

SCIENCE OF THE CREATIVE MIND

To really unleash your company's creativity, look to the squishy place it all begins: the chemistry in the brain

THAT BREAKTHROUGH idea you had that doubled sales? Your incredibly funny quip at the strategy meeting? Don't get too full of yourself—you were probably just having a good day chemically.

Or so says Baba Shiv, a marketing professor at Stanford's Graduate School of Business. Shiv's research focuses on the role neural structures play in decision making and economic behavior. He has also long been fascinated by the biological roots of creativity.

According to Shiv, creativity resides at the intersection of two primary pathways in the brain. Along one pathway, the neurotransmitter serotonin governs whether you are operating from a sense of calm and contentment or from a position of anxiety and fear. On the other pathway, dopamine moves you from boredom or apathy to excitement and engagement.

The right neurochem-

ical cocktail for your best creative work, according to Shiv, is a high level of both serotonin and dopamine. "This will produce a condition in which you are calm but energized," he says.

How do you achieve this blissfully creative state? For starters, you can reduce stress in the office. Spikes in stress hormones such as cortisol counteract the creativity-boosting effects of serotonin. Plus, stressed-out people tend to be closed off to new ideas, says Shiv. Studies of baboons have shown that when experiencing stress, they refuse to seek out new territory (or mates, for that matter). For humans, that means people are more likely to stick to familiarity when under too much pressure.

Poor sleep can also have negative effects on creativity. Shiv says people need up to

FOUR CREATIVITY BOOSTERS

- 1 Schedule morning meetings
- 2 Eat a protein-rich breakfast
- 3 Walk before—or during—meetings
- 4 Reduce workplace stress

BUILT FOR CREATIVITY

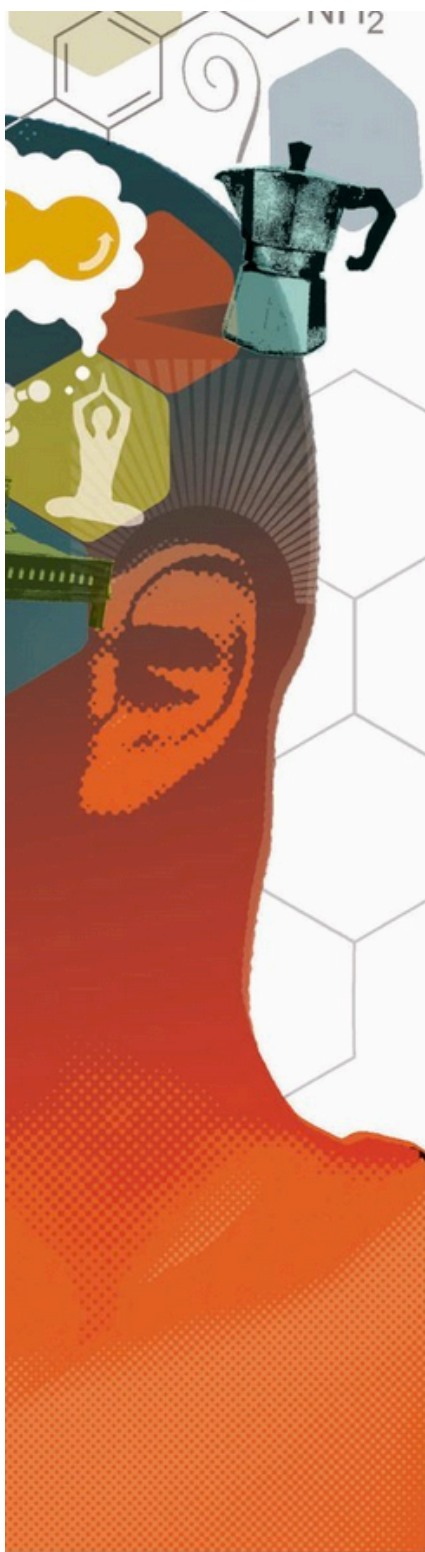
Your office design can help kindle employee creativity. Here are a few pointers from Scott Wyatt of NBBJ architects, which has designed offices for Google and the Gates Foundation.



Go Natural

Employees are more creative (and less stressed) when they can look up from their work and see trees and natural light. Even if you're in a city, try to give everyone window views. Or at least buy your poor employees some plants.

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two hours of deep, non-REM sleep each night for the brain to restore the proper levels of serotonin. This sort of deep sleep accounts for less than 30 percent of the average person's slumber, but it can be diminished by sleep interruptions as well as alcohol and caffeine consumption.

Serotonin levels tend to be highest in the morning, making it an optimal time to schedule brainstorming sessions. To make the most out of the morning's elevated levels of serotonin, Shiv suggests nixing carbs in favor of a high-protein breakfast. "That's the best brain food," he says. "The proteins produced from it in the body are converted to the much-coveted serotonin and dopamine." And caffeine? It acts as a "physiological arouser," says Shiv. In other words, it will magnify whatever emotion you're already feeling. Translation: If you're on a hot streak of developing new ideas, have another cup of coffee; if you're anxious about meeting your budget, skip it.

Cardiovascular exercise also enhances the neurological conditions for creative thinking, by releasing a peptide that helps produce serotonin. If you have an afternoon brainstorming meeting, Shiv recommends first taking a 10- to 15-minute brisk walk. "Or, better yet, walk and talk," he says.

Maintaining a variety of intellectual interests also keeps the creative juices flowing. Shiv says it's important to talk to people in other disciplines and read widely outside your field to develop "knowledge nodes"—bits of unrelated information that can come together to produce an unexpected solution. "This is how Steve Jobs operated," Shiv says. "His wide-ranging interests allowed for a creative lifetime of connecting the dots." —RYAN UNDERWOOD

CREATIVE CULTURES

Here's how three companies break from routine to help promote creative thinking.



IMPROV CLASSES

Method, a San Francisco-based maker of cleaning products, offers employees training in improv acting—not to check the box on some management fad but to give them an understanding of how small performance details such as stance, breath, or mindset can help improve creative thinking. Method also attempts to shift employees' perspectives by requiring everyone in the company to serve as the office receptionist for a day, all in an effort to keep people "weird, creative, and humble."

BRAIN BREAKS

The New Jersey-based startup Cactus makes the Hug, a device that keeps tabs on how much water you drink. But once a month, the company's four Finnish co-founders set aside 24 hours to let their brains run wild. They'll start brainstorming over a drink (or a few) on Thursday afternoon and give themselves until Friday evening to come up with a dirty prototype—or a really good blueprint. "It's just a way to give our brains room to breathe," says co-founder Panu Keski-Pukkila.

HACKATHONS

At Animoto, a New York City-based startup that converts photos and video clips into online movies, money is on the line in a quarterly hackathon, meant to spark new ideas from the company's 65 employees. Cash prizes of \$500 are given to the winning teams in three areas: most technically challenging, most useful, and people's choice. A recent winner improved the service's synchronization of images and music, a fix that will be included in an upcoming software release.

Think Paris

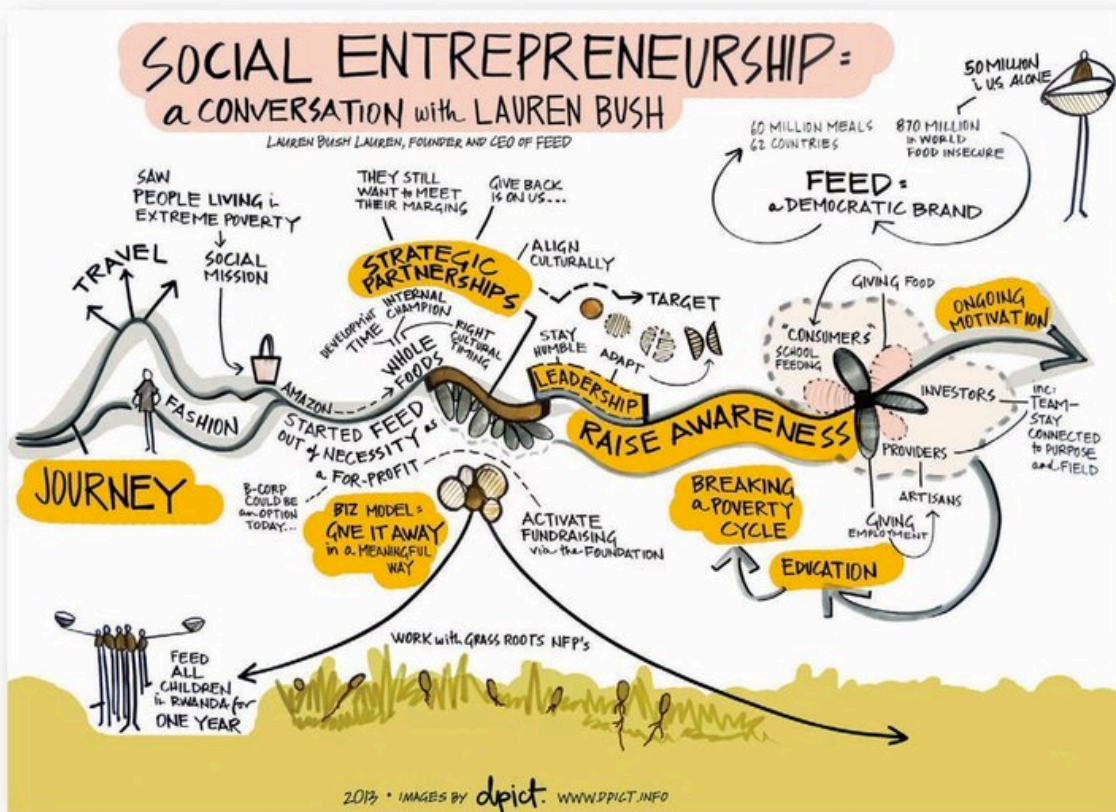
The ideal office layout? A system of quiet side streets and grand boulevards like the Champs-Élysées in Paris. Employees have quiet to think, but they're still forced to mingle with—and bounce ideas off of—their co-workers.

Raise the Roof

If you want to promote blue-sky thinking, you should increase employee headroom at the office. Studies suggest that higher ceilings in the workplace encourage abstract, conceptual thinking.

The Art of Inspiration

Why companies are hiring artists to record their brainstorm



BUST OUT THE MARKERS

Want to sketch your own ideas? Here are three tips from expert doodler Sunni Brown.

1. KEEP IT SIMPLE

Stick with easy visual metaphors: a forked road to indicate choice, an exclamation point for excitement.

2. LINK YOUR THOUGHTS

Draw a box around words relating to one idea. Use arrows and lines to show relationships between ideas.

3. GET EVERYONE SKETCHING

Let your whole team take turns at the whiteboard. As people doodle, "their thinking will change," says Brown. "And that will open up new ideas, solutions, possibilities."



NOTEWORTHY

Kelvy Bird, co-founder of Dpict, a graphic facilitation company in Massachusetts, sketched this as Lauren Bush Lauren, CEO of FEED, spoke at the Inc. Women's Summit last year.

"ENTREPRENEURSHIP!" offered one executive.

"Going above and beyond," mused another.

As they spoke, an artist scribbled furiously on an 8-foot-wide whiteboard. Soon, a drawing of a half-eaten apple emerged to represent the company's core values.

This was part of a recent two-day strategy session at Grasshopper, a provider of virtual phone systems that's based in Needham, Massachusetts. Co-founder David Hauser paid a specialized artist (or, as people in the field prefer to be known, graphic facilitator) \$3,000 to take notes as Grasshopper's eight-person executive team formulated the company's goals. "It really improved the conversation," says Hauser. Later, the final sketch was photographed and printed on notepads, posters, and the company's website.

Many companies like Grasshopper are relying on these cartoonish doodles to help kindle ideas during meetings. It might seem silly, but these sorts of visuals are effective in brainstorming, says Martin Eppler, professor of media and communication

management at University of St. Gallen, Switzerland. "We've found in our experiments that using visuals during meetings creates more ideas, creates better ideas, and increases recall," he says.

Some companies are even hiring graphic facilitators (you can find one at ifvpcommunity.ning.com) to coach workers on illustrating their own ideas. Sunni Brown, a graphic facilitator and author of *The Doodle Revolution*, often directs "group doodles" in which employees work together—listening to and then sketching one another's ideas.

To loosen up reluctant artists, Brown starts by having people call out objects rapid fire for her to sketch. "I purposefully make my drawings clumsy," she says, "so people see the goal is not to make great art but to get down something of substance." Rachael Brown, a training manager for Zappos, took a two-day seminar from Sunni Brown in 2011, as did a few other managers. Now, Zappos employees regularly use the techniques in brainstorming sessions. "We try to play with the problem graphically," says Rachael Brown. "It helps spark new ideas, especially if we're stuck." —NANCY AVERETT



SCAN THE PAGE TO WATCH SUNNI BROWN DRAW. (See page 14 for details.)

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