primes your nervous system to come at everything better from this moment on.

Key 5: Impact, Not Intentions

It's not how lofty your intentions are or how much you want things to improve, it's how measurable a difference you are making.

Some time ago I was in my first day as a consultant to a company that wanted to accomplish some big changes. I like to wander around unannounced and get a feel for the culture of places where I work, and as I did so I came to a cubicle that had a hand-drawn cartoon posted on its outside wall. It showed two people staring at a sign that read:

Step 1: Goal.

Step 2:

Step 3: Change for the Better.

One of the people staring at the sign was saying to the other, “What’s step two?” The other was answering: “A miracle happens.”

Change is hard, and the brain always seems to figure it can find a way around it. There is great truth in the saying that the more things change, the more they stay the same. That’s your brain’s goal: to keep things the same, regardless of what you want. “Maybe I should change my mind” – when is the last time you heard someone say that? Probably not recently. The brain gets very attached to its own views and habits, reacting to any inkling of change not with fluid adaptation but with increased rigidity.⁶⁵ The more we sense that a change might alter our current habits and routines, the more tenaciously we hold onto those habits and routines and the less likely we are to notice new possibilities for improvement.⁶⁶

The depth of our resistance to change can be seen in patients who have suffered heart problems severe enough to require surgery. Despite painful and debilitating symptoms before their surgeries and the clear understanding after surgery that death can result from failing to change their unhealthy habits, only one person in ten actually makes the lifestyle changes required for heart-healthy living!

To harness your brainpower to what’s actually going to make a difference, you must keep it focused on impact, not intentions. Until you act with impact and confirm that what you’re doing is making a difference right now, your intentions don’t amount to anything more than a passing thought, and they have virtually no power to keep your brain tuned in to what really matters. Only when you track progress – one impact point after another – do you mobilize every ounce of your ability to make the biggest difference.

The results of doing that can be dramatic: People who regularly record specific daily and weekly results are nearly 50 percent more likely to make continued progress than those who don’t.⁶⁷ They also consistently deliver higher levels of performance and ingenuity than those who don’t track progress as frequently.⁶⁸ When properly structured and applied, measurement inhibits all those unwanted habitual brain reactions and behavior ruts we’ve talked about, speeds progress, and increases goal-directed success.⁶⁹

The traditional model for measuring change has been to collect some data in the beginning and then check progress against that data at regular intervals, usually a month or more apart.

This is called the “two-wave” approach. In contrast, the *multiwave* approach captures frequent ongoing snapshots that give actionable feedback about the true trajectory and rate of your change.⁷⁰ Two-wave measurements look for big chunks of change, but big chunks of change only result from an accumulation of moment-by-moment changes, big and small. What your brain needs to see in order to remain engaged is progress, not perfection.

Remember that while contemplation is a good thing, you can often best *test* or *act* your way into new and improved behaviors, rather than struggling to *think* your way into them.⁷¹ Multiwave measurement encourages experimentation, because you quickly find what works better and should be retained and what doesn’t work well enough and should be discarded. At organizations as diverse as Southwest Airlines, 3M, Barclays Bank, the Salvation Army, Curves, and BMW/Mini-Cooper, multiwave measurement has become a vital engine of growth.

There are lots of chances in a day to seize the right moments and do the small things that create forward momentum. Daily and weekly measures significantly increase self-awareness and demand increased ingenuity, collaboration, and changes now, not someday. Here are the steps in multiwave measurement related to organizational change (in *Get Out of Your Own Way* I show you how to use multiwave measurement for personal change, including many possible progress measures):

First, *define the types of change that will mean the most to you*. A framework like the one provided by the balanced scorecard, which includes measurement of both “hard” measures such as financial performance and “soft” measures such as the learning and application of new skills⁷², works well here.

Second, *start each day by glancing at your measures*. This keeps them fresher in your mind as ongoing as reminders throughout the day, so you’re more likely to handle critical moments in the best way.

Third, *review your measures at the end of each day*. This is how you reflect and revise what worked and what didn’t as you go forward. After a while, you’ll start taking those steps automatically.

Then, *on Friday, reflect on the week*. Then share your reflections with someone else who’s leading the change, or a mentor or colleague, who also shares his or her reflections with you. You can do that sharing in whatever way works best for you – in an email or a word-processed document, or face to face. Also, review your measures, asking whether they might be revised to more accurately reflect your intentions, and also whether there are other measures you might want to add because you have recently realized their particular significance.

By Monday, share encouragement and feedforward insights with others to support their distinctive individual progress, and receive similar input from the other person.

Maybe that sounds like a lot to do. Heck, maybe everything I’ve suggested here seems that way, even though in essence it’s just a matter of heightening your awareness of the five keys as you go through your days. Maybe your brain is telling you that the change you want to make isn’t worth going to all this “trouble.” If you listen carefully to your brain now, maybe someday you will enjoy having it tell you all the stories of things you could have accomplished and satisfactions you might have earned if only you’d put a little more energy into doing the things that really mattered. It’s up to you. Mark Twain once said, “Few things are harder to put up with than the annoyance of a good example.” But go ahead: adapt, improvise, and invent your way to the achievements that really matter to you. Be annoying.

Robert K. Cooper is the author of *Get Out of Your Own Way: The 5 Keys to Surpassing Everyone's Expectations* (Crown Books: 2006). Called "the ultimate business guru for the new millennium" by *USA Today*, he is also author of the *New York Times* bestseller *The Other 90%* and other books that include *Executive EQ*. His website is www.robertkcooper.com.

NOTES

- ¹ *Get Out Of Your Own Way: The 5 Keys for Surpassing Everyone's Expectations* (New York: Crown Books, 2006)
- ² See <http://www.nytimes.com/2005/06/05/magazine/05FREAK.html?ei=5088&en=6bcb661162c32ba6&ex=1275624000&partner=rssnyt&emc=rss&pagewanted=all>
- ³ For an in-depth review of this theme, see Sull, D. *Revival of the Fittest* (Harvard Business School Press, 2003): 45-48.
- ⁴ See http://seattletimes.nwsourc.com/html/opinion/2001798585_suncities23.html
- ⁵ Tapscott, D. *The Digital Economy* (McGraw-Hill, 1995): "Of the companies on that prestigious list [Fortune 500] in 1955, 70% are now out of business. Of the companies on the 1979 list, fully 40% no longer exist."
- ⁶ Kim, W.C., and Mauborgne, R. *Blue Ocean Strategy* (Boston: Harvard Business School Press, 2005).
- ⁷ Kim, W.C., and Mauborgne, R. *Blue Ocean Strategy* (Boston: Harvard Business School Press, 2005).
- ⁸ See chapter 2, "Good and Great Are The Enemies of Possible," in *Get Out of Your Own Way*
- ⁹ Mintzberg, H. "Planning on the Left Side and Managing on the Right" *Harvard Business Review* (July-August, 1976)
- ¹⁰ *New World New Mind*, Robert Ornstein and Paul Ehrlich (Touchstone, 1989)
- ¹¹ <http://www.newscientist.com/channel/being-human/mg18625011.900>
- ¹² Storch, M. *Scientific American Mind* 16(2)(2005): 88-89.
- ¹³ Damasio, A. *Descartes' Error* (Grossett/Putnam, 1995).
- ¹⁴ Kotter, J. *The Heart of Change* (Harvard Business School Press, 2002).
- ¹⁵ Norfolk, D. *Executive Stress* (Warner, 1988).
- ¹⁶ Jacobs, G.D. *The Ancestral Mind* (New York: Viking, 2004): 178.
- ¹⁷ Klein, G. *Intuition at Work* (Doubleday Currency, 2003): 60.
- ¹⁸ "Mental Imagery." *Peak Performance Journal* 197(May, 2004): 1-4.
- ¹⁹ Caine, R.N., and Caine, G. "Mind/Brain Learning Principles." *Making Connections: Teaching and the Human Brain* (Reading, MA: Addison-Wesley, 1998).
- ²⁰ Howes, David. "Body Decoration and Sensory Symbolism in South America" at http://www.lila.info/document_view.phtml?document_id=47

- ²¹ Zull, J. *The Art of Changing the Brain* (Stylus, 2002).
- ²² La Cerra, P., and Bingham, R. *The Origin of Minds* (Harmony Books, 2002).
- ²³ Abrams, Michael. "Sight Unseen" *Discover* (June, 2002). Reprinted at <http://www.nfb.org/bm/bm02/bm0211/bm0211.htm>
- ²⁴ Deveshvar, Manesha. "Welcome to Blind Cow." Pitara.com <http://pitara.com/magazine/features/152.htm>
In case you were wondering, the waitstaff are all visually impaired, and they find their way around in the darkness without much difficulty. They wear bells whose jingling prevents collisions in the dark.
- ²⁵ "Mental Imagery." *Peak Performance Journal* 197(May, 2004): 1-4.
- ²⁶ Claxton, G. *Hare Brain, Tortoise Mind* (Prima, 1998).
- ²⁷ Langer, E. *The Power of Mindful Learning* (Reading MA: Addison Wesley, 1997).
- ²⁸ Claxton, G. *Wise Up* (Prima, Bloomsburg, 1999).
- ²⁹ Zull, G. *The Art of Changing the Brain* (Stylus, 2002): 28.
- ³⁰ Miyake, A., and Shah, P. (Eds.) *Models of Working Memory* (Cambridge University Press, 1999).
- ³¹ Hawken, Paul. *Natural Capitalism* (Back Bay Books, 2000)
- ³² Weick, Karl E., "Drop Your Tools: An Allegory for Organizational Studies" *Administrative Science Quarterly* (June, 1996)
- ³³ Langer, E. *The Power of Mindful Learning* (Addison-Wesley, 1997): 75-81.
- ³⁴ www.pbs.org/wgbh/nova/wartech/nature.html
- ³⁵ Stewart, T. A. "How the geniuses behind the Osbournes, the Mini, Federal Express, and Starbucks followed their instincts and reached success." *Traders Vic*, 2005: "Think with Your Gut"
- ³⁶ Klein, G. *Sources of Power: How People Make Decisions* (MIT Press, 1999).
- ³⁷ Stewart, T. A. "How the geniuses behind the Osbournes, the Mini, Federal Express, and Starbucks followed their instincts and reached success." *Traders Vic*, 2005: "Think with Your Gut"
- ³⁸ See: Horn, J., and Cattell, R.B. "Refinement and Test of the Theory of Fluid and Crystallized Intelligence." *Journal of Educational Psychology* 57(1966): 253-270.
- ³⁹ <http://www.govexec.com/dailyfed/0403/040403nj2.htm>
- ⁴⁰ *The Shakespeare Company: 1594–1642*. By Andrew Gurr. (Cambridge Univ. Press, 2005)
- ⁴¹ Anthony Athos (with Richard Pascale), "The Art of Reinvention" speaking at The Masters Forum (Minneapolis, MN), May 5, 1997
- ⁴² Cooper, R. and Cooper, L. *Flip the Switch* (Rodale Press, 2005)
- ⁴³ Hendler, S.S. *The Oxygen Breakthrough* (New York: Pocket Books, 1989).
- ⁴⁴ Cailliet, R., and Gross, L. *The Rejuvenation Factor* (New York: Doubleday, 1986).
- ⁴⁵ Thayer, R.E. *The Biopsychology of Mood and arousal* (Oxford, 1989); Thayer, R.E. *The Origin of Everyday Moods* (Oxford, 1996).
- ⁴⁶ Thayer, R.E. *Calm Energy* (New York: Oxford University Press, 2001).

- ⁴⁷ Scientific paper, Highland Springs Research Institute, Blackford, Perthshire, Scotland, 1994-2003.
- ⁴⁸ Boschmann, M., et al. "Water-Induced Thermogenesis." *Journal of Clinical Endocrinology and Metabolism* 88(12)(2003): 6015-6019.
- ⁴⁹ Studies and review cited in Darden, E. *Two Weeks to a Tighter Tummy* (Dallas: Taylor Publishing, 1992).
- ⁵⁰ For more examples, see: Cooper, R.K., and Cooper, L. *Flip the Switch* (Rodale Books, 2005).
- ⁵¹ Mooere-Ede, M. *The Twenty-Four Hour Society* (Reading, MA: Addison-Wesley, 1993): 55.
- ⁵² See, for example: Cordain, L. *The Paleo Diet* (New York: Wiley, 2002); and Jacobs, G.D. *The Ancestral Mind* (New York: Viking, 2003).
- ⁵³ *European Journal of Pharmacology* 440(2-3)(2002): 85-98; *American Journal of Physiology* 272(Pt 1, 3)(1997): E379-384; *FASEB J* 13(1998): 1391-1396.
- ⁵⁴ Lamb, L.E. *The Weighting Game* (New York: Lyle Stuart, 1988): 95-96.
- ⁵⁵ Rossi, E.L. with Nimmons, D. *The 20-Minute Break* (Los Angeles: Tarcher, 1991): 122-123.
- ⁵⁶ Stellman, J., and Henifin, M.S.. *Office Work* (New York: Fawcett, 1989): 28.
- ⁵⁷ See, for example: Pfeffer, J., and Sutton, R. *The Knowing-Doing Gap* (Harvard Business School Press, 1999); Aronson, E. "Self-Justification" in *The Social Animal* (San Francisco: W.H. Freeman, 1972); and Cialdini, R.B. "Commitment and Consistency" in *Influence 2nd Ed.* (Glenview, IL: Scott, Foresman, 1988).
- ⁵⁸ See, e.g., T. Gilovich and L. Libby. *Journal of Personality and Social Psychology* 88(1)(2005).
- ⁵⁹ Gualtieri, T. In Ratey, J. (Ed.) *The Neuropsychiatry of Personality Disorders* (Blackwell Science, 1995): 153.
- ⁶⁰ Suzuki, W.A., and Amaral, D.G. *Journal of Comprehensive Neurology* 350(1994): 497-533.
- ⁶¹ See, for example: Loehr, J. *Stress for Success* (TimesBusiness, 1999); Loehr, J., and Schwartz, T. *The Power of Full Engagement* (Free Press, 2003); Dienstbier, R.A. in Miller, L "To Beat Stress, Get Tough." *Psychology Today* (Nov., 1989); Dienstbier, R.A. (Ed.) *Evolutionary Psychology and Motivation* (University of Nebraska), 2001).
- ⁶² Garfield, C. *Peak Performance* (Warner, 1985).
- ⁶³ Stamford, B. *Fitness Without Exercise* (Warner, 1991); Loehr, J. *Stress for Success* (TimesBusiness, 1999); Loehr, J., and Schwartz, T. *The Power of Full Engagement* (Free Press, 2003)
- ⁶⁴ Loehr, J. *Stress for Success* (TimesBusiness, 1999); Loehr, J., and Schwartz, T. *The Power of Full Engagement* (Free Press, 2003); Thayer, R.,E. *The Biopsychology of Mood and Arousal* (Oxford, 1989); Thayer, R.E. *The Origin of Everyday Moods* (Oxford, 1997); and Thayer, R.E. *Calm Energy* (Oxford, 2001).
- ⁶⁵ Rokeach, M. "The Effect of Perception Time Upon the Rigidity and Concreteness of Thinking." *Journal of Experimental Psychology* 40(1950): 206-216.
- ⁶⁶ Cowen, E.L. "The influence of Varying Degrees of Psychological Stress on Problem-Solving Rigidity." *Journal of Abnormal and Social Psychology* 47(1952): 512-519.
- ⁶⁷ Howatt, W.A. "Journaling to Self-Evaluation." *International Journal of Reality Therapy* 18(1999): 32-34.
- ⁶⁸ See, for example: Sternberg, R. *Successful Intelligence* (New York: Simon & Schuster, 1997).

- ⁶⁹ Gollwitzer, P.M. “Implementation: Strong Effects of Simple Plans.” *American Psychologist* 14(1999): 493-503; Gollwitzer, P.M., and Brandstatter, V. “Implementation and Effective Goal Pursuit.” *Journal of Personality and Social Psychology* 73(1997): 186-199; Gollwitzer, P.M. “Goal Achievement.” In Stroebe, W. and Hewstone, M. (Eds.) *European Review of Social Psychology* 4(1993): 141-185; Gollwitzer, P.M. and Schall, B. “Metacognition in Action: The Importance of Implementation.” *Personality & Social Psychology Review* 2(1998): 124-136; Gollwitzer, P.M. “Implementation: Strong Effects of Simple Plans.” *American Psychologist* 14(1999): 493-503.
- ⁷⁰ Willett, J.B. “Measuring Change.” In Amsel, E., and Renninger, K.A. (Eds.) *Change and Development Issues of Theory, Method, and Application* : Chapt 11: 213-243.
- ⁷¹ See, for example: Aronson, E. “Self-Justification” in *The Social Animal* (San Francisco: W.H. Freeman, 1972); and Cialdini, R.B. “Commitment and Consistency” in *Influence 2nd Ed.* (Glenview, IL: Scott, Foresman, 1988); and Pfeffer and Sutton. *The Knowing-Doing Gap*.
- ⁷² See, for example, the “Balanced Scorecard Collaborative” website, <http://www.bscol.com/>, and various works by Robert Kaplan and David Norton including *Balanced Scorecard*, *Strategy Maps*, *The Strategy-Focused Organization*, and *Alignment*.