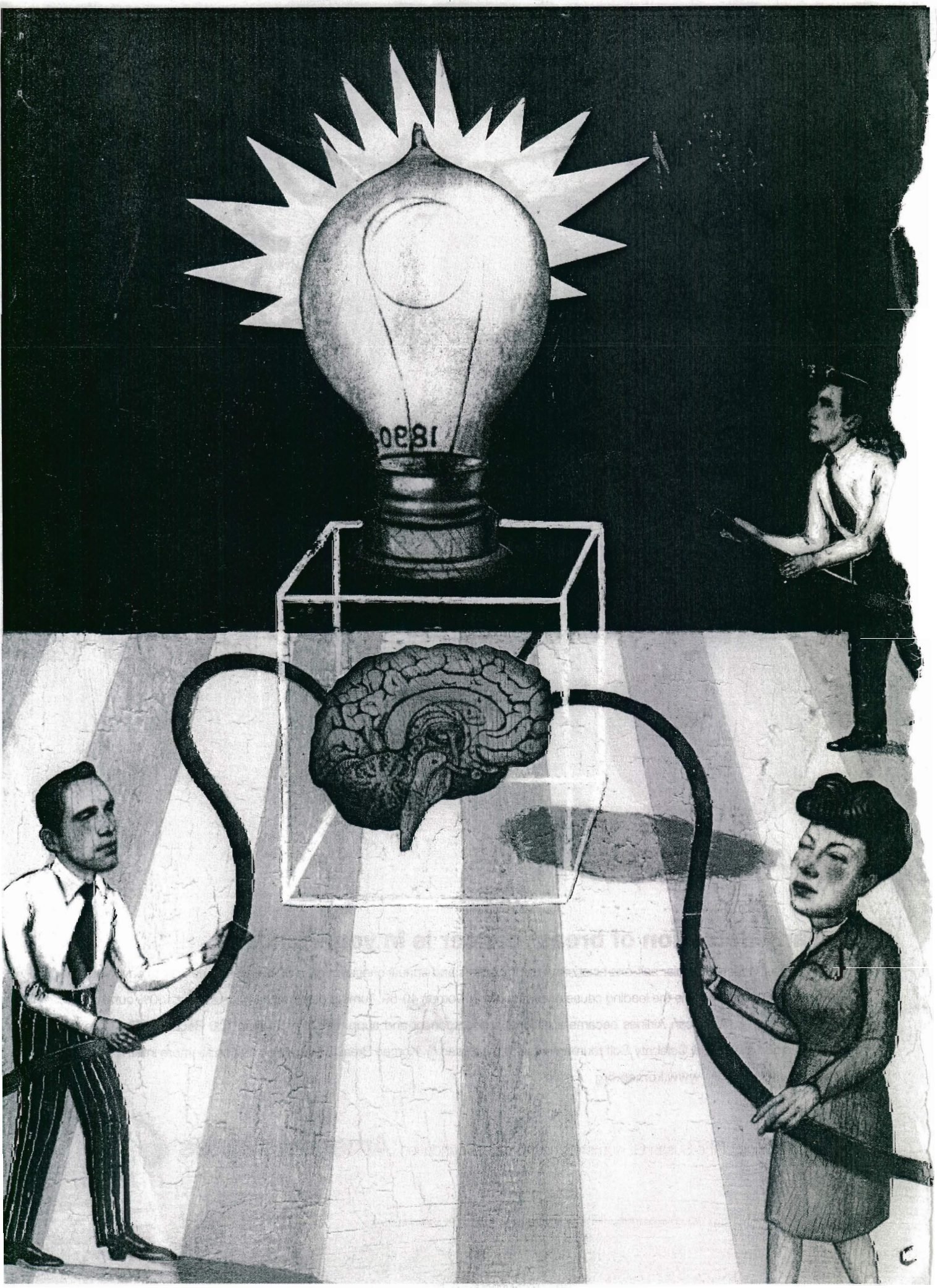
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innovation electrified

Great ideas seem to bolt out of the blue. Is it possible to ignite those creative sparks?

Story by Sharon McDonnell
Illustration by Craig LaRotonda

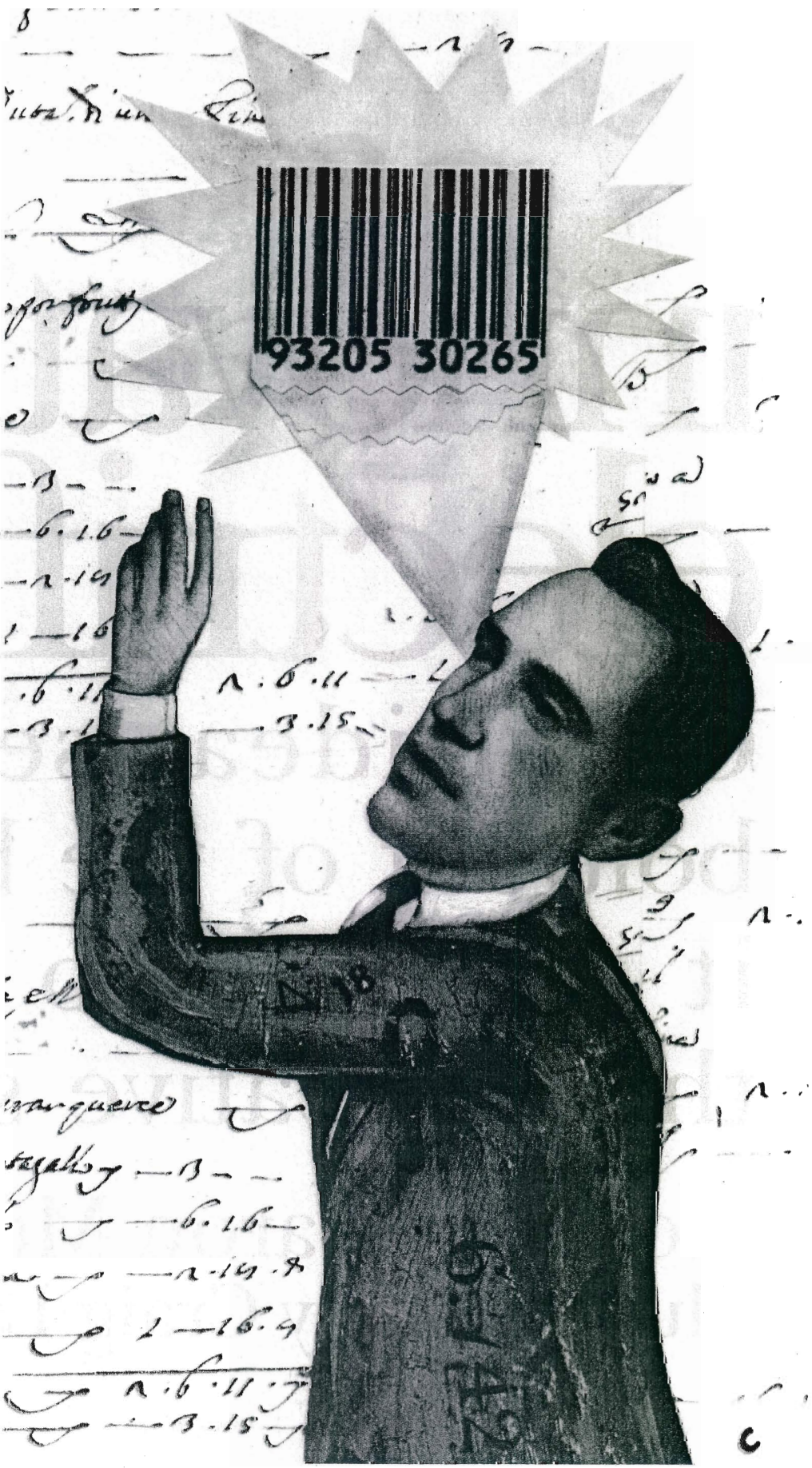
When his girlfriend complained that it was hard to find Pez candy dispensers for her collection, Pierre Omidyar wondered whether other collectors had trouble finding buyers and sellers. He launched a small online auction site, which evolved into eBay, the astoundingly profitable Internet marketplace selling everything from fine art to cars.

Omidyar wasn't expecting to get a business idea from his girlfriend's hobby, and there's the rub: Great ideas come at odd times, and hardly ever when you're sitting in your office, gripping a pencil, trying to force inspiration. "Most creative acts are unexpected," says Alan G. Robinson, a management professor at the University of Massachusetts, creativity consultant, and author of *Corporate Creativity: How Innovation and Improvement Actually Happen.* "That is the true nature of corporate creativity, and it is where a company's creative potential really lies."

Reading the history of new inventions and scientific discoveries is like reading a detective story — the only thing you can expect is the unexpected, and many a brilliant idea is sparked by a chance remark, an accident, a stray bit of knowledge snatched from an unrelated field.

But in a tough economy, creating innovation and improving products and services are more important than ever. If creativity strikes unexpectedly, isn't innovation just a matter of chance?

Not exactly. Companies can foster creativity among their employees, and individuals can nurture their own creative sparks, too. But first, they need to understand how creativity works.



creative style

Throughout his research, Robinson has discovered that creative acts tend to share six elements, and these are key to promoting an environ-

ment where creativity flourishes.

One is "self-initiated activity": The creative person acts on his own initiative. Two is "serendipity": A fortunate accident happens while someone is seeking something else, but the person is insightful enough to recognize its significance. (NutraSweet was discovered while researching antiulcer drugs, Teflon while working on refrigerants.) Three is "diverse stimuli": A variety of experiences — eavesdropping on a conversation, observing the natural world, reading a new author — can spur people's thinking. Four is "unofficial activity": Staffers work on a project without the employer's direct, official support, and often may cross boundaries between departments or job functions. Five is "within-company communications": Information is exchanged among employees who don't usually communicate. And six is "alignment": When creative thought benefits the company, that signifies employees understand their employer's goals.

The story behind the bar code illustrates these principles in action. John Woodland, a Drexel University engineering instructor, heard (from another instructor who'd overheard a conversation) that the dean of engineering had turned away a supermarket-chain president who wanted to sponsor research into a system for recording price information upon purchase to avoid money-losing errors by cashiers (*serendipity*).

Within three months, the two colleagues invented a prototype bar-code system (*self-initiated* and *unofficial activity*), inspired by insights gleaned from Woodland's knowledge of Morse code — he was a ham radio hobbyist — and his work in movie sound systems (*diverse stimuli*).

After refining their bar-code idea, the pair obtained a patent in 1952. But it wasn't until 20 years later that the bar-code system landed in the commercial market. Woodland joined IBM and tried to champion his invention, but it was rejected after a market research study. It wasn't until an IBM executive spied a checkout scanner causing a sensation at a trade show — made by RCA, which had bought Woodland's patent — that IBM suddenly decided it needed to develop a bar-coding system, pronto. The company then discovered (surprise!) it had been invented years before by an IBM staffer. Woodland led the IBM team to develop a bar-code system based on his technology (*alignment* and *within-company communication*), and won the National Medal of Technology in 1992.

creative types

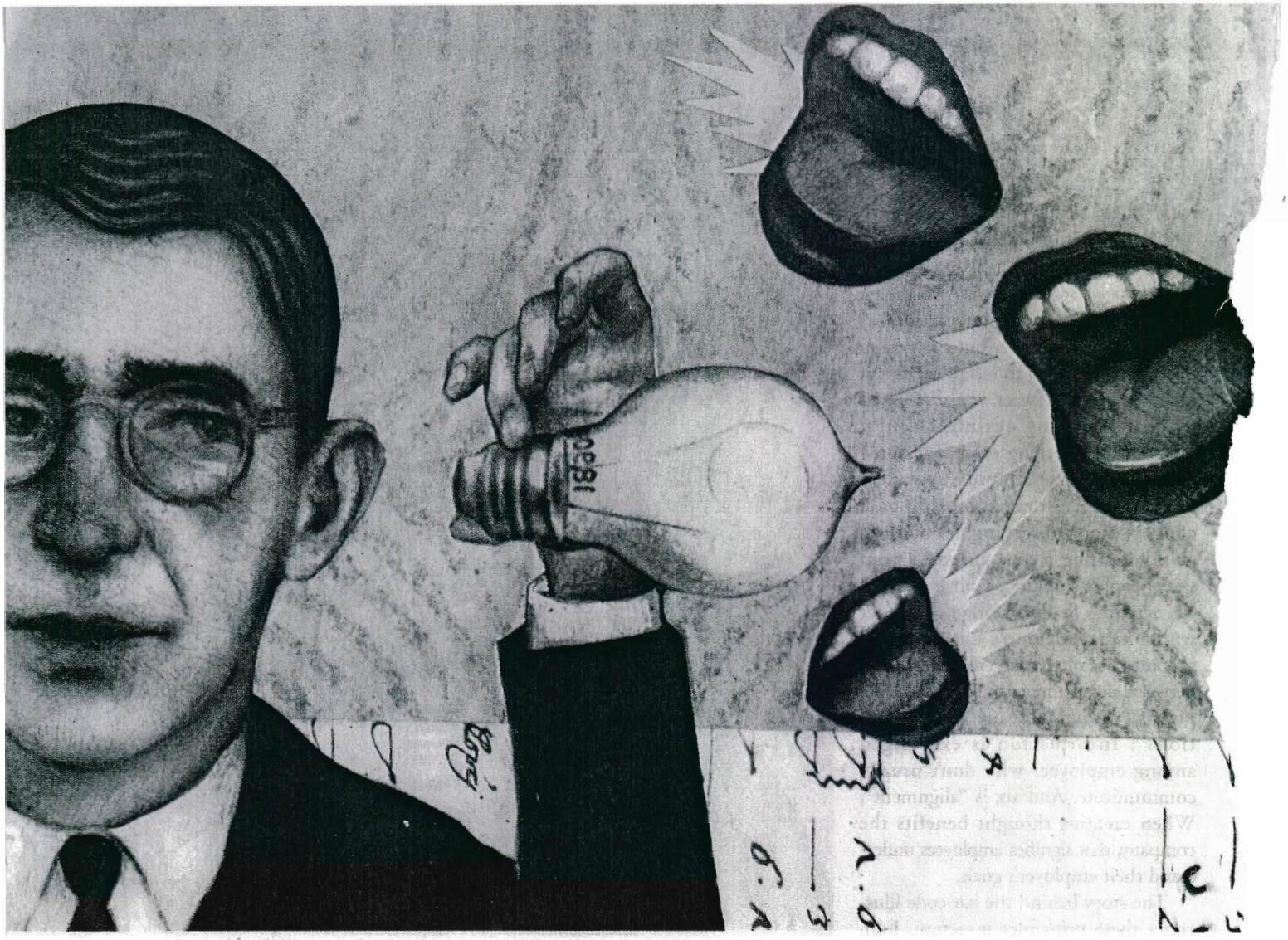
Creative people can also be categorized by the style of their thinking. While studying the creative MO of great scientists, inventors, and artists, Annette Moser-Wellman found five distinct styles and dubbed them the Observer, Alchemist, Sage, Fool, and Seer in *Five Faces of Genius: Creative Thinking Styles to Succeed at Work.* Observers notice details, and are relentlessly curious about the whys and wherefores. Howard Schultz was a housewares salesman who wondered why a small Seattle coffee retailer sold so many different coffee filters. He later bought the firm, and — impressed by how popular espresso bars were in Milan — switched the business line to high-quality coffee bars, and called them Starbucks.

Alchemists make connections between things that seem unconnected. One day, track coach Bill Bowerman saw a waffle iron in his kitchen — and his "Eureka!" moment gave birth to the first wavy-soled Nike athletic shoe.

Sages simplify a problem, like Michael Dell, who thought customers should buy computers directly from the manufacturer.

Fools make decisions that seem to be absurd, but turn out to be nobody's fool. In 1994, Jeff Bezos seemed crazy to abandon a high-paying Wall Street job to start an online bookstore.

Seers see images in their minds and can picture unmet needs. When 3Com launched the Palm V, it sensed cool-seekers would want a sexy PDA.



coddling creativity

A track coach inventing a shoe, a housewares salesman spreading coffee culture — who would've thunk it? Which is exactly the point. Companies can never predict the who, what, when, or how about a creative act. So efforts to nurture creativity should include *all* employees, not just a chosen few. "A company's creativity is limited to the same extent that it acts on preconceptions about who will be creative, what they will do, and when and how they will do it," Robinson points out.

A good system for collecting employee suggestions should be easy to use, should respond swiftly to ideas from employees, should reach everyone in the company, and, ideally, allow ideas to be considered by the group where they originated. "In the world's best companies, 90 percent of ideas are evaluated and implemented by the people who thought of them."

Milliken & Company, a manufacturer of textile and chemical products, sets a goal of 115 ideas per employee per year, on average. Every idea is acknowledged within 24 hours and answered in 72 hours. A winner of the Malcolm Baldrige National Quality Award, Milliken has 14,000 employees and holds more than 1,800 patents.

Formally blessing self-initiated and unofficial activity is another way companies can encourage staffers to experiment. For years, 3M — where Post-it notes and Scotchgard were invented — has allowed certain employees to spend 15 percent of their time pursuing their own ideas. Other companies have discovered the value of making opportunities for employees who normally don't meet to get together and exchange information.

Another way to stimulate employees is to expose them to new ideas in lots of ways — rotating employees through every job they are capable of, offering paid sabbaticals, sponsoring workshops to teach new skills, hosting visiting speakers, even encouraging education outside of work (through tuition reimbursement, for example). Hallmark Cards has rotated jobs among its writers, artists, and designers in different divisions since the 1970s. Periodically, some are assigned to explore a trend or theme for four to six months at Hallmark's Innovation Center, with the goal of developing new products and technologies. Hallmark also offers workshops where a creative worker can learn a new skill — pottery-making for writers, for example.

Teamwork is a popular way of generating ideas, but teams

can run aground if everyone approaches the problem the same way. Moser-Wellman recommends that teams include employees with different thinking styles. Team meetings, however, should never replace solitary creative work. "Companies rely too heavily on teams for innovation," warns Moser-Wellman, who's president of FireMark Inc., a creativity consulting firm with clients such as Starbucks and Kraft Foods. "Teams may facilitate, blend, and implement ideas, but the spark of ingenuity strikes in units of one."

one creative mind

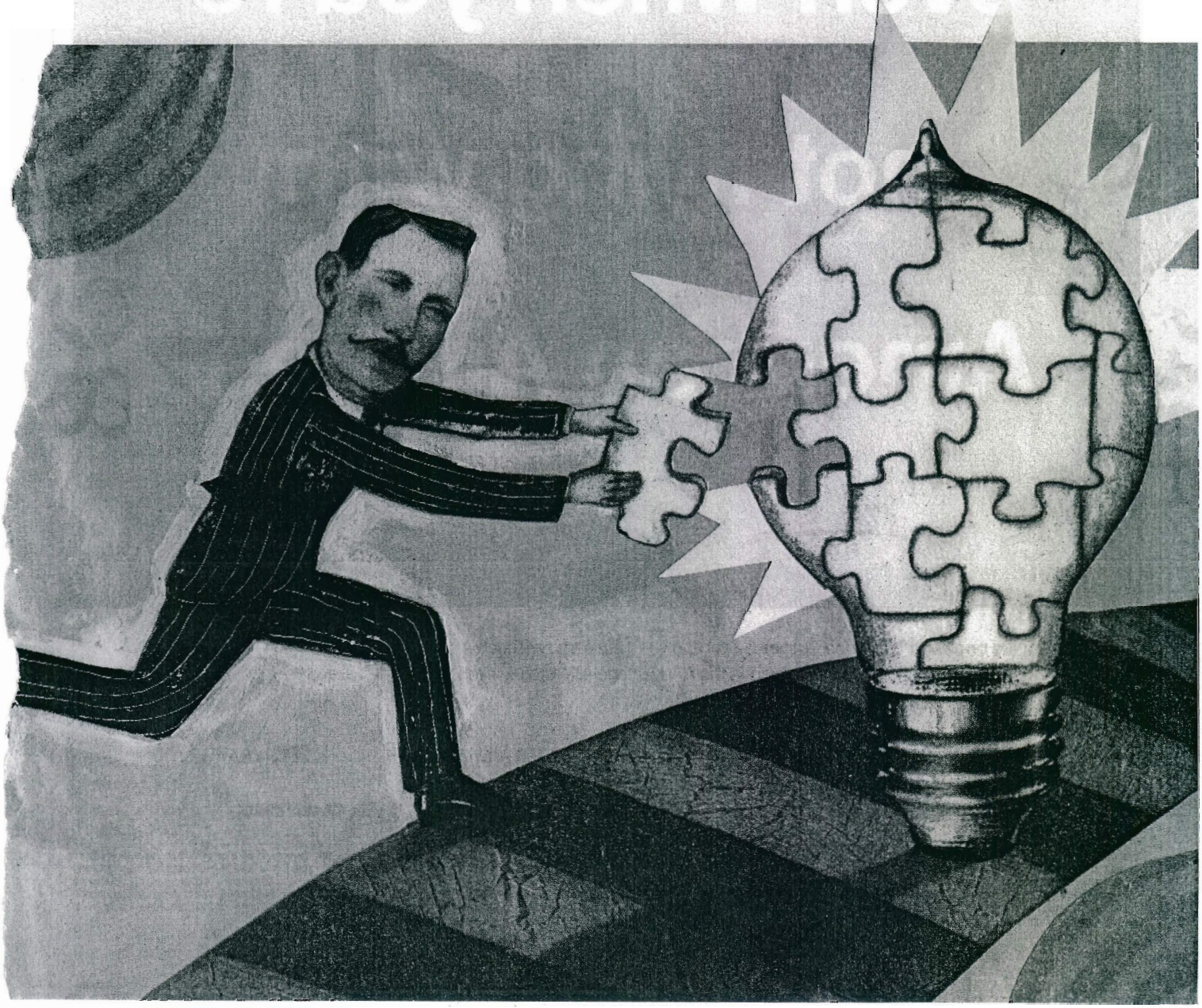
Individuals can develop their own "units of one" in a variety of ways. The brain is like a muscle — the more you exercise it, the stronger it becomes. Learning something new not only helps the brain, but offers opportunities to cross-pollinate information and spot connections from one field to another.

Another way of goosing the brain is traveling, particularly internationally. It helps shake up perspective and offers new experiences. Interviews with 40 MacArthur "genius" award winners found 10 lived overseas permanently or temporarily, three traveled at least a few months each year, and at least two have a "horror of home."

But all the stimulus in the world won't work without time for it to percolate. It sounds like heresy, but to nurture innovation, would-be thinkers need to wean themselves from e-mail and voice mail. Time alone — such as during a long commute — should be reserved for thinking and daydreaming. Constant connectivity is "administrative opium," Moser-Wellman says, and it destroys concentration.

Once the ideas start to flow, write them down, no matter how strange or useless they may seem. The simple act of writing focuses attention and nudges the memory. And it's a proven technique. Thomas Edison filled 3,500 notebooks with his own and other people's ideas, and he referred to them often to see if he could apply a new insight to a failed idea.

Between all this individual noodling and company nur-



turing, creativity can blossom. It just takes time — and the smarts to recognize a bar-code-caliber idea when it comes along. **AW**

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breaking the block

Hard on the heels of an idea, but can't quite grasp it? Try these techniques.

USE YOUR IMAGINATION. Try envisioning yourself in another location or historical era (a technique suggested by Michael Michalko's *Cracking Creativity: The Secrets of Creative Genius*). A Department of Defense team hit upon the idea for the Sidewinder missile by imagining themselves in a desert, where a sidewinder rattlesnake appeared. The snake locates prey by sensing body heat; the missile finds planes by sensing their heat emissions.

LEAVE YOUR DESK. Take a brisk walk, visit a coffee shop or library to think or read, or take a shower. Changing your environment means changing your mindset. Often, the best ideas come when you are not at work.

SWITCH FOCUS. A solution can surprise you when you're doing something totally different. Using a different sense can also help — if you're struggling with writing, listen to music or draw, for example.

MAKE NOVEL COMBINATIONS. A favorite technique of Leonardo da Vinci, painter/inventor/architect and one of the most creative men ever, was to break a concept into its major traits or factors, list many variations for each, and then mix and match at random. For example, a food company seeking new product ideas and markets for tuna listed "uses," "container," and "products used with." Items under each heading were mixed and matched at will. The result? Single-serving cans of tuna packaged with a spoon, mayo, and crackers.