

## How Imagination Shapes Your Reality by Gabriel Cohen

□ Do you have a lemon in your kitchen? Put this magazine down for a moment, go cut the fruit in half, and squeeze some juice into your mouth. Notice how you react.

□ Don't have a lemon? Try this little thought experiment: Imagine that you have one. Picture yourself slicing through the bright yellow rind, exposing the translucent fruit inside. See yourself holding it up, squeezing it, and letting a stream of tart juice splash onto your tongue. Can you feel yourself puckering and salivating—not in your mind's eye, but in “real life”?

□ Western thinkers have tended to draw a line between reality—that which we “actually” experience—and imagination, seen as a frivolous, dreamlike diversion. For millennia, though, spiritual contemplatives and artists have taken flights of fancy much more seriously and challenged the firmness of that line. And surprising recent advances in neuroscience, particularly in the field of brain scanning, have added support to their conviction that our imagination and sense of reality are closely intertwined.

□ In some ways this is obvious. Back in 1928, the sociologists W. I. Thomas and D. S. Thomas conceived of what became known as the Thomas theorem, which states, “If men define situations as real, they are real in their consequences.” My college sociology professor put it this way: If we believe that little green goblins are hiding in the woods and we change our route to avoid them, then our fantasy has affected our experience.

□ That may seem like an extreme example, but imagination plays a very real role in our decision making. Just look at the last two US presidential elections, in which one big chunk of the electorate managed to view Barack Obama as a radical socialist, while another saw him as a moderate saint. Both views are heavily based on myth, but they had a real-life effect on how people voted.

□ Political races are hardly the only arena in which we project goblins into our daily lives. Too often humanity is ruled by superstitions, stereotypes, and tribal prejudices—resulting in all-too-real suffering, violence, and war. The folly of these antagonisms became especially clear when human beings made the first journey into space and saw that the supposedly entrenched divisions between countries were just imaginary lines on a map. As Frank Borman, commander of the Apollo 8 mission, put it, “When you're finally up at the moon looking back on Earth, all those differences and nationalistic traits are pretty well going to blend, and you're going to get a concept that maybe this really is one world, and why the hell can't we learn to live together like decent people?”

### □ YOUR BRAIN ON IMAGINATION

□ Our mind can run away with us, leading us to act through suspicion or fear, but we can

also use our imagination as a tool to change our life—a process we’re beginning to understand through advances in neuroscience.

□For centuries, we have envisioned two separate areas of the brain: one that processes the evidence gathered by our senses, and one that spins off into gauzy daydreams. Functional magnetic resonance imaging has helped us understand that these two functions are not as distinct as they seem.

□Using fMRI scans, researchers like V. S. Ramachandran, director of the Center for Brain and Cognition at the University of California, San Diego, have found that the same cells in the brain light up whether we perform an action ourselves or watch someone else do it—which might explain why some of us find action movies so exciting. But these “mirror neurons” aren’t activated just by the things we see. The effect also occurs when we simply imagine ourselves performing the action.

□As a novelist and writing teacher, I have long told my students that vivid writing lights up the brain. Recently, I was excited to learn that this is not just a metaphor. In a New York Times article titled “Your Brain on Fiction,” the science writer Annie Murphy Paul surveyed fMRI studies that show that reading about sensory stimuli or physical actions activates the same brain areas that process real-life experiences.

□When you read about that lemon at the beginning of this essay, you were activating the same region that would have been turned on if you had actually tasted the juice. There’s more. “There is evidence,” continues Paul, “that just as the brain responds to depictions of smells and textures and movements as if they were the real thing, so it treats the interactions among fictional characters as something like real-life social encounters.”

□This has a profound import, not only for book lovers, but also for those who hope for a more peaceable planet. Paul cites studies by two Canadian psychologists that show that “individuals who frequently read fiction seem to be better able to understand other people, empathize with them, and see the world from their perspective.”

□That doesn’t mean fiction writers should make their work into a gooey project to present characters as positive role models. In fact, I’m often intrigued by authors who create characters who are ornery, difficult, or downright unlikable—a good writer can help us to understand and care about people who are radically different from ourselves and to delve beneath surface differences to the common feelings and thoughts that could bind us together.

□It raises the question: if humanity’s embattled factions had to write stories based on each other’s experience, how would that affect humanity’s willingness to wage war?

#### □MALLEABLE MINDS

□Imagination can provide us with rich lifelike experiences and give us a powerful opportunity to develop empathy and compassion. But it can do even more: it can literally reshape and retrain our brains.

□For ages, scientists have believed that our neural networks become rigidly set and defined in early childhood, but fMRI scanning now reveals plasticity: the adult brain is surprisingly malleable. If, for example, we go blind in midlife, some of our neurons for processing vision can shift to dealing with sound.

□What’s particularly exciting is the discovery that focused mental exercise can alter the brain. For example, scans of some of Tibet’s most advanced lamas found that through

years of meditation they had strengthened the centers in the brain that deal with such vital life skills as attention, emotional balance, and compassion.

□A number of contemplative practices directly recruit the power of imagination to retrain the mind. For many people the Sanskrit word *tantra* may conjure images of wild sex, but a Tantric practitioner may be more concerned with visualizing a certain deity in order to strengthen her own ability to share in the divine being's positive attributes, such as patience or kindness.

□Of course, contemplation doesn't have to focus on deities. My introduction to Buddhism started with a simple mental exercise.

□Eight years ago when I was going through a painful divorce, I stumbled into a Buddhist lecture about dealing with anger. "Let's say you're sitting on a park bench," said the teacher. "Now someone sits down next to you and they're doing something you find annoying, like popping their gum or singing along with the music in their headphones."

□Our first reaction is usually to see the person as an external problem and to blame them for making us angry or depressed. Instead, the teacher asked us to change our thinking. "Imagine that you want to become more tolerant. Then you could say, This is great: Here's somebody who has come along to help me work on that!"

□As the Buddhist author Pema Chödrön argues in her book *The Places That Scare Us*, "Without the inconsiderate neighbor, where will we find the chance to practice patience? Without the office bully, how could we ever get the chance to know the energy of anger so intimately that it loses its destructive power?"

□These teachers showed me that if I can use my imagination to help me perceive situations in a different light, I can turn all sorts of "problems" into constructive challenges—and radically alter my experience of life.

□WHAT IS REAL?

□The transformative power of focused imagination is central to Buddhist practice, but the Buddha himself was not content to rest there. Late in life, he confounded many of his followers with a stronger, stranger notion.

□The teacher of my first Buddhist lecture introduced it simply. He held up a book and asked, "How many of you think that this exists independently of your mind?" Like the others, I raised my hand. "How do you know it exists?" he pressed. Answers bounced back. "I can see it"; "I can feel it"; "I can taste or hear it."

□After some discussion, we realized that the only way we knew the book was there was by interpreting what came in through our senses. The teacher pointed out that this is true of everything in our lives: objects, our friends and families, what we learned in school, everything. Ultimately, Buddhists argue, there is no such thing as objective reality out there.

□The point is not a nihilistic one, that nothing exists, but rather that no thing has a detached, fixed identity. Phenomena "do not exist in their own right," says the Dalai Lama, "but only have an existence dependent upon many factors, including a consciousness that conceptualizes them." Where I see a "book," a rain forest aborigine might see only "strange object made out of pressed-together leaves."

□Our whole experience of life is filtered through our minds, and we continually project our own sense of meaning onto people and things. As the Buddha put it, “With our thoughts we make the world.”

□In short, our imagination is not an alternative to reality.

□Our imagination is our reality.