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The Craving Mind

Jon Kabat-Zinn

It is an incontrovertible fact, although it usually goes unrecognized and unappreciated, that right inside each one of our heads, underneath the encompassing vault of the cranium and weighing in at around three pounds (approximately two percent of the body's weight), is found the most complex organization of matter in the known-by-us universe, namely the human brain. That makes us rather remarkable in terms of what we are capable of. The miracle of being human can be readily seen everywhere once you train your eye and your heart to look. It transcends and embraces all the pain and suffering that comes with the human condition, and that we so often cause ourselves and one another by ignoring who and what we really are. It is so easy to fall into ruts, bad habits, even depression, thirsting for what we feel we need to complete ourselves, what we might need to feel at home in our own skin, truly at peace in our life, even if just for a brief moment, or an hour or a day. All the while, ironically, we are missing the fact that we are actually conspiring to make ourselves slaves to an illusion, to the compulsive longing to complete ourselves when, in fact, we are already complete, already whole. But somehow, we momentarily forget this, or never remember it, or perhaps we feel

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so wounded that we cannot even entertain the possibility of our own essential completeness without a lot of support, and a method, a path to reclaim that wholeness (the root meaning of the words “health” and “healing”) and our beauty. This book provides just such a path, well demarcated and expertly guided by the author. You are now at the trailhead, a perfect place to begin the adventure of reclaiming the full dimensionality of your being and learning to embody your wholeness in the face of the undermining addictiveness of the craving mind.

Until quite recently, the extent of the brain’s complex structures, networks, and functions, its uncanny plasticity, and its versatility as a multidimensional self-organizing learning matrix—a result of billions of years of evolution that is continuing to evolve surprisingly rapidly both biologically and culturally in our time—was not fully appreciated even by scientists. Now, given recent advances in neuroscience and technology, we stand in awe of the brain’s architecture and its seemingly boundless repertoire of capacities and functions, to say nothing of its totally mysterious property of sentience. In contemplating it, we swallow hard at the immensity of our human inheritance and at the challenges we might live up to in the relatively short period of time each of us has between birth and death, were we to recognize the full extent of that inheritance and what it might portend in terms of being more fully awake, more fully aware, more fully embodied, more fully connected, freer from the confines of our unhealthy and imprisoning habits, in sum, more fully who and what we actually are, given the truly miraculous nature of this mysterious emergence and its capacities and possibilities.

Think of it—and, of course, marvel that you can think at all, of anything—your own brain is comprised of approximately eighty-six billion individual nerve cells (by latest measure), called neurons, with millions of them extending themselves into every domain within the

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body, our eyes and ears, nose, tongue, skin, and, via the spinal cord and autonomic nervous system, to virtually every location and organ in the body.¹ Those eighty-six billion neurons in the brain have at least that many partner cells, called glial cells, whose functions are not well understood but are thought to at least in part support the neurons and keep them healthy and happy, although there is the suspicion that they may be doing much, much more. The neurons themselves are organized in many highly specific and specialized ways into circuits within the larger differentiated regions of the brain, the cortex,² the midbrain, the cerebellum, the brain stem, and in the various loci, or “nuclei,” which include unique structures such as the thalamus, the hypothalamus, the hippocampus, the amygdala, and so forth that subtend and integrate so many of the functions of the organism. These functions include movement and locomotion, approach-avoidance behaviors, learning and memory, emotion and cognition and their continual regulation, the sensing of the outer world, and the sensing of the body itself through various “maps” of the body located in different regions of the cortex, the “reading” of the emotions and mind states of others, feeling empathy and compassion for others, as well as, of course, all aspects of the aforementioned sentience, the very essence of what makes us human, consciousness itself.

Each of those eighty-six billion neurons has about ten thousand synapses, so there are hundreds of trillions of synaptic connections between neurons in the brain, a virtually infinite and continually changing web of networks for adapting to ever-changing circumstances and complexities, and in particular, for learning, so as to optimize our chances of survival and our individual and collective well-being. These circuits are continually remaking themselves as a function of what we do or don't do, what we encounter, and how we choose to relate to it. The very connectivity of our brain seems to be

shaped and enhanced as a function of what we pursue, enact, recognize, and embody.

Our habits, our actions, our behaviors, and our very thoughts drive, reinforce, and ultimately consolidate what is called functional connectivity in the brain, the linking up of different areas to make essential connections, to make things possible that weren't before. That is what learning does. It turns out, it can happen very fast if you are paying attention in a particular way, using the mindfulness compass described in this book. Or if we don't give our attention to unwanted or aversive circumstances, that inattention just deepens the habitual ruts in the mind that are carved out by craving and our various life-constraining addictions, small and large, leading to endless rounds of reactivity and suffering. So the stakes are quite high for each of us.

Given the intimacy of this infinitude of complexity and capacity lying within our own heads—now that neuroscience has revealed it and we realize that more and more fascinating dimensions of the brain continue to be discovered every day—we are undeniably challenged to make use of what is known so far to better understand our own lives and how we live them so as to put this vast repertoire to work for us in the service of health, happiness, creativity, imagination, and, ultimately, deep well-being, not merely for ourselves, but for others as well, those with whom we share our lives and our planet.

And with this inheritance of exquisitely organized complexity and beauty on so many levels lying within us, it staggers the mind to realize—oh, I neglected to mention that out of all this, apparently, comes a sense of self and a sense of that “self” having a mind!—it staggers the mind to realize that we still suffer, we get depressed, we get anxious, we harm others as well as ourselves, and ironically, fall easily into relatively unconscious habit patterns to soothe ourselves,

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habits that can be highly destructive of the very well-being we are yearning for.

And much of this suffering, this out-of-jointness, comes from feeling as if something is still missing even though we have it all and are undeniably miraculous beings, geniuses really, and gifted beyond compare with possibilities for learning, growing, healing, and transformation across the life span. How are we to understand this? Why do we feel so empty, so in need of continual gratification and the incessant and immediate satisfying of our desires? When all is said and done, *what*, in actuality, are we craving? And *why* are we craving it? And when you come right down to it, *who* is it who is actually craving anyway? Who owns your brain? Who is in charge? Who suffers as a consequence? Who might make things right?

These questions are addressed and answered admirably in this compelling book by Judson Brewer, director of the Therapeutic Neuroscience Laboratory at the Center for Mindfulness in Medicine, Health Care, and Society at the University of Massachusetts Medical School. As a psychiatrist with a long-standing clinical practice in the field of addiction psychiatry, Jud has developed deep insight into the challenges of pervasive addictions of all kinds, and the downstream disorders and diseases and the pain and suffering that they ultimately cause us, all stemming from the mind-state of craving, a tendency we all share to one degree or another, being human, and that we also either ignore wholesale when it suits us or, in other instances, perhaps feel powerless to deal with—our own innate agency and transformative potential seemingly out of reach or even unrecognized.

In parallel with his trajectory within mainstream addiction psychiatry, Jud has been a long-term and highly devoted practitioner of mindfulness meditation, as well as a serious student of the classical Buddhist teachings, traditions, and sources that mindfulness

meditation practices are based on. Delineated in exquisite and compelling detail thousands of years before it was recognized by Western psychology, craving plays a fundamental and pivotal role in the genesis of suffering and unhappiness in Buddhist psychology, as you will soon see.

What Jud has done in his clinical and laboratory work, and now in this book, is to bring those two universes of understanding of the mind in general, and of its addictive tendencies in particular, together to inform each other and to show us how simple mindfulness practices have the potential, both in the moment and over time, to actually release and thereby free us from cravings of all kind, including, ultimately, the craving to protect a very limited sense of self that may have outgrown its usefulness, and that may simultaneously be missing the point that the “you” who is craving something is only a small part of the much larger “you” who knows that craving is arising and driving your behavior in one unfortunate way or another, and who also knows the sorry long-term consequences of that addictive patterning.

From the Western psychology side, we are introduced to B. F. Skinner’s theory of operant conditioning and its explanatory framework for understanding human behavior. This perspective, while useful in some contexts, is also fraught with problematic aspects and severe limitations, being so behaviorist in orientation that it leaves no meaningful role for cognitive processes, never mind awareness itself. What is more, it is so tied to the admittedly powerful explanatory notion of *reward* that it typically ignores, or even denies outright, the equally powerful mysteries of agency, cognition, and selflessness. These human capacities transcend and obviate reward in the ways that notion is commonly understood from Skinner’s classical animal studies and those of others. Some experiences, like the embodied,

uncontrived comfort of knowing who you are, or at least investigating that domain with an open mind and heart, may be intrinsically and profoundly gratifying, and orthogonal to the conditioning of the typically externally oriented Skinnerian reward paradigm.

To transcend the limitations of the operant conditioning perspective of behaviorism, Jud introduces us to the Buddhist framework within which mindfulness as a meditative discipline and practice evolved and flourished over millennia in Asian cultures, and to its systematic and very practical approach—grounded in the framework of the central Buddhist teachings on “dependent origination”—to learning how we can liberate ourselves from the dominance and sometimes tyranny of our own craving mind, first and foremost by paradoxically cultivating intimacy with it. And this all hinges on recognizing over and over again how tightly bound up we are in our own seemingly endless self-referencing, and on whether we can simply be aware of it without judging ourselves harshly and can cultivate other, more intentional options for *responding* mindfully rather than *reacting* mindlessly in those very moments when craving arises.

Self-referencing is a critical piece here. Recent work has shown that when people are asked to do nothing (in an fMRI scanner while their brain activity is being measured), they default to mind wandering, and much of those wandering thoughts take the form of an ongoing narrative about oneself, “the story of me,” we could say: my future, my past, my successes, my failures, and so forth. What is seen in the brain scans is that a large midline region in the cortex starts lighting up, that is, shows a major increase in neural activity—even though you are being asked to do nothing inside the scanner. This region has been termed the default mode network (DMN), for obvious reasons. Sometimes it is also called the narrative network, because when we just let the mind do what it does, so much of it is caught up in the narrative

about oneself, an aspect of our own mind that we are often completely unaware of unless we have had some training in mindfulness.

Work at the University of Toronto³ showed that eight weeks of mindfulness training in the form of Mindfulness-Based Stress Reduction (MBSR) resulted in reduced activity in the narrative network, and in increased activity in a more lateral network of the cortex that is associated with present-moment awareness, experientially outside of time, and lacking any narrative at all. The researchers in this study refer to this neural circuitry as the experiential network. These findings are highly consonant with Jud's pioneering work on the default mode network with meditation, in both novice meditators and in those with many years of intensive practice and training.

Jud and his colleagues have developed novel neuroscientific technologies and methods that allow both Western psychological and classical meditative perspectives to be brought into the laboratory to investigate what is going on in the brain *in real time* while a person is meditating. As you will see, this is done by giving his experimental subjects direct visual feedback (and insight) into what is going on in their own brains moment by moment by moment in a particular region of the DMN known as the posterior cingulate cortex (PCC), a domain which seems to quiet down (diminish its electrical activity) during meditation under certain circumstances—specifically, when the subject gives up trying to get anywhere or make anything happen other than be present.

Mindfulness as both a formal meditation practice and as a way of living has two interacting aspects, an *instrumental* dimension and a *non-instrumental* dimension. The instrumental dimension involves learning the practices and experiencing the benefits (Jud would say “rewards”) of such practices, much as what happens when one undertakes any kind of ongoing learning process, like driving a car or playing

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a musical instrument. With continued practice, we get better and better at the task, in this case, the challenge of being present and aware of what our own mind is up to, especially when it is caught up in subtle and not so subtle craving, and then perhaps learning how to not be so easily caught by those mental energies and habit patterns.

The non-instrumental dimension, a true complement to the instrumental dimension of mindfulness practice and absolutely essential to its cultivation and to freeing ourselves from craving-associated mind states, thoughts, and emotions, is that there is, at the very same time—and this is very hard to take in or talk about, which is why the phenomenon of *flow* plays such a large role in this book—no place to go, nothing to do, no special state to attain, and, ultimately, no one (in the conventional sense of a “you” or a “me”) to attain it.

Both of these dimensions of mindfulness are simultaneously true. Yes, you do need to practice, but if you try too hard or strive for some desired end point and its attendant reward, then you are simply shifting the craving to a new object or a new goal or a new attachment and a new or merely upgraded or revised “story of me.” Inside this tension between the instrumental and the non-instrumental lies the true extinguishing of craving,⁴ and of the “mis-taken” perceptions of yourself that the craving habit is grounded in. Jud’s real-time neuro-feedback studies of activity changes in the PCC during meditation practice, vividly showing what happened in the PCC when his subjects got caught up in *trying* to bring about an effect, and what happened when they got excited because they *did*, are dramatic demonstrations of the powerful effects within the brain of non-doing, non-striving, and getting out of your own way in order to be fully present and emotionally equanimous. These studies are a remarkable contribution to our understanding of different meditative practices, of the various mind states that can arise during formal or informal

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meditation practices, and their potential relationship to the vast, open, thought-free spaciousness of awareness itself.

This book and the work it is based on, which is described in a user-friendly prose that makes the complex science easy to grasp, offer us a radically new perspective on learning, on breaking habits of mind not by force or through the application of will power or the clutching for a momentary and fleeting reward, but by truly inhabiting the domain of being, by becoming intimate with the space of pure awareness itself, and by discovering how available it is right in this timeless moment we call now. Indeed, as Henry David Thoreau knew and described in great detail in *Walden*, there is no other moment in which wakeful presence and equanimity are to be located. And nothing has to happen other than to learn how to rest in awareness and be the knowing (and at times, the not-knowing) that “your” awareness already is and that “you” already have. Habits dissolve in the face of this inhabiting of the space of awareness. But the irony is that it is a non-trivial undertaking, this non-doing. It is the adventure of a lifetime, yet it requires a significant investment of effort—paradoxically, the effort of no-effort, and the knowing of not-knowing—particularly in regard to the process of “selfing,” the inveterate and usually unrecognized generating of the story of me.

As noted, part of the Western perspective on addiction stems from the work of B. F. Skinner, the father of operant conditioning. In this regard, Jud quotes from Skinner’s novel, *Walden Two*, and its all-too-prescient foreseeing of social engineering in our digitally interconnected world. Happily, however, the highly behavioristic reward-based Skinnerian perspective on addiction is balanced out here by a transcendent wisdom perspective that has much more in common with the original *Walden*, what we could call “*Walden One*.” Jud does this not by citing Thoreau, but by describing the phenomenon of

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flow experiences and their physiology and psychology, based on the pioneering work of the contemporary Hungarian psychologist Mihály Csíkszentmihályi, and by pointing to the non-duality that lies at the heart of the Buddhist teachings of selflessness and emptiness, non-grasping, non-clinging, and non-craving. These domains and insights were all clearly seen and beautifully articulated by T. S. Eliot in his own transcendent poetic affirmations and insights in his culminating work, *Four Quartets*, from which Jud quotes incisively.

As you will learn, our habits of craving seem to be the root cause of so much of our suffering, both large and small. We may indeed be driven by and to distraction, especially with the addictiveness of our digital technologies and speed-driven lifestyles. But the good news is, once we know this up close and personal, there is so much we can do to free ourselves from that suffering and live much more satisfying, healthy, original, ethical, and truly productive lives.

Jud walks us through all of this in a masterful, personal, friendly, humorous, and erudite way. Moreover, consistent with our times, he and his colleagues have developed, and he describes them here, highly sophisticated smartphone apps to support your mindfulness practice, especially if you are coming to it in part to quit smoking or to change your eating habits.

There is no better time than now to take up the practices offered in this book and make use of them to transform your life and free yourself from the kinds of forces that always have us missing or discounting the fullness and beauty of this moment, and of our wholeness now, as we try to fill imaginary holes of dissatisfaction and longing that feel so real and yet cannot be satisfied by further cycles of craving and succumbing to whatever gives us transient relief. Still, if you fall into delusion—as we all do from time to time, and as Jud describes he did in a major way with his own elaborate

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infatuation-based engagement scenario—and you fail to recognize it, as he disarmingly recounts so candidly—sooner or later you may realize that there is always the opportunity to wake up and recognize the cost of craving and the imprisoning effects of our addictions, and begin again.

May navigating this trail of mindfulness you are about to embark on lead you ever closer to your own heart and your own authenticity, and toward freedom from the incessant grip of the craving mind.

Jon Kabat-Zinn

Notes

1. James Randerson, “How Many Neurons Make a Human Brain?” *Guardian*, February 28, 2012, <https://www.theguardian.com/science/blog/2012/feb/28/how-many-neurons-human-brain>; Bradley Voytek, “Are There Really as Many Neurons in the Human Brain as Stars in the Milky Way?” Scitable, May 20, 2013, www.nature.com/scitable/blog/brain-metrics/are_there_really_as_many.

2. Ninety-seven more uniquely distinguishable regions of the cerebral cortex alone, never before recognized, were just reported in the journal *Nature* as I write this, in addition to the eighty-two already known.

3. Norman A. S. Farb, Zindel V. Segal, Helen Mayberg, et al., “Attending to the Present: Mindfulness Meditation Reveals Distinct Neural Modes of Self-Reference,” *Social Cognitive and Affective Neuroscience* 2, no. 4 (2007): 313–22. doi:10.1093/scan/nsm030.

4. “Extinguished,” as in a fire being put out, is the literal meaning of “nirvana” in Pali, the original language of the Buddha.