



THE BIG TURN ON

A band of psychologists, neuroscientists, and business gurus are teaching a raft of new techniques to help people tap into their creativity. By Louisa Kamps

The world is full of big and thorny problems, but right now there's one—bigger and thornier than most—that seems to be connected to, oh, just about everything. I'm referring to (and worrying about, naturally) the great "crisis in creativity." Why have creativity-test scores steadily declined in American children and adults since 1990, as one recent report showed (and was pounced on by education critics, who say that the increasing focus on testing crushes unconventional thinking)? Why does a robust economic recovery still seem a pipe dream, despite exhortations from the President (and every other leader in the land) to innovate, innovate? Why do we understand climate change is already bearing down on us—lethally, in the cases of Hurricanes Katrina, Irene, and Sandy—yet largely ignore its future risks? Why are so many movies bursting with dialogue so dog-eared that

it springs, fully formed, into your own brain before the poor walking clichés on-screen can even speak their lines?

And why (oh, why!) does my own day-to-day thinking—about work, relationships, what to do Saturday, you name it—so frequently feel stale and soggy? Back in the day, complicated projects got me almost erotically excited to dive in and devise my own singular, slantwise solution. Growing up in the Midwest, I often caused people to remark, with wrinkled noses—on the jewelry I fashioned out of little silvery dead alewives I scavenged from the shore of Lake Michigan and dipped in resin, say, or on the log I jammed behind the tire of my ancient Opel to hold it in place when the parking brake broke—"Well, that's real different." But I took the pinched noncompliment as a sign I was onto something: uncharted turf I could explore and pos-

sibly use to create something useful. For many years my experimental habits of mind served me well: As a writer, I developed a certain talent for bobbing with an unusual observation or word where others might weave. And in my spare time, I made clothes and collages that were beautiful to me—they served as happy records of time spent noodling with my hands, pushing through problems to get the things made.

Realizing I've become less comfortable with invention and improvisation in this fragile and anxious era—in which too many of us are quick to chuck anything that we can't immediately see a way to monetize—has got me wondering if when creativity goes AWOL, we can get it back. At first blush, creativity can seem pretty lofty—and pinning down the godlike gifts of superstars like Da Vinci, Emily Dickinson, or Mark Zuckerberg practically impossible. But, I'm happy to report, a notably creative band of psychologists, business gurus, engineers, and artists have been busy lately breaking down creativity into its component parts. In the process, they've identified some of the worst crushers of creativity, and smart strategies to spark and expand it.

Reassuringly, creativity experts stress that we're all creative: We wouldn't be here if human brains weren't exquisitely equipped to perform creative acts large (forge steel, produce vaccines, build incredibly nimble mechanical limbs) and small (cheer the pal who just got dumped, persuade a reluctant patient to take medication, make dinner for six with two boxes of spaghetti and three eggs). Creativity scales up and down along a spectrum, but it also infuses everyday decision-making far more than we give ourselves credit for. James Kaufman, a psychology professor at the University of Connecticut, developed the popular "Four-C" model of creativity. There are the so-called Big-Cs—paradigm-shifting geniuses like Beethoven, Einstein, and Meryl Streep. One rung down are the Pro-Cs, expert professionals who've devoted time (typically a decade or more) to mastering their fields—for example, Kaufman says, "the amazingly creative programmers, engineers, and designers" who worked under Big-C guy Steve Jobs to develop the iPhone. Little-C, or "county fair" creativity, as Kaufman likes to call it, is the avid hobbyists' domain. Becoming proficient enough at guitar to play coffeehouse gigs that are well received (at least by friends) falls under this umbrella. Mini-C, meanwhile, is the entry point—anyone capable of creative learning itself,

which includes the satisfaction of discovering new things. Kids writing their first short stories (no matter how hackneyed) and adults learning to bake bread (with cookbooks spread across the counter) can achieve Mini-C satisfaction, because these activities, as Kaufman notes, are novel and useful to them personally.

According to Kaufman's theory, a budding microbiologist could, with years of concerted effort—plus tremendous good luck, because creativity also depends on steady feedback and the subjective judgment of professional gatekeepers—progress from Mini-C to reach the pinnacle of her field, revolutionizing cell biology. But overly romanticizing Big-C creativity—which very few achieve—can be dangerous, Kaufman and others say, because it may cause the rest of us to view creativity as unattainable and thus neglect the habits and skills that serve to brighten thinking, refresh relationships,

that they lose their sense of time and self-consciousness. Another pivotal insight from his research was that having strong intrinsic motivation (clear personal goals, plus the freedom to decide how to accomplish them) was essential for career satisfaction and the production of the best creative work. Yet his highly accomplished creatives, Csikszentmihalyi noticed, also tended to need a push from the outside—encouragement and direction from a boss, client, or patron. (Craving independence as well as guidance and strokes, and having tendencies toward introversion and extroversion simultaneously, are among the many contradictory traits Csikszentmihalyi detected in creative people.)

Unfortunately, though, many businesses still operate under a top-down management model and don't provide incentives for workers to take risks with ideas that might flop, and flop again,

of the notably inventive in all their fiery action—has taught us that virtually all regions (back, front, center, right, and left) are involved in creativity. When one stage of idea generation begins, one brain network swings into action; at the next stage, a different one lights up; and so on. Amabile's Harvard colleague, psychologist Shelley Carson, has written a marvelously soulful and scientific book, *Your Creative Brain: Seven Steps to Maximize Imagination, Productivity, and Innovation in Your Life*, about the neuroscience of creativity. Carson also lays out what she calls "brainsets," seven brain-activation states linked with creativity, accompanied by questions to help readers identify their cognitive "comfort zones" and understand how these connect to creativity. For me, the tests showed that I'm stronger in the brainsets associated with absorbing new information, drawing associations among far-flung concepts, and

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and connect us to our emotions in a myriad of small yet meaningful ways. "Mini-C creativity is where the fun in life is," Kaufman says. "It's putting a new little spin on an everyday situation: Instead of just making chocolate-chip cookies, it's saying, 'Hey, I've got 10,000 zucchinis in the backyard. Why not grind them up and put them in the cookies to make them healthy?' The personality trait most associated with creativity is being open to new experiences." Travel (especially abroad) is ideal for reviving appreciation for novelty. But even small alterations in routine, Kaufman says, can enhance the likelihood you'll have multiple modest eureka's. "Try sitting in a different place at your next meeting so you're interacting with different people. Instead of going to the same place for lunch, try someplace you've never been that serves food you've never had."

But what if you also yearn to make your work life more creative and productive? Or, perhaps, to improve your own and others' lot with some masterful Pro-C invention? Psychologist Mihalyi Csikszentmihalyi, a professor of psychology and management at Claremont Graduate University, spent three decades tracking highly creative people. Many had no trouble accessing the pro-creative mind state he dubbed "flow"—in which people become so engrossed in tasks

before a strong new solution clicks into place. Harvard Business School professor Teresa Amabile—who calls creativity "a fragile phenomenon, easily crushed"—recently read 12,000 diary entries from more than 200 workers from seven corporations, charting their days. She was "pretty shocked," she says, to discover how often workers went home demoralized because their "inner work lives" seemed dull and gray or, worse, when they'd dare stray from the beaten path, they'd been publicly humiliated (or stealthily thwarted). And these negative emotions often led to poor-quality work, she found, as well as lower productivity.

In contrast, in companies with leaders who didn't subscribe to the fallacy that keeping workers hyperstressed helps the bottom line, Amabile found, people regularly challenged one another, while also remaining open to others' opinions. On the job, these workers tended to be happier, and they were more likely to have creative ideas or to solve knotty problems on days they felt especially positive—and on the next day, too, even if their mood had shifted. Amabile pegs this to what's called the incubation effect—an unconscious process in which new ideas suddenly slide into place only when we take sharp focus off whatever we're contemplating.

Indeed, being able to look under the hood—using fMRIs to observe the brains

recognizing patterns. Although I've been feeling fallow lately, the results squared with my deepest sense of self: I'm a hungry learner, open to new experiences and with a knack for absorbing them.

However, my scores also suggest my ability to evaluate the merit of my own ideas and reason through how I might improve them could use a boost. (Deliberate thinking is essential—you can't just dream big and differently; you have to do due diligence to make sure you're meeting your market's needs.)

Carson confesses that our comfort zones are similar. It's also a challenge for her to slow down and decide which of her ideas are worth a damn. So how does she do it? She regularly consults a panel of trusted colleagues, keeps an ideas journal, and, when she can't put off making decisions anymore, purposefully puts herself in an "evaluative mind state": She envisions the parts of her brain that she knows need to be activated—then goes about her business, crossing out ideas in her notebook that, under the glare of rigorous logic, she can see are nonstarters.

Becoming more critical of one's own ideas involves, specifically, "turning up the volume" in the brain's judgment centers, located in the frontal lobe, Carson says. But while we're talking about this, it occurs to me that my creativity might benefit just as much if I dialed down my

inner judge. I explain to Carson what can happen to me: I have an idea, feel some frisson at the nape of my neck suggesting this could actually be pretty cool and exciting—but then, when another project I’ve tried to launch gets shot down, or I feel deflated by the general state of the world, what formerly seemed great suddenly looks flimsy. I wonder aloud, driftily, if women might have special needs when it comes to boosting creativity....

Carson knows exactly what I’m getting at, and she tells me something pretty depressing: In the history “of all Big-C paradigm-changing creative achievements,” only 3 percent were made by women, which she attributes to biological, sociological, and psychological forces. “Women are diagnosed with depression and anxiety twice as often as men are,” she says. “If someone criticizes their work, a woman is more likely to walk away, tail between the legs, and sulk, while a man tends to be aggressive and fight back: ‘You don’t like that one? Here—try this idea!’ I think testosterone has influence over that. And women have been socialized to please.” And when we don’t, we feel bad about ourselves.

To help me reclaim some of my own creative boldness, Carson steers me to two groups of mind-set-enhancing exercises in her book. One batch is designed to help people stay loose and open to the new in the early creative-germination phase (among these are simple mindfulness techniques). The other is intended to help people cope better with rejection: drills to train yourself to regard criticism as valuable feedback rather than a personal attack. But along with these exercises, I realize that I need a good old-fashioned jolt of inspiration. That would put my mood on the upswing, Carson says, thereby broadening my attention so I can collect more grist for the cognitive mill and hopefully combine it in novel ways. “It’s like, Wow! You see a bigger picture, and more things become possible.”

For my inspiration fix, I head to the Wisconsin Institute for Discovery (WID), on the University of Wisconsin–Madison campus. The goal of the place, its lion-haired director, David Krakauer, tells me, exuberantly drawing arrows and intersecting circles on a whiteboard, is to bring together researchers from many historically isolated departments to share theories, concepts, and data sets. Krakauer, a geneticist who also happens to have deep and sophisticated interests in art and music and education reform, has written a quote from Niels Bohr across his office window in grease pencil:

“Your theory is crazy, but it’s not crazy enough to be true.” And while I make no claim yet to fully comprehend WID’s current projects—exploring the gamification of learning, core-computational technology, and bionates (look it up, fellow hungry learners!), among others—I was touched to hear Krakauer describe the fear of being dismissed as one of the greatest obstacles to progress. To alleviate that, he says, the institute connects creative types from many fields—a team that understands the emotional and practical challenges of getting potentially great ideas up and running.

I also meet with writer and cartoonist Lynda Barry, a fellow at the institute and an assistant professor of interdisciplinary creativity at UW, my burning questions center around how she, in her own dark nights of the soul, waits patiently for ideas to gel. (The writer Pico Iyer once described this as “negative capability,” purposely hanging loose, “giving weight to many of the voices inside yourself without hungering for a resolution.”) Moved by a talk I heard Barry give last spring, in which she spoke in a way that brought tears to my eyes about the necessity of, as she puts it, “blowing your mind with your own mind”—as well as reading her beautifully illustrated creativity primer, *What It Is*—I’ve started making paintings from old photographs late at night with an old gouache set I hadn’t touched since college. Most of my paintings are nothing to write home about. But a couple of times, with paintings barely better than the rest, I’ve pushed back from my desk thinking, Somebody call Gagosian—this stuff is amazing! Commercial thoughts then breed giant swells of self-doubt—and from there, paradoxically arrogant and meek ideas about my own talents and aspirations bobble maddeningly around in my head to the point where I want to give up and watch TV. If creativity isn’t for the sake of making things that can make me megarich, then what is it for again, exactly?

For the most part, Barry artfully dodges my garbled cosmic questions, offering wisecracks and Zen-masterish shrugs. But finally I see where she’s heading with me. I pull out a yellow legal pad in which, per her suggestion in *What It Is*, I’ve been taking notes for this story in longhand and switching to drawing my ideas when words stop flowing. On one page I sketched a picture of myself looking tired and sad (I’m wearing one of the baggy, striped sailor shirts that, quite uncreatively, have been my uniform for the past half year). Yet I also

drew a bright-eyed, wasp-waisted dog with dark, lustrous fur. Seated next to me, Barry moves her fingers tenderly across the page. “Look at your lines, look at how much time you spent petting that dog,” she says, in a soft voice full of wonder. And right then, I see what I was doing with this sketch: I was recording my sorrow over lost creativity. I was also reminding myself—with that happy dog I stroked so lovingly with my pen; the dog representing a more optimistic part of me, of course—that while the path of creativity won’t always be easy, I still contain the hope and power necessary to creatively reboot, again and again if necessary. And to have this experience with just a Bic and sheet of paper—well, that seems plenty amazing to me. ●

GET CREATIVE!

Herewith, a few creativity pointers inspired by Mason Currey’s *Daily Rituals: How Artists Work* (Knopf), and *Fail Fast, Fail Often* (Tarcher/Penguin), by psychologists Ryan Babineaux and John Krumboltz:

Show your stuff: Creativity requires feedback, Babineaux says, and surprisingly often, ideas popped out fast are the ones that fly. “I meet people with good ideas for a business or start-up, but they spend an eternity perfecting them. Many successful entrepreneurs, they’ll throw together some crappy prototype and go show five clients. They don’t wait.”

Move: Artist Ellen Harvey—whose recent show at the Corcoran Gallery, “The Alien’s Guide to the Ruins of Washington, DC,” seemed eerily apt when the government shutdown closed almost every other museum in the city—says she likes to ponder new work while traveling. “I’m particularly fond of trains, but swimming works too. I like the feeling of almost effortless forward motion when I’m mentally stuck.”

Just do it: Chef and best-selling author of *Blood, Bones & Butter* Gabrielle Hamilton says she gets up before dawn—and still uses the “hot pen” method she learned in high school. “You put the pen to paper and keep going. It helps you bore through all the cliché, the boring, the boastful, and the self-savaging, until you reach the sweet water at the core. You’re good only for a few hours a day anyway, and this way by breakfast you’ve already wrapped up a respectable day’s work.”