How Meditation Works

By Liz Kulze

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Mindfulness meditation. Chances are that you've either heard or seen (or rolled your eyes at) these words in recent months, as studies, celebrity endorsements, and even apps continue to make headlines. Based on Buddhist traditions and described as "the non-judgmental awareness of experiences in the present moment" -- a skill which claims to offer inner equanimity once purposefully honed -- mindfulness meditation is having a moment in the West.

Its lessons are those trite, self-righteous sayings we grow up hearing precisely when we don't want to: *Things are only as good as you make them out to be. Face your fears. Be in the moment. Try looking at it another way.* They are the aphoristic phrases we find inside fortune cookies or on the tags of Yogi tea bags that seem to have no feasible application when it comes to the mess of real life. As they say: *Easier said than done.*

And yet, people are doing it. Millions of them, whether as part of a medical treatment, in group classes, or alone in the privacy of their homes. But like with regular juicing or weekly acupuncture appointments, the question isn't whether beneficial physiological change is possible, but rather, how far can such change go to help us?

It goes without saying that some time to ourselves, quietly sitting and slowly breathing, will prove to calm us down after a stressful day, but when it comes to life's most mentally taxing episodes -- death, disaster, disease -- how much good can mindfulness meditation really do?

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Gary is 42 and a recovered addict. He was raised a Jehovah's Witness until he left the religion at eighteen. Newly apostatized, Gary became reactionary. He thought, *If I can't be one of them then I am going to be the worst me possible*. He grew his hair long and covered his body in tattoos. He began drinking, and partying, and dosing himself with drugs. He was trying to fill what felt like a *great big hole* in his chest, and he tried for nearly twenty years.

Gary eventually hit rock bottom as many addicts do. He hit it suddenly, driving a desert highway home to L.A. and his wife and children, after a substance-fueled weekend in Las Vegas. In those sober, vagrant hours he realized he had to stop -- only he didn't know how.

As an atheist he wanted nothing to do with Alcoholics Anonymous or any form of rehabilitation involving a higher power. What he needed was a way to depend on himself. He experimented with various secular groups, but he says it wasn't until he found a Buddhist meditation center and began "sitting" that "everything started coming together."

In a practical sense, "sitting" is really all there is to the meditation aspect of mindfulness meditation. For anywhere from fifteen minutes to an hour (or more) each day, whether alone or with a group, you sit in a quiet place with your eyes closed, focusing on your breath as it moves in and out. Your mind will inevitably wander, which is where the mindfulness aspect comes in. Instead of growing frustrated with your lack of focus or getting caught up in the web of your thoughts, you train yourself to observe the thought or emotion with acceptance and curiosity, and to calmly bring your focus back to the breath.

Such an activity seems impossibly simple and non-invasive for its various purported benefits, but according to Dr. Katherine MacLean, a psychologist at the Johns Hopkins University School of Medicine (who both studies and practices mindfulness meditation), a neurological understanding can lend some clarity. In fact, if you strip it of its religio-historical context, mindfulness meditation is essentially cognitive fitness with a humanist face.

As Dr. MacLean understands it: "It's a way to become familiar with your own mind."

There are different forms of mediation practice -- among them Transcendental Meditation or "TM" (a Hollywood-approved technique heralded by David Lynch), Qigoing (a Chinese form of "energy healing"), and even yoga -- all of which carry their own array of benefits; however mindfulness meditation is one of the more widely used, and most heavily researched methods.

Two years ago researchers at Justus Liebig-University in Giessen, Germany and Harvard Medical School integrated decades of existing research into a comprehensive conjectural report, which explains the various neurological and conceptual processes through which mindfulness mediation works (and which recent studies have continued to affirm.)

The report suggests that mindfulness meditation operates through a combination of several distinct mechanisms: attention regulation, body awareness, emotion regulation, and a change in perspective on the self. Each component is believed to assist us in various aspects of our lives, and when functioning together, the cumulative process claims to lend an enhanced capacity for "self-regulation" -- the ability to control our own "thought, affect, behavior, or attention" (The loss of which has been cited as the cause of much psychological distress and suffering).

In other words, the researchers suggest that the practice allows us to develop a stronger command over the machinery of the mind, a dexterity which, according to a study released this week, stays with you long after you finish meditating.

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"Mindfulness meditation is not a nice little thing," Gary says adamantly. "It's not like frosting on a cupcake. This is a major *major* transformation."

Burly and tattooed from head to toe, Gary soon found himself sitting amongst a crowd of hippies and elderly people on a retreat in a remote area of California.

He had begun meditating daily, and through this, he says he was able to more closely observe the movements and patterns of his own thoughts. He realized that he was heavy with "trauma, and anger, and fear, and resentment," painful emotions his mind had tried its best to push away. With this, he began to see his addiction had only been a means of distraction, "a way to escape whatever emotion was arising that [he] absolutely could not handle." He realized that for the duration of his adult life, his own mind had been lying to him.

In meditation terms, he had become *aware*.

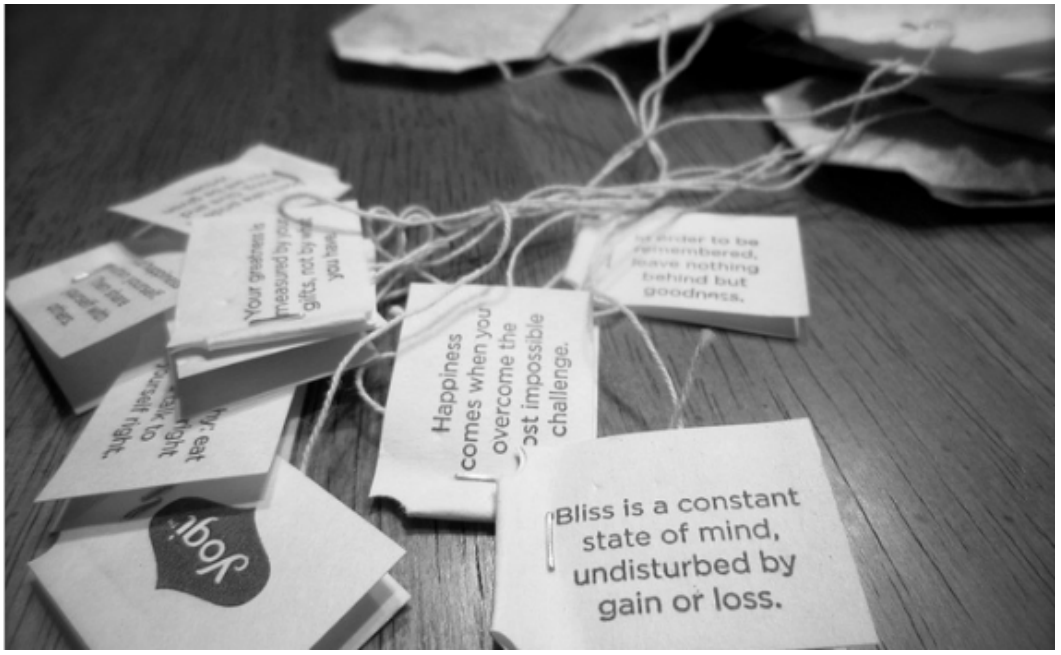
According to the Justus Liebig-Harvard report, awareness (the source of both attention regulation and body awareness) is the foundation of mindfulness practice. Commonly described as being "in the present" or "in the moment," these first two mechanisms consist of learning to focus on immediate internal (physiological, emotional) and external (environmental) stimuli.

Through attention regulation we can begin to "focus [our] attention for an extended period of time" and heighten our potential for "conflict monitoring," the ability to stay focused on the immediate experience, even as thoughts and judgments attempt to distract. This particular aspect of mindfulness training has been widely discussed in the media, after a study showed that the practice can boost student test scores.

Bodily awareness is then believed to build on this component, by teaching us to pay attention not only to our surroundings, but to the thoughts and bodily sensations (such as tension in the solar plexus) that occur in response. What develops is a keen sense of internal and external perception, which Dr. MacLean describes as a kind of clarity of consciousness: "You begin to see things for what they are rather than your virtual reality of what you want them to be."

With this understanding Gary found that he was able to directly address the issues at hand, rather than their symptoms. Instead of continuing to use "hedonism and decadence" to distract himself, he believes mindfulness practice gave him the strength and patience to simply sit with his suffering -- to feel its depth, to let all of hit him "like a ton of bricks."

Only then, he says, could he begin to let it go.



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For most of us, letting go isn't the mind's preferred way of processing.

Deb was diagnosed at thirty-six. She is a mother of two. Her face is bright, her hair a happy blonde, her voice is soft and girlish. Three years ago Deb was healthy. She went to the dentist every six months because that is what healthy people do. Still, Deb got breast cancer. It was Stage III and scattered like a rainbow across her chest.

Upon hearing of her diagnosis, Deb was thrown into a flux of countermeasures and treatments, and she tried her best to maintain control. She entered her doctor's office with her hair pulled back and a notebook out and said, "I'm going to look at this like my full-time job. What do I need to do to cure this?"

As the mother of two young girls "filled with this maternal impulse that you have to protect them from everything," she desperately latched onto a delusion of control. What she got instead was panic and anxiety.

After being introduced to mindfulness meditation as part of her treatment at Duke Integrative Medicine, Deb soon began practicing regularly. She began observing the pitch of her pains and fears, and realized how much they exhausted her. She recognized that cancer wasn't just something to be cured, but it was also something she had to heal from, and that meant learning how to be at peace.

Any form of tranquility sounds like an impossible objective when you have an infant and a vivacious toddler running around the house, let alone a debilitating disease -- but Deb believes that this was the gift that mindfulness meditation gave her.

A change in perception, from a moment of panic to one of peace, is the achievement of what the Justus Liebig-Harvard report calls "emotion regulation." This component of the practice suggests that by building on our renewed strength of awareness, we are able to train ourselves to observe our thoughts forming during a particular event, to accept it without reactive judgment ("This is good" or "This is bad"), and to feel ourselves be affected by it, while refraining from our habitual response (i.e. terror, hyperventilating, anger, or throwing a punch).

As the leading Buddhist teacher Jack Kornfield understands it, we learn to alter the relationship between our consciousness and our experience.

Or as Dr. Maclean characterizes it, we submit ourselves to a situation of "exposure," which we "prolong until the scary things aren't so scary anymore."

It's like Fear Factor for the mind, a contest few of us likely have any interest in entering upon first thought. The authors of the Justus Liebig-Harvard report recognize that "*people* who are *new to meditation often initially find this process counterintuitive*," but many find that the feelings of unpleasantness eventually dissipate, leading to either a situation of reappraisal (seeing something in a new light) or extinction (getting rid of our habitual response all together).

For Deb, "It meant taking a thought of anger or fear, and 'dropping it like a boulder.'" It meant learning how to stop living her life "in earnest and clawing for each day, but just to take it in."

It meant being able to sit back and be in a moment without the fear of losing it.

Three years cancer-free, the practice is still with her. "Ultimately what meditation has taught me is that my thoughts are not who I am. It's interesting to hold them up and to look at them, but I only have to hold onto those that serve me. I can let go of all the things that would put me right back on the hamster wheel. "

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The disassociation between our thoughts and our identity is the final mechanism through which mindfulness meditation is said to function (one which is believed to become more apparent the deeper in practice we become). In a culture that continually emphasizes the cultivation of the self, this may be the most profound lesson that mindfulness meditation has to offer, and certainly the most bewildering.

According to the Justus Liebig-University and Harvard Medical School report, upon achieving a strong sense of internal awareness and the ability to "observe our mental processes with increasing clarity," we begin to see the self as something that is continually arising, rather than fixed. Dr. MacLean describes it as a continuum of the letting go process we experience while observing our emotional responses. "Eventually all you have to let go of is this sense of a fixed identity ... And then you can begin to deconstruct the self."

But why, exactly, would anyone want to do such a thing? It sounds abstract, overly existential, disorienting, and frankly terrifying. But, as Dr. MacLean stresses, it sounds more severe as a concept than it is in practice. Once understood, she says, it can eventually become remarkably useful, and in many cases, incredibly comforting.

By beginning to understand identity as impermanent, "there isn't this sense that you have to defend yourself anymore," she says. It's an act of "decentering," allowing us to expel the attachment and hostility that arises when we perceive our inner-selves to be static. This then "burns up the fuel which runs our repetitive habits," ultimately giving way to a more transitory understanding of existence. From there, she says, we can begin to develop a greater sense of compassion and a more genuine way of being.

Dr. MacLean started practicing mindfulness meditation nearly a decade ago as a neuroscience undergraduate at Dartmouth. When she continued her studies at UC Davis, she began working on the Shamatha Project, the largest and most extensive study of mindfulness meditation's effects on the brain. It was there that she went on her first retreat (a week-long period of intensive daily meditation) in order to more closely understand the experience her participants would go through. Soon after, she began practicing regularly at home.

Still, Dr. MacLean found one fear exceptionally difficult to get past.

She was afraid of death. She had panic attacks and premonitions on planes. If you were late or sick, she would assume the worst.

But, through her meditation, Dr. Maclean eventually began to understand the source of the problem. She realized that her deep-rooted anxiety had stemmed from something she had begun to feel during her practice: that her long-standing sense of self was only an illusion. "It felt like reality had been pulled out from under me," she says. But like Gary and Deb, she exposed herself to the fear until it gave way to a sense of "clarity, lightness, compassion, and security."

In time, Dr. MacLean's fear was put to the test. Her younger sister was admitted to the hospital with a metastatic form of cancer, and she was dying.

There are few things more horrifying in the scope of human life than the death sentence of a loved one, but Dr. MacLean believes that mindfulness meditation allowed her to build up a kind of mental armor that left her with a staggering level of equanimity. She had trained herself to "let go of this sense that *you* are at the center of the universe and that the world is something set up for *you*."

So as she sat at the bedside of her dying sister over the next few weeks, Dr. MacLean felt prepared. "I was able to be with her in space that for me felt very empty, and very clear, yet completely full of love," she says. "I didn't have much of my own baggage or my own expectations, so for the most part it kind of felt like this very natural, easy thing."

She recognizes that "it's hard not to sound new agey or paranormal" when talking about deconstructing the self, but she credits letting go of her fixed sense of identity and "artificial sense of the world" as the thing that got her through:

"I don't think I could have dealt with my sister dying if I had not gone through a kind of dying process myself."

This didn't mean she was immune from grieving, which she experienced "really quickly and intensely" without judgment or boundaries, but that she was able to understand her bereavement as an event that was happening to her in the present moment, which she could embrace fully, and then let go.

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"We have a couple of tools that have been at our disposal for thousands of years," Dr. MacLean told me as we ended our interview. "One of them is meditation. And we will always have it. So if we can learn to harness that power, what happens around us doesn't matter. It's the one tool we have that is a refuge."

The practice may have great potential, but its advocates are quick to note that it will only do for people as much as they decide to put into it. As Gary, Deb, or Dr. MacLean will tell you, beating despair is no easy feat. Like fitness of any sort, seeing benefit from meditation takes time, discipline, and dedication.