You’ve been there countless times. You’ve spoken to your most senior direct reports one on one. You’ve gone into meeting rooms to address groups of their direct reports. Maybe you’ve even spoken to the troops in assembly halls or on factory floors. Each time, you’ve honed your message into what you thought were clear and crisp points — about getting more engaged, becoming more efficient, working more as a team. And each time you walked out of the meeting not knowing how it went.
Some senior managers seem to get the results they want in everything from improved morale to better bottom lines. But for most, those mere mortals without the magic touch, every meeting feels like a gamble. Your message gets through. Or it doesn’t — and you’re not sure why. The process doesn’t seem rational.

In fact, it isn’t. Changing the way that companies operate is, at root, changing the way employees behave and think. That means tinkering with equipment that even the most gifted IT department can’t troubleshoot: the supercomputer known as the human brain. Neuroscientists have found that this amazing device is neither entirely rational nor irrational, emotional nor calculating, full of foresight nor “in the moment” — instead, the brain is an amalgam of all those sometimes contradictory traits.

That makes leadership look a lot more complicated than it used to be in earlier eras, when managers were advised to just be “alpha males” or, conversely, to be cool and rational masters of facts. But science’s more accurate picture of the brain is well worth getting to know. To the extent that managers become “brain savvy,” they become more effective: once you know more about what’s going on in there, you’re closer to getting the outcomes you want from your leadership moves.

At first sight, it is easy to tell the difference between a human brain and a pig’s brain. In both, the surface layer of cells wraps around every fold and curve. In people, though, this outer layer, the cerebral cortex, is much, much bigger. It sits on the rest of the brain like a peach’s fruit around its pit, Temple Grandin writes in “Animals in Translation,” one of her best-selling books about animal and human behavior. Almost three-quarters of a person’s brain is cortex, and cortex is almost all of the brain regions behind our foreheads — where we plan, reason and talk to ourselves.

But when you look underneath, at the “pit” parts of the human brain — the structures that process emotions and, even deeper down, those that handle breathing, balance and other basics — the pig brain and the human brain look “exactly alike,” Grandin writes. So the parts of our brains that are distinctly human (which let us talk, think, do math, invent airplanes and trade derivatives) depend on, constantly exchange information with and are influenced by other parts — no differently than any other mammals.

That’s why the neuroscientist John Morgan Allman compares the human brain to a boiler room he once toured, which was run by a Rube Goldberg combination of up-to-date computers, vacuum-tube electrical controls from the 1940s and an even older array of pneumatic tubes that served as important safety valves.

Like the boiler, the brain is a collection of many interconnected parts, each built to do what it does tolerably well, often without regard to the overall operation — and obviously with no anticipation of future technology. Humanity’s gigantic cerebral cortex is a 200,000-year-old beta design, sitting on top of legacy systems that evolution produced millions, and even hundreds of millions, of years ago. The basic mechanism of the “fight-or-flight” response, for example, is so old that we share it with salmon and fruit flies.

The rational mind, far from being the master of this facility, is only one of its many components. And the rational mind’s work — logical rules, which we can explain to others, applied to objective facts — is just one of many brain processes. Other sections work differently: they use different kinds of input, and handle that input according to different rules.

In the past few decades, scientists have made great advances in understanding what these different units do, and how they communicate with one another. Though they’ll always tell you that more research is needed, their work has already yielded some practical guidelines for people who need to influence, motivate and persuade others — in other words, for leaders. The better scientists understand the brain’s dynamics, the better they can explain what succeeds in winning over that mysterious organ. And what doesn’t.

There are four key insights managers should remember about the brains they want to influence (including their own!). First, the brain is a social organ. Second, it likes a good story. Third, it often runs on autopilot. Fourth, it has its secrets. Because it is made up of so many different systems, it doesn’t always know which one is “in charge” at the moment. In other words, people often don’t know the real reasons why they act, feel and think as they do. Keeping these general traits in mind can help you turn a leadership mess into a success.

**LOOKING UNDER THE HOOD**

**HUMANITY’S GIANTIC CEREBRAL CORTEX IS A 200,000-YEAR-OLD BETA DESIGN, SITTING ON TOP OF LEGACY SYSTEMS THAT EVOLUTION PRODUCED MILLIONS, AND EVEN HUNDREDS OF MILLIONS, OF YEARS AGO.**
The Brain is a Social Organ

Human beings, lacking wings, armor plates, claws, gigantic teeth or other impressive hardware, have risen to dominate the earth by using social relationships instead.

So the brain wasn’t designed to plan moon landings or do physics or assemble a supply chain. It evolved to handle relationships — to notice other people, understand their actions, and connect with them — and to influence others and be influenced by them. Babies as young as five weeks respond to anything that looks like a face (even three dots and a line).

Of course, adults respond to babies, too. They respond to a round face, large eyes, a small nose, a high forehead and a small chin, even in other adults. That’s a good example of how the brain is designed to pay attention to social life. It’s also a good example of how much brain activity is hidden from its owner. Without realizing that they do so, people consistently rate adults with such “baby faces” as more trustworthy, but less competent, than others.

In a study published last year, Robert Livingston and Nicholas Pearce of Northwestern’s Kellogg School of Management spelled out the real-world consequences for managers. When the researchers had undergraduates rate photos of past and present Fortune 500 CEOs, in general the executives judged more baby-faced actually earned less than their “mature-faced” competitors.

Humans are so tuned in to one another that they literally share feelings at the physiological level. When I see you in pain, for example, cells in my brain increase their activity in two regions, the anterior insula and the dorsal anterior cingulate cortex. The same thing happens when I myself am hurt.

Similarly, when you watch a colleague drink a soda, your motor neurons are firing, just as they would...
The social nature of the brain is often your friend. It is the reason leadership is possible, and necessary. People are born with a built-in ability to be influenced by others, to coordinate with them and to care deeply about how well that social process is going. However, our intensely social side means that supposedly "irrelevant" factors (like the shape of your face) will have an effect on the working environment. If you ignore this, it will not go away. It will surprise you, and not in a pleasant way.

Which brings us to the second principle of brain-savvy leadership. The brain is always telling itself stories. If your team isn’t as impressed with you as a boss because you look youthful, for instance, they probably won’t say so (because, as we’ve seen, they won’t know about their involuntary response to your appearance). But they’ll have some kind of story to tell about why they don’t feel the way they used to under your predecessor.

When the neurosurgeon Itzhak Fried was testing an epileptic patient’s brain by electrically stimulating different regions, he noticed that a jolt to one part of her left lobe would make her laugh. But she never said, “I just laughed for no reason.” Instead, she would say she laughed at whatever she’d just seen — a picture of a horse, say, or the doctors standing around (“You guys are just so funny”).

Whatever its job — be it turning disconnected sights into vision or scattered memories into “my first week at work” — each piece of the brain is busy weaving bits and pieces of data into a coherent whole. The brain can’t stand gaps, blanks and dead ends. It wants that story.

That’s why any idea or plan, from a sales pitch to a scientific theory to a philosophy of life, is more convincing when it arrives as a story, with characters, conflict and a beginning, middle and end. Even a basic and familiar Web form shows this effect, as researchers at the shop-and-search site Vast.com recently found. They compared a standard registration form (first name, last name, e-mail address) with a form that reads: “Hello, my name is [blank] [blank].

and I’d like to learn more about [product]. I live at [blank] in the [blank] area and I would like to hear back from you soon . . .” Response rates to the narrative version of the form were 25 to 40 percent higher than to the “just-the-facts” format.

Storytelling literally helps the brain “keep it together,” by melding the contradictory results of different processes into a coherent experience (I didn’t just...
laugh for no reason I can explain; I laughed because these guys are so funny). Thus, the stories that succeed are those that “make sense” to many different parts of the brain. This is the lesson of the Web form that succeeded better as a narrative: it satisfies the consumer’s conscious, rational choice to ask for product information and the unconscious mind’s eagerness to be sociable. The form is an efficient tool — to the regions of the brain that plan and calculate. At the same time, it’s a friendly invitation — to the regions that focus on relationships and status.

If a leader fails to convince or motivate people, it’s often because the leader’s “story” is too simple, appealing to only one part of the multilayered brain.

THE BRAIN OFTEN RUNS ON Autopilot

At the base of the multilayered brain are ancient structures that respond automatically to the sights, sounds, smells — even particular molecules — for which they’re designed. They don’t require, and they don’t allow, conscious deliberation about what to do. Consider what happened when Paul J. Zak of Claremont Graduate University had men play the ultimatum game, in which two people try to split some money according to a simple rule: one person proposes any split he likes, from 50-50 to 99-1 to 1-99, and the other either accepts or rejects the offer. An accepted offer means the players go away with the money they split; rejection means neither gets anything.

In the experiment, men who had inhaled a nasal spray containing the hormone oxytocin were nearly twice as generous in their offers as were those who’d inhaled a placebo.

Conversely, when Christoph Eisenegger of the University of Zurich ran a similar experiment with a group of women, he found that those who had been given a dose of testosterone under their tongues made fairer offers than did women who hadn’t been exposed.

Oxytocin and testosterone are both hormones with a strong effect on behavior. Oxytocin levels rise when mothers nurse, and when people have sex and, for that matter, when they’re hugging each other. Testosterone, of course, is supposed to be the male hormone of aggression and dominance, but it seems to be most important in competition for status. (In a sports match, researchers have found, the winners’ testosterone levels rise, and the losers’ go down. Moreover, even the fans of losers will experience a measurable drop.)

Testosterone made the women more concerned about their status, which made them want to play well. And you aren’t a good player if you force your opponent to refuse your bid, leaving everyone with zero. So testosterone made them more fair.

On the other hand, oxytocin made the men feel more warm and fuzzy toward their negotiating partner. It made them more generous.

In both cases, the effect of the hormonal treatment was involuntary and outside of consciousness. The students’ behavior changed because their brains and bodies responded to these ancient hormonal messengers without any conscious choice or awareness on their part.

Some of these non-conscious processes are embarrassingly at odds with the way we prefer to see ourselves. Bad weather, for example, makes employees more likely to be late, leave early and “forget” to throw their payment into the box for a doughnut in the break room. People’s reaction to rain has more serious consequences for organizations, according to Donald A. Redelmeier and Simon D. Baxter of the University of Toronto. The two doctors correlated weather reports with 2,926 interviews with medical school applicants at the University of Toronto between 2004 and 2009. As a group, students whose appointments occurred on rainy days received lower scores from their interviewers.

THE BRAIN HAS ITS Secrets

As we have experiences and perceptions of which we are unaware, we also have experiences and perceptions that aren’t what we think they are. Think of this as another level in the multilayered story. This is the realm of what the behavioral economist Dan Ariely calls “decision illusions” — brain processes that mask the real causes of our thoughts and actions.

Most often the illusion is that we made our choice for reasons that make logical sense, and that we can describe. It’s unlikely those medical school interviewers consciously realized they were tougher on rainy days, for example.

Decision illusions arise in part because so much of the brain’s activities occur outside of consciousness. It’s
Consider Eisenegger’s experiment with testosterone. In that study, women played more fairly if they’d absorbed some testosterone. However, there were some women who became much more aggressive in the game: they were the ones who thought they had received testosterone. (In reality, they’d gotten a placebo.) Where women who had actually received the hormone acted more competently, those who imagined they had the “male hormone” in their systems acted more like they figured men should act. Testosterone, a peptide hormone, had a “bottom-up” impact on behavior. But the idea of testosterone had a “top-down” impact as well. (It’s especially clear in this study precisely because those two effects weren’t the same.)

The Coke-Pepsi experiments are another case in point. Bottom line: don’t try to lead by picking a favorite brain layer. To reach people and motivate them, engage both their top-down thinking and their bottom-up intuitions.

2. Big challenges don’t always need big solutions.

It’s natural to feel that big problems need big responses, and that the right answer is going to be far from the wrong one. That’s one of the brain’s built-in biases, in fact. If your anti-smoking informational pamphlets aren’t affecting employees’ tobacco use, then maybe you’re tempted to go for a ban on smoking. After all, you gave them all the statistics they need to make the right choice, and it “didn’t work.”

Remember, though, that everything you experience has multiple meanings, because the same object is treated differently in different parts of the brain. Tobacco isn’t just a suicidal habit that makes no statistical sense. It’s also a jolt of stimulant, and an addictive substance, and, for many people, an emotional signal of autonomy and independence. You don’t undo all that by explaining the epidemiology of emphysema.

Instead of big, dramatic, difficult changes at the level of rational persuasion, you can make slight adjustments to details that matter at other levels of meaning. These are easier and quicker. Often, they’re all it takes. Programs that help employees quit tobacco are more effective in companies where people feel that management cares about their future; they’re also more effective when each participant has one-on-one contact with a “coach.”

**Guideposts for Leadership**

While much remains to be understood about the brain, the characteristics that we do know something about point the way to a handful of fundamental principles that can guide day-to-day leadership decisions.

1. It’s top-down AND it’s bottom-up. Reading about neurons and brain pathways, it’s easy to be lulled into the notion that “bottom-up” processes — sights and sounds, strong feelings, unconscious biases that we share with animals — are more important in people’s behavior. But they aren’t. Nor is it true that “top-down” processes — conscious thoughts and rational decision-making — always carry the day.
Consider, too, the very different responses people have to the prospect of donating their organs after death. Donation rates vary a great deal, from nearly 100 percent in France to 4 percent in Denmark. The difference isn’t a matter of policy, laws or culture. It’s a difference in brain-savviness.

In countries where people have to “opt-in” to donate organs by checking a box or filling out a form, rates are low. In “opt-out” regimes — where people have to make the effort to say they refuse — donation is near-universal. People are averse to change, paperwork and, especially, thinking about their own deaths. Changing their behavior doesn’t require changing their thoughts or feelings about these unpleasant subjects. All that is needed is a slight change in the story at a different level: You want to avoid thinking about this? No problem.

Often, leading people to and through change needn’t involve big moves. It just needs the right moves. If you don’t see any at the level of rational argument, or if emotions in the team aren’t going your way, try looking elsewhere.

3. **Awareness of the biology helps control the biology.** It’s not easy to square our self-image as clear-thinking, disciplined people with the evidence that clouds can alter our perceptions of a new employee or that facial anatomy is relevant to the way we respond to a boss. But self-awareness pays off.

Instead of denying that bad weather sours people’s perceptions, for example, you can prepare for it. Organizationally, you can correct for the rain effect in evaluations and reports. Personally, you can remind yourself to cut the guy with the umbrella some slack.

4. **Make the story coherent on many levels.** The more we understand the biological basis of behavior the clearer it is that all brain functions depend on one another. So the best way to engage the multileveled brain is to tell a story that works at many levels.

It’s the “wellness program” that lays out facts about health-care costs and tells employees they’ll feel better if they lose weight and sets up teams so they can power-walk together and not feel alone.

Or the supervisor who explains the new project with a spreadsheet and a meeting where each member is asked to comment and a T-shirt for every team member to encourage the feeling of belonging.

The more parts of the multilevel brain you can speak to, the more effective your message. You can’t get more brain savvy than that.