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Mastering Your Own Mind

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Distracted? Angry? Envious? There's growing evidence that attention, emotion regulation—even love—are skills that can be trained through the practice of meditation. Perhaps it's time for you to become a high-performance user of your own brain.

By: Katherine Ellison

Back when my son was 8 years old, he called 911 after I took away his Game Boy. I wish I'd been studying Buddhism back then, because I probably could have handled it a lot better. I suspect I wouldn't have yelled at him while the dispatcher was still listening. And I bet I wouldn't have been quite so wracked by dread when the police were questioning us in separate rooms of the house—at least until I overheard the other officer ask, "She took away your *what?*"

Most importantly, I know I would have forgiven my son much more quickly, and the whole thing wouldn't have felt so traumatic. I might even have gazed upon him with compassion.

Looking back, I realize I was completely underutilizing my own brain. It is small comfort that so many otherwise sane mortals share this failing. Our attention flickers, our patience ebbs and—propelled by fear, malice, craving and other deeply inscribed passions—we lurch from impulse to action.

In contrast, practiced Buddhist meditators deploy their brains with exceptional skill. Drawing on 2,500 years of mental technology—techniques for paying careful attention to the workings of their own minds—they develop expertise in controlling the flow of their mental life, avoiding the emotional squalls that often compel us to take personal feelings oh, so personally, and clearing new channels for awareness, calm, compassion and joy. Their example holds the possibility that we can all choose to

modulate our moods, regulate our emotions and increase cognitive capacity—that we can all become high-performance users of our own brains.

"What we're talking about is a long-term strategy for cultivating the heart and mind to fully draw forth the beneficial capacities of the human mind," says B. Alan Wallace, founder and president of the Santa Barbara Institute for Consciousness Studies. A Buddhist scholar who examines the interface between science and religion, he believes that much of human suffering is our own doing. Our feelings contract around threats to our sense of self and cloud our sense perceptions. We end up reacting, as if we had no other choice.

Meditation alters what we tend to think of as stable mental traits—anxiety, for example, or anger. Practitioners discover that feelings are events that rise in the psyche like bubbles off the bottom of a pot of boiling water. "They learn to de-identify with their emotions, making it easier to let them go," says neuroscientist Richard Davidson of the University of Wisconsin at Madison.

As the result of an extraordinary convergence of scientific research into interior states and new understanding of an ancient spiritual tradition, says Jon Kabat-Zinn, founder of the pioneering Stress Reduction Clinic at the University of Massachusetts Medical Center, "Buddhist meditation is leading to an expansion of the science of what it means to be human."

Ten Million Americans Can't All Be Wrong

Some 10 million Americans say they practice some form of meditation. Buddhism is unique among spiritual traditions in its emphasis on psychology. Its core teachings encourage practitioners to shake off suffering and discover happiness. The very concept of self-improvement informs *bhavana*, the Sanskrit word commonly translated as "meditation," though it literally means "cultivation." "It has exactly the same connotation as when we say we 'cultivate a garden,' " says Wallace.

It remains a radical notion in the West that benevolent states of mind such as concentration, kindness and happiness can be developed with practice. Apart from a growing "positive psychology" movement, many of whose leaders are in fact strongly influenced by Buddhism, Western scientists are still largely oriented toward healing the mentally ill, rather than improving the lives of the functionally OK. Recollect Freud's humble goal: to transform hysterical misery into common unhappiness. Western science is content to believe that each of us has a more or less genetically determined set point for well-being—and that happiness and love happen to us.

The Buddha framed things differently. He taught that our default mode may be to suffer, but only because of ignorance. We can transcend our lot by learning to quiet the mind in meditation—not merely to relax and cope with stress, as the popular notion of Buddhism holds, but to rigorously train oneself to relinquish bad mental habits. Rather than being an end in itself, meditation becomes a tool to investigate your mind and change your worldview. You're not tuning out so much as tuning up your brain, improving your self-monitoring skills.

"You stop being always projected outside. You start looking in and seeing how your mind works, and you change your mind, thought by thought," explains Matthieu Ricard, a Buddhist monk, scientist and French interpreter for the Dalai Lama. "The French intellectuals don't like this. They say, 'Let's be spontaneous; passions are the beauty of life.' They think that making an effort is not nice—a silly old discipline—and that's why we're such a mess. But many modern people understand the notion of getting fit with physical training." So the idea of developing mental skills with meditation is gaining ground.

The Nod From Neuroscience

Encouragement for this new way of thinking comes from an unusual ally. Neuroscience is furnishing hard evidence that the brain is plastic, endowed with a lifelong capacity to reorganize itself with each new experience. "We now know that neural firing can lead to changes in neural connections, and experience leads to changes in neural firing," explains UCLA psychiatrist Daniel Siegel. Violinists' brains actually change as they refine their skill. So do the brains of London cabbies, whose livelihood depends on the sharpness of their memory. Likewise, through repeated practice in focusing attention, meditators may be strengthening the neural circuitry involved in the voluntary control of attention.

One Tibetan lama told Wallace that before training, his mind was like a stag with great antlers trying to make its way through a thick forest; the animal got snagged on branches time after time. But after many years of practice, his mind was more like a monkey in a jungle, swinging freely from vine to vine.

Such adepts are the Lance Armstrongs of meditation, says Davidson, whose pioneering brain scans of monks provide tantalizing evidence that emotions like love and compassion are in fact skills—and can be trained to a dramatic degree. Studies also suggest that the monastic life is not a requirement; even brief, regular meditation sessions can yield substantial benefits. Nor is a belief in Buddhism necessary. "I'm convinced that you can make a huge difference in your life if you start out with even 30 minutes a day," Ricard says. "By maintaining the practice, there is a trickle of insights. Drop by drop, you fill a jar."

One recent study at Massachusetts General Hospital found that 40 minutes of daily meditation appears to thicken parts of the cerebral cortex involved in attention and sensory processing. In a pilot study at the University of California at San Francisco, researchers found that schoolteachers briefly trained in Buddhist techniques who meditated less than 30 minutes a day improved their moods as much as if they had taken antidepressants.

There are many types of meditation, and they can be used to develop a number of mental skills. This attitude focuses on practices that address common emotional struggles. Through basic meditation techniques, it's possible to cultivate a longer attention span, develop emotional stability, understand the feelings of others and release yourself from the constraints you place on your own happiness.

Attention: Stabilize the Mind

Computers, pagers, video games, telemarketing calls, nonstop e-mail—all blast our attention span to smithereens. Modern life does a swell job of distracting us. But perhaps the problem lies not in our cell phones but in ourselves. After all, we're the ones constantly making choices about what to attend to and what to ignore.

The trouble is, most of us make these choices semiconsciously at best. We don't even attempt to control our attention, perhaps because we don't know how. Buddhists maintain that the capacity can be refined through a consistent practice of meditation: The mind is by nature unstable, inherently distractible, and meditation is a means of stabilizing it.

"Meditation is *about* paying attention," says Kabat-Zinn. Cultivating concentration doesn't just stabilize and clarify the mind, it can also improve creativity and productivity while enhancing relationships. Imagine if you actually paid attention 100 percent to your spouse!

The strategy that starts you on this road is *mindfulness*, which means both cultivating nonjudgmental awareness of a specific object and seeing deeply into things. A common approach is to focus on an object or on the sensations of your own breathing, noting every inhale and exhale, and patiently returning your attention to your breathing each time it wanders.

"You practice focusing on one object," says Clifford Saron, a neuroscientist at the Center for Mind and Brain at the University of California at Davis. "You begin to observe the flux of moment-to-moment perception. With practice you can detect patterns in those fluctuations."

It's like you're flexing a muscle in the brain. University of Wisconsin's Davidson contends that the mental exercise of meditation strengthens and stabilizes neural networks in the medial prefrontal cortex—the brain's executive control center, involved in the regulation of attention. "People don't recognize that there is lots of plasticity in the circuitry," he adds. "More than previously thought."

The effort in the exercise is to balance awareness between dullness and distraction. To do so, you use the self-monitoring process that psychologists call *metacognition*: awareness of awareness. It's what lets you know when, on the one side, you're starting to drift off and need to muster fresh interest and, on the other, you're getting distracted and need to bring your attention back. As you gradually fine-tune your concentration, you notice the habitual chaos of your thoughts and, gradually, the calm that lies behind them. "Awareness trumps thoughts," says Kabat-Zinn, "because you can be aware of your thoughts."

In his new book, *The Attention Revolution: Unlocking the Power of the Focused Mind*, Wallace describes a nine-stage program to achieve quiescence, a state the Buddhists call *shamatha* (pronounced sha-ma-ta). As one Buddhist scholar put it, attention becomes "an oil lamp unmoved by the air; wherever the awareness is directed, it is steady and sharply pointed."

Even among novices, studies show, a brief meditation session can be more effective than a nap in improving performance on tests that require concentration. But its benefits don't stop there. Meditation can radically transform emotion.

Equanimity: Recognizing the Spark Before the Flame

Much of our emotional experience consists of gusts of negative feelings blowing through the brain. The feelings torture us without being intrinsically related to experience. "Emotions are not actually facts," explains Davidson.

The perturbations often function as our own worst enemies, clotting our minds, keeping us from seeing and responding clearly. In other words, they diminish our capacity to live our lives. Negative emotions are so distressing, studies show, that given a choice many people would rather endure great physical pain—say, high-voltage electric shocks.

Nevertheless, folks freely gorge on oversize portions of mental anguish, what Stanford neuroscientist Robert Sapolsky calls "adventitious suffering—the pain of what was, what will be, what could be or what someone else is experiencing." Sapolsky has shown that over time such extra helpings of mental suffering can damage the parts of the brain involved in learning and memory, as well as the immune system.

Decades before Sapolsky's studies, pioneering cognitive psychologist Albert Ellis put forth the then-radical idea that painful emotions spring more from people's beliefs than from reality itself: Thoughts alone could lead to anguish. Today cognitive behavioral therapists, including an aging Ellis, counsel patients to relieve emotional distress by changing the content of their thoughts—challenging their beliefs and testing new possibilities.

Buddhist meditation addresses the same issue a bit differently. It changes your relationship to your emotions more than the emotions themselves. It allows you to see mood fluctuations moment to moment so that you can navigate around them. "You become more like the sky than the storm," says Kabat-Zinn. You can avoid the mental "grasping" of judgmentalism or an impulsive need to act.

The approach appears to be effective. In a study led by psychologist Zindel Segal at the University of Toronto, meditation successfully prevented relapse of depression in patients with a history of recurrent mood disorder.

Meditation becomes a kind of "dashboard for your emotions," Wallace says. It enables you to check the gauges and objectively decide if you're about to overheat, so you're not caught by surprise when steam begins to rise from the engine. The "engine," in this case, is what is often called the limbic system—or the emotional brain—which is connected to the prefrontal cortex. Through its actions on the prefrontal cortex, meditation can dampen affective arousal from a limbic system kicked into alarm mode by fear or anger.

Perhaps I could have recognized that my urge to yell at my son as he dialed 911 was useless. Yet this kind of clarity is difficult to achieve. For most of us, the lag time between provocation, impulse and action is shorter than a heartbeat—just a quarter of a second between the trigger event and the response of the amygdala, or fear center. In that fraction of a second, our emotions have time to swamp our judgment—and often do.

Meditation, however, promises to break this apparent chain reaction by allowing us to recognize "the spark before the flame." Through many hours of quietly observing the customary tyranny of the emotions,

you may gradually familiarize yourself with the quiet of your mind—the part that one day might choose not to be tyrannized. Says Ricard, "You become familiar with the way emotions arise, how they can either overwhelm your mind or vanish without making an impact."

Compassion: Like Riding a Horse

Meditation is a process of cultivating intimacy with one's own states of mind. "Mindfulness is a form of intrapersonal attunement," says UCLA's Seigel, which makes it the perfect tool for *interpersonal* attunement—in other words, compassion. "The ability to see your own mind," Seigel notes, "allows you to see others' minds."

As every parent of a teenager knows, compassion can often be hard work. It takes effort to summon warm feelings for someone who snarls at you while asking for money. Some parents find they have to play tricks on their own minds, such as forcing themselves to remember the teen as a cuddly baby.

In meditating, Buddhists do something similar. "You simply have to do it again and again," Ricard insists. "It's not so sophisticated." Imagine someone you already love, wish for her well-being and gradually extend that feeling to others. This should include people you may think of as enemies.

The next step is to extend that feeling of compassion to all beings, letting the feeling "grow and grow and invade your mind so that every single atom of your self is loving kindness and compassion and benevolence," Ricard says. "You let that linger and linger and become more and more part of your mindstream, and you do it again and again. Eventually it becomes easier, faster and stronger the rest of the time too, not just when you're meditating. It's like riding a horse. In the beginning you have to be very careful not to fall off, but pretty soon you even forget you're on a horse."

Neurobiologically we seem wired for empathy. Over the past few years, scientists have found that the human brain has a system of mirror neurons, activated both when we perform an action and when we observe similar action by others, including the facial expression of pain or joy. Such activation allows us not only to infer others' feelings but to actually share those feelings as well.

Scientists have only recently begun to map the brain regions related to positive emotions such as empathy. But when Davidson observed Ricard meditating on compassion while hooked up to EEG sensors, he found a striking increase in gamma waves in the left prefrontal cortex, an area correlated with reported feelings of happiness. The findings furnish scientific support for something the Dalai Lama often says: A person meditating on compassion for others becomes the first beneficiary.

Compassion for others begins at home. "One who loves himself will never harm another," the Buddha is quoted as saying. A faithful meditation practice demonstrates compassion for oneself, since it involves conscious dedication of time and effort to improving personal well-being. The insights gained through such practice may make it easier to feel kindness toward others; by growing aware of how often you're swayed by emotions you may be slower to blame others for similar lapses, less inclined to interpret their actions as intentional slights.

Compassion can also help people manage their own suffering, since it's a reminder that others are also in pain. "After that, our pain does not feel as oppressive," says Ricard. "We stop asking the bitter question, Why me?" The link between compassion for others and for oneself may explain why recent studies

Happiness: Your Birthright

From best-sellers on finding joy to a Harvard course on "a fulfilling and flourishing life," happiness is a popular American pursuit. Of course, there's happiness and then there's happiness. Most of us hold in high esteem the hedonic variety of happiness: experiences of pleasure and, often, amassing material goods and wealth. But there's another kind, called eudaimonia, that rests on the realization of personal goals and potential. The ideal runs in a ragged line from Aristotle to Maslow to Sartre, paralleling Buddhism somewhere along the way.

Buddhism asserts that lasting happiness is your birthright. But it doesn't come from having; it comes from freeing ourselves of mental blindness and afflictive emotions. Once we have it, says Ricard, we can see the world without veils or distortions. "It is the joy of moving toward inner freedom and of the loving kindness that radiates towards others."

The tricky part: One of those veils is the very idea of an unchanging core self, or a soul. "We generate our own suffering by complex processes of self-identification," says Kabat-Zinn. "The ego contracts around things. Someone in traffic bumps my car. I tell him he has ruined 'my day.'"

We are fundamentally interdependent with other people and our environment, says Ricard in his new book, *Happiness*. Each moment between birth and death, the body undergoes innumerable transformations, with the mind the theater of countless emotional and conceptual experiences. "Experience" is simply the content of mental flow. Yet we assign permanence, uniqueness and autonomy to the self. Such self-importance and ego-grasping form the root of suffering.

Meditators find that when they stop taking their own emotional upheavals so seriously, the self drops away. They process the world more directly. Absorption, a state similar to what is known as "flow," increases. "People are hungry for this kind of authentic experience," observes Kabat-Zinn.

Urging seekers of happiness to not only shake off egoism but to understand the amorphous nature of the ego itself remains a subversive idea in the West, even though some leading neuroscientists have come to the same conclusion. Wolf Singer, director of the Max Planck Institute in Frankfurt, Germany, for instance, describes the brain as lacking any decision-making "coherence center." It's like an orchestra without a conductor.

It's a tremendously hopeful possibility that brains can change for the better—specifically, become sharper, nicer, happier. Ricard may be his own best argument. Many who encounter him are struck by the sense of well-being he projects.

More than a year after my personal nadir of parenthood—with that 911 call—I started meditating on my own. Today I occasionally meditate with my son, my not-quite-former fellow hothead. As we focus on developing compassion for each other and learning to be calm, he fiddles with the incense sticks.

As Kabat-Zinn says: "Awareness gives you your life back. You can then decide what to do with it."