A primary task of leadership is to direct attention. To do so, leaders must learn to focus their own attention. When we speak about being focused, we commonly mean thinking about one thing while filtering out distractions. But a wealth of recent research in neuroscience shows that we focus in many ways, for different purposes, drawing on different neural pathways—some of which work in concert, while others tend to stand in opposition.

Grouping these modes of attention into three broad buckets—focusing on yourself, focusing on others, and focusing on the wider world—sheds new light on the practice of many essential leadership skills. Focusing inward and focusing constructively on others helps leaders cultivate the primary elements of emotional intelligence. A fuller understanding of how they focus on the wider world can improve their ability to devise strategy, innovate, and manage organizations.
Every leader needs to cultivate this triad of awareness, in abundance and in the proper balance, because a failure to focus inward leaves you rudderless, a failure to focus on others renders you clueless, and a failure to focus outward may leave you blindsided.

**Focusing on Yourself**

Emotional intelligence begins with self-awareness—getting in touch with your inner voice. Leaders who heed their inner voices can draw on more resources to make better decisions and connect with their authentic selves. But what does that entail? A look at how people focus inward can make this abstract concept more concrete.

**Self-awareness.**

Hearing your inner voice is a matter of paying careful attention to internal physiological signals. These subtle cues are monitored by the insula, which is tucked behind the frontal lobes of the brain. Attention given to any part of the body amps up the insula's sensitivity to that part. Tune in to your heartbeat, and the insula activates more neurons in that circuitry. How well people can sense their heartbeats has, in fact, become a standard way to measure their self-awareness.

Gut feelings are messages from the insula and the amygdala, which the neuroscientist Antonio Damasio, of the University of Southern California, calls *somatic markers*. Those messages are sensations that something “feels” right or wrong. Somatic markers simplify decision making by guiding our attention toward better options. They’re hardly foolproof (how often was that feeling that you left the stove on correct?), so the more comprehensively we read them, the better we use our intuition. (See “Are You Skimming This Sidebar?”)

Consider, for example, the implications of an analysis of interviews conducted by a group of British researchers with 118 professional traders and 10 senior managers at four City of London investment banks. The most successful traders (whose annual income averaged £500,000) were neither the ones who relied entirely on analytics nor the ones who just went with their guts. They focused on a full range of emotions, which they used to judge the value of their intuition. When they suffered losses, they acknowledged their...
wandered, bring it back to your desired point of focus, and keep it there as long as you can. That basic exercise is at the root of virtually every kind of meditation. Meditation builds concentration and calmness and facilitates recovery from the agitation of stress.

So does a video game called Tenacity, now in development by a design group and neuroscientists at the University of Wisconsin. Slated for release in 2014, the game offers a leisurely journey through any of half a dozen scenes, from a barren desert to a fantasy staircase spiraling heavenward. At the beginner’s level you tap an iPad screen with one finger every time you exhale; the challenge is to tap two fingers with every fifth breath. As you move to higher levels, you’re presented with more distractions—a helicopter flies into view, a plane does a flip, a flock of birds suddenly scud by.

When players are attuned to the rhythm of their breathing, they experience the strengthening of selective attention as a feeling of calm focus, as in meditation. Stanford University is exploring that connection at its Calming Technology Lab, which is developing relaxing devices, such as a belt that detects your breathing rate. Should a chock-full in-box, for instance, trigger what has been called e-mail apnea, an iPhone app can guide you through exercises to calm your breathing and your mind.

anxiety, became more cautious, and took fewer risks. The least successful traders (whose income averaged only £100,000) tended to ignore their anxiety and keep going with their guts. Because they failed to heed a wider array of internal signals, they were misled.

Zeroing in on sensory impressions of ourselves in the moment is one major element of self-awareness. But another is critical to leadership: combining our experiences across time into a coherent view of our authentic selves.

To be authentic is to be the same person to others as you are to yourself. In part that entails paying attention to what others think of you, particularly people whose opinions you esteem and who will be candid in their feedback. A variety of focus that is useful here is open awareness, in which we broadly notice what’s going on around us without getting caught up in or swept away by any particular thing. In this mode we don’t judge, censor, or tune out; we simply perceive.

Leaders who are more accustomed to giving input than to receiving it may find this tricky. Someone who has trouble sustaining open awareness typically gets snagged by irritating details, such as fellow travelers in the airport security line who take forever getting their carry-ons into the scanner.

Someone who can keep her attention in open mode will notice the travelers but not worry about them, and will take in more of her surroundings. (See the sidebar “Expand Your Awareness.”)
Just as a camera lens can be set narrowly on a single point or more widely to take in a panoramic view, you can focus tightly or expansively.

One measure of open awareness presents people with a stream of letters and numbers, such as S, K, O, E, 4, R, T, 2, H, P. In scanning the stream, many people will notice the first number, 4, but after that their attention blinks. Those firmly in open awareness mode will register the second number as well.

Strengthening the ability to maintain open awareness requires leaders to do something that verges on the unnatural: cultivate at least sometimes a willingness to not be in control, not offer up their own views, not judge others. That’s less a matter of deliberate action than of attitude adjustment.

One path to making that adjustment is through the classic power of positive thinking, because pessimism narrows our focus, whereas positive emotions widen our attention and our receptiveness to the new and unexpected. A simple way to shift into positive mode is to ask yourself, “If everything worked out perfectly in my life, what would I be doing in 10 years?” Why is that effective? Because when you’re in an upbeat mood, the University of Wisconsin neuroscientist Richard Davidson has found, your brain’s left prefrontal area lights up. That area harbors the circuitry that reminds us how great we’ll feel when we reach some long-sought goal.

“Talking about positive goals and dreams

Of course, being open to input doesn’t guarantee that someone will provide it. Sadly, life affords us few chances to learn how others really see us, and even fewer for executives as they rise through the ranks. That may be why one of the most popular and overenrolled courses at Harvard Business School is Bill George’s Authentic Leadership Development, in which George has created what he calls True North groups to heighten this aspect of self-awareness.

These groups (which anyone can form) are based on the precept that self-knowledge begins with self-revelation. Accordingly, they are open and intimate, “a safe place,” George explains, “where members can discuss personal issues they do not feel they can raise elsewhere—often not even with their closest family members.” What good does that do? “We don’t know who we are until we hear ourselves speaking the story of our lives to those we trust,” George says. It’s a structured way to match our view of our true selves with the views our most trusted colleagues have—an external check on our authenticity.

Self-control.

“Cognitive control” is the scientific term for putting one’s attention where one wants it and keeping it there in the face of temptation to wander. This focus is one aspect of the brain’s executive function, which is located in the prefrontal cortex. A colloquial term for it is “willpower.”
Cognitive control enables executives to pursue a goal despite distractions and setbacks. The same neural circuitry that allows such a single-minded pursuit of goals also manages unruly emotions. Good cognitive control can be seen in people who stay calm in a crisis, tame their own agitation, and recover from a debacle or defeat.

Decades’ worth of research demonstrates the singular importance of willpower to leadership success. Particularly compelling is a longitudinal study tracking the fates of all 1,037 children born during a single year in the 1970s in the New Zealand city of Dunedin. For several years during childhood the children were given a battery of tests of willpower, including the psychologist Walter Mischel’s legendary “marshmallow test”—a choice between eating one marshmallow right away and getting two by waiting 15 minutes. In Mischel’s experiments, roughly a third of children grab the marshmallow on the spot, another third hold out for a while longer, and a third manage to make it through the entire quarter hour. Years later, when the children in the Dunedin study were in their 30s and all but 4% of them had been tracked down again, the researchers found that those who’d had the cognitive control to resist the marshmallow longest were significantly healthier, more successful financially, and more law-abiding than the ones who’d been unable to hold out at all. In fact, statistical analysis showed that a child’s level of self-control was a more powerful predictor of financial success than IQ, social class, or family circumstance.

Executives who can effectively focus on others emerge as natural leaders regardless of organizational or social rank.

How we focus holds the key to exercising willpower, Mischel says. Three subvarieties of cognitive control are at play when you pit self-restraint against self-gratification: the ability to voluntarily disengage your focus from an object of desire; the ability to resist distraction so that you don’t gravitate back to that object; and the ability to concentrate on the future goal and imagine how good you will feel when you achieve it. As adults the children of Dunedin may have been held hostage to their younger selves, but they need not have been, because the power to focus can be developed. (See the sidebar “Learning Self-Restraint.”)
Learning Self-Restraint

Quick, now. Here’s a test of cognitive control. In what direction is the middle arrow in each row pointing?

The test, called the Eriksen Flanker Task, gauges your susceptibility to distraction. When it’s taken under laboratory conditions, differences of a thousandth of a second can be detected in the speed with which subjects perceive which direction the middle arrows are pointing. The stronger their cognitive control, the less susceptible they are to distraction.

Interventions to strengthen cognitive control can be as unsophisticated as a game of Simon Says or Red Light—any exercise in which you are asked to stop on cue. Research suggests that the better a child gets at playing Musical Chairs, the stronger his or her prefrontal wiring for cognitive control will become.

Operating on a similarly simple principle is a social and emotional learning (SEL) method that’s used to strengthen cognitive control in schoolchildren across the United States. When confronted by an upsetting problem, the children are told to think of a traffic signal. The red light means stop, calm down, and think before you act. The yellow light means slow down and think of several possible solutions. The green light means try...

Focusing on Others

The word “attention” comes from the Latin *attendere*, meaning “to reach toward.” This is a perfect definition of focus on others, which is the foundation of empathy and of an ability to build social relationships—the second and third pillars of emotional intelligence.

Executives who can effectively focus on others are easy to recognize. They are the ones who find common ground, whose opinions carry the most weight, and with whom other people want to work. They emerge as natural leaders regardless of organizational or social rank.

The empathy triad.

We talk about empathy most commonly as a single attribute. But a close look at where leaders are focusing when they exhibit it reveals three distinct kinds, each important for leadership effectiveness:

- **cognitive empathy**—the ability to understand another person’s perspective;
- **emotional empathy**—the ability to feel what someone else feels;
- **empathic concern**—the ability to sense what another person needs from you.

*Cognitive empathy* enables leaders to explain themselves in meaningful ways—a skill essential to getting the best performance from their direct reports. Contrary to what you might expect,
out a plan and see how it works. Thinking in these terms allows the children to shift away from amygdala-driven impulses to prefrontal-driven deliberate behavior.

It’s never too late for adults to strengthen these circuits as well. Daily sessions of mindfulness practice work in a way similar to Musical Chairs and SEL. In these sessions you focus your attention on your breathing and practice tracking your thoughts and feelings without getting swept away by them. Whenever you notice that your mind has wandered, you simply return it to your breath. It sounds easy—but try it for 10 minutes, and you’ll find there’s a learning curve.

Emotional empathy is important for effective mentoring, managing clients, and reading group dynamics. It springs from ancient parts of the brain beneath the cortex—the amygdala, the hypothalamus, the hippocampus, and the orbitofrontal cortex—that allow us to feel fast without thinking deeply. They tune us in by arousing in our bodies the emotional states of others: I literally feel your pain. My brain patterns match up with yours when I listen to you tell a gripping story. As Tania Singer, the director of the social neuroscience department at the Max Planck Institute for Human Cognitive and Brain Sciences, in Leipzig, says, “You need to understand your own feelings to understand the feelings of others.” Accessing your capacity for emotional empathy depends on combining two kinds of attention: a deliberate focus on your own echoes of someone else’s feelings and an open awareness of that person’s face, voice, and other external signs of emotion. (See the sidebar “When Empathy Needs to Be Learned.”)

Empathic concern, which is closely related to emotional empathy, enables you to sense not just how people feel but what they need from you. It’s
Emotional empathy can be developed. That's the conclusion suggested by research conducted with physicians by Helen Riess, the director of the Empathy and Relational Science Program at Boston's Massachusetts General Hospital. To help the physicians monitor themselves, she set up a program in which they learned to focus using deep, diaphragmatic breathing and to cultivate a certain detachment—to watch an interaction from the ceiling, as it were, rather than being lost in their own thoughts and feelings. “Suspending your own involvement to observe what’s going on gives you a mindful awareness of the interaction without being completely reactive,” says Riess. “You can see if your own physiology is charged up or balanced. You can notice what’s transpiring in the situation.” If a doctor realizes that she’s feeling irritated, for instance, that may be a signal that the patient is bothered too.

Those who are utterly at a loss may be able to prime emotional empathy essentially by faking it until they make it, Riess adds. If you act in a caring way—looking people in the eye and paying attention to their expressions, even when you don’t particularly want to—you may start to feel more engaged.

Research suggests that as people rise through the ranks, their ability to maintain personal connections suffers.

One neural theory holds that the response is triggered in the amygdala by the brain's radar for sensing danger and in the prefrontal cortex by the release of oxytocin, the chemical for caring. This implies that empathic concern is a double-edged feeling. We intuitively experience the distress of another as our own. But in deciding whether we will meet that person’s needs, we deliberately weigh how much we value his or her well-being.

Getting this intuition-deliberation mix right has great implications. Those whose sympathetic feelings become too strong may themselves suffer. In the helping professions, this can lead to compassion fatigue; in executives, it can create distracting feelings of anxiety about people and circumstances that are beyond anyone’s control. But those who protect themselves by deadening their feelings may lose touch with empathy. Empathic concern requires us to manage our personal distress without numbing ourselves to the pain of others. (See the sidebar “When Empathy Needs to Be Controlled.”)
When Empathy Needs to Be Controlled

Getting a grip on our impulse to empathize with other people's feelings can help us make better decisions when someone's emotional flood threatens to overwhelm us.

Ordinarily, when we see someone pricked with a pin, our brains emit a signal indicating that our own pain centers are echoing that distress. But physicians learn in medical school to block even such automatic responses. Their attentional anesthetic seems to be deployed by the temporal-parietal junction and regions of the prefrontal cortex, a circuit that boosts concentration by tuning out emotions. That's what is happening in your brain when you distance yourself from others in order to stay calm and help them. The same neural network kicks in when we see a problem in an emotionally overheated environment and need to focus on looking for a solution. If you're talking with someone who is upset, this system helps you understand the person's perspective intellectually by shifting from the heart-to-heart of emotional empathy to the head-to-heart of cognitive empathy.

What's more, some lab research suggests that the appropriate application of empathic concern is critical to making moral judgments. Brain scans have revealed that when volunteers listened to tales of people subjected to physical pain, their own brain centers for experiencing such pain lit up instantly. But if the story was about psychological suffering, the higher brain centers involved in empathic concern and compassion took longer to activate. Some time is needed to grasp the psychological and moral dimensions of a situation. The more distracted we are, the less we can cultivate the subtler forms of empathy and compassion.

Building relationships.

People who lack social sensitivity are easy to spot—at least for other people. They are the clueless among us. The CFO who is technically competent but bullies some people, freezes out others, and plays favorites—but when you point out what he has just done, shifts the blame, gets angry, or thinks that you're the problem—is not trying to be a jerk; he's utterly unaware of his shortcomings.

Social sensitivity appears to be related to cognitive empathy. Cognitively empathic executives do better at overseas assignments, for instance, presumably because they quickly pick up implicit norms and learn the unique mental models of a new culture. Attention to social context lets us act with skill no matter what the situation, instinctively follow the universal algorithm for etiquette, and behave in ways that put others at ease. (In another age this might have been called good manners.)

Circuitry that converges on the anterior hippocampus reads social context and leads us intuitively to act differently with, say, our college buddies than with our families or our colleagues. In concert with the deliberative prefrontal cortex, it squelches the impulse to do something inappropriate. Accordingly, one
brain test for sensitivity to context assesses the function of the hippocampus. The University of Wisconsin neuroscientist Richard Davidson hypothesizes that people who are most alert to social situations exhibit stronger activity and more connections between the hippocampus and the prefrontal cortex than those who just can’t seem to get it right.

The same circuits may be at play when we map social networks in a group—a skill that lets us navigate the relationships in those networks well. People who excel at organizational influence can not only sense the flow of personal connections but also name the people whose opinions hold most sway, and so focus on persuading those who will persuade others.

Alarmingly, research suggests that as people rise through the ranks and gain power, their ability to perceive and maintain personal connections tends to suffer a sort of psychic attrition. In studying encounters between people of varying status, Dacher Keltner, a psychologist at Berkeley, has found that higher-ranking individuals consistently focus their gaze less on lower-ranking people and are more likely to interrupt or to monopolize the conversation.

In fact, mapping attention to power in an organization gives a clear indication of hierarchy: The longer it takes Person A to respond to Person B, the more relative power Person A has. Map response times across an entire organization, and you’ll get a remarkably accurate chart of social standing. The boss leaves e-mails unanswered for hours; those lower down respond within minutes. This is so predictable that an algorithm for it—called automated social hierarchy detection—has been developed at Columbia University. Intelligence agencies reportedly are applying the algorithm to suspected terrorist gangs to piece together chains of influence and identify central figures.

But the real point is this: Where we see ourselves on the social ladder sets the default for how much attention we pay. This should be a warning to top executives, who need to respond to fast-moving competitive situations by tapping the full range of ideas and talents within an organization. Without a deliberate shift in attention, their natural inclination may be to ignore smart ideas from the lower ranks.

Focusing on the Wider World
Leaders with a strong outward focus are not only good listeners but also good questioners. They are visionaries who can sense the far-flung consequences of local decisions and imagine how the choices they make today will play out in the future. They are open to the surprising ways in which seemingly unrelated data can inform their central interests. Melinda Gates offered up a cogent example when she remarked on 60 Minutes that her husband was the kind of person who would read an entire book about fertilizer. Charlie Rose asked, Why fertilizer? The connection was obvious to Bill Gates, who is constantly looking for technological advances that can save lives on a massive scale. “A few billion people would have to die if we hadn’t come up with fertilizer,” he replied.

**Focusing on strategy.**
Any business school course on strategy will give you the two main elements: exploitation of your current advantage and exploration for new ones. Brain scans that were performed on 63 seasoned business decision makers as they pursued or switched between exploitative and exploratory strategies revealed the specific circuits involved. Not surprisingly, exploitation requires concentration on the job at hand, whereas exploration demands open awareness to recognize new possibilities. But exploitation is accompanied by activity in the brain’s circuitry for anticipation and reward. In other words, it feels good to coast along in a familiar routine. When we switch to exploration, we have to make a deliberate cognitive effort to disengage from that routine in order to roam widely and pursue fresh paths.

“A wealth of information creates a poverty of attention,” wrote the economist Herbert Simon in 1971.

What keeps us from making that effort? Sleep deprivation, drinking, stress, and mental overload all interfere with the executive circuitry used to make the cognitive switch. To sustain the outward focus that leads to innovation, we need some uninterrupted time in which to reflect and refresh our focus.

**The wellsprings of innovation.**
In an era when almost everyone has access to the same information, new value arises from putting ideas together in novel ways and asking smart questions that open up untapped potential. Moments before we have a creative insight, the brain shows a third-of-a-second spike in gamma waves, indicating the synchrony of far-flung brain cells. The more neurons firing in sync, the bigger the spike. Its timing suggests that what’s happening is the formation of a new neural network—presumably creating a fresh association.
But it would be making too much of this to see gamma waves as a secret to creativity. A classic model of creativity suggests how the various modes of attention play key roles. First we prepare our minds by gathering a wide variety of pertinent information, and then we alternate between concentrating intently on the problem and letting our minds wander freely. Those activities translate roughly into vigilance, when while immersing ourselves in all kinds of input, we remain alert for anything relevant to the problem at hand; selective attention to the specific creative challenge; and open awareness, in which we allow our minds to associate freely and the solution to emerge spontaneously. (That’s why so many fresh ideas come to people in the shower or out for a walk or a run.)

The dubious gift of systems awareness.

If people are given a quick view of a photo of lots of dots and asked to guess how many there are, the strong systems thinkers in the group tend to make the best estimates. This skill shows up in those who are good at designing software, assembly lines, matrix organizations, or interventions to save failing ecosystems—it’s a very powerful gift indeed. After all, we live within extremely complex systems. But, suggests the Cambridge University psychologist Simon Baron-Cohen (a cousin of Sacha’s), in a small but significant number of people, a strong systems awareness is coupled with an empathy deficit—a blind spot for what other people are thinking and feeling and for reading social situations. For that reason, although people with a superior systems understanding are organizational assets, they are not necessarily effective leaders.

An executive at one bank explained to me that it has created a separate career ladder for systems analysts so that they can progress in status and salary on the basis of their systems smarts alone. That way, the bank can consult them as needed while recruiting leaders from a different pool—one containing people with emotional intelligence.

Putting It All Together
For those who don’t want to end up similarly compartmentalized, the message is clear. A focused leader is not the person concentrating on the three most important priorities of the year, or the most brilliant systems thinker, or the one most in tune with the corporate culture. Focused leaders can command the full range of their own attention: They are in touch with their inner feelings, they can control their impulses, they are aware of how others see them, they understand what others need from them, they can weed out distractions and also allow their minds to roam widely, free of preconceptions.

This is challenging. But if great leadership were a paint-by-numbers exercise, great leaders would be more common. Practically every form of focus can be strengthened. What it takes is not talent so much as diligence—a willingness to exercise the attention circuits of the brain just as we exercise our analytic skills and other systems of the body.

The link between attention and excellence remains hidden most of the time. Yet attention is the basis of the most essential of leadership skills—emotional, organizational, and strategic intelligence. And never has it been under greater assault. The constant onslaught of incoming data leads to sloppy shortcuts—triaging our e-mail by reading only the subject lines, skipping many of our voice mails, skimming memos and reports. Not only do our habits of attention make us less effective, but the sheer volume of all those messages leaves us too little time to reflect on what they really mean. This was foreseen more than 40 years ago by the Nobel Prize–winning economist Herbert Simon. Information “consumes the attention of its recipients,” he wrote in 1971. “Hence a wealth of information creates a poverty of attention.”

My goal here is to place attention center stage so that you can direct it where you need it when you need it. Learn to master your attention, and you will be in command of where you, and your organization, focus.

A version of this article appeared in the December 2013 issue of Harvard Business Review.