

The Mindfulness Chronicles

On “the psychology of possibility”

by CARA FEINBERG

IN 1981, EARLY IN HER CAREER at Harvard, Ellen Langer and her colleagues piled two groups of men in their seventies and eighties into vans, drove them two hours north to a sprawling old monastery in New Hampshire, and dropped them off 22 years earlier, in 1959. The group who went first stayed for one week and were asked to pretend they were young men, once again living in the 1950s. The second group, who arrived the week afterward, were told to stay in the present and simply reminisce about that era. Both groups were surrounded by mid-century mementos—1950s issues of *Life* magazine and the *Saturday Evening Post*, a black-and-white television, a vintage radio—and they discussed the events of the time: the launch of the first U.S. satellite, Castro’s victory ride into Havana, Nikita Khrushchev and the need for bomb shelters. There was entertainment (a screening of the 1959 film *Anatomy of a Murder* with Jimmy Stewart) and spirited discussions of such 1950s sports greats as Mickey Mantle and Floyd Patterson. One night, the men sat glued to the radio, listening as Royal Orbit won the 1959 Preakness. For the second group it brought back a flood of memories; for the other group, it was a race being run for the first time.

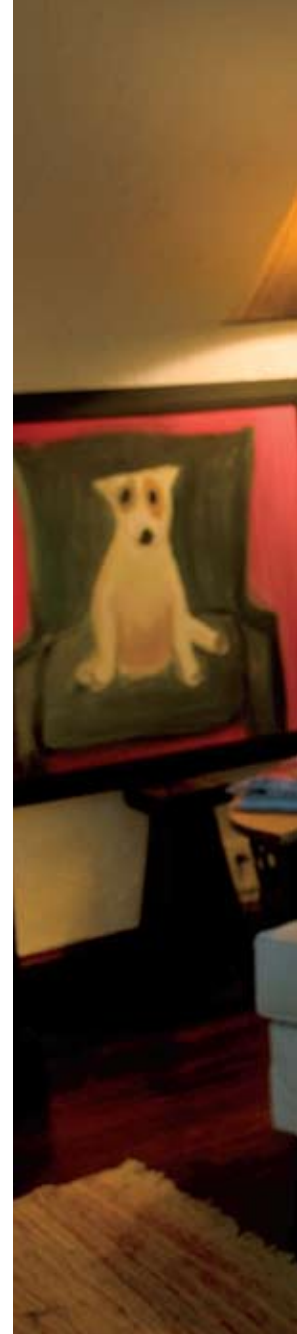
As a young professor of psychology, Langer hoped to document through these men what she had long suspected: that our fixed ideas, internalized in childhood, can affect the way we age. In studies she had conducted with colleagues at Yale, Langer had already shown that memory loss—a problem often blamed on aging—could be reversed by giving elderly people more reasons to remember facts; when success was rewarded with small gifts, or when researchers made efforts to create personal relationships with their subjects, elderly memory performance improved. In another study (now taught in nearly every introductory psychology course in the country), she and Yale colleague Judith Rodin found that simply giving nursing-home residents plants to take care of, as well as control over certain decisions—where they would meet guests, what activities to do—not only improved their subjects’ psychological and physical health, but also their longevity: a year and a half later, fewer of those residents had died.

As Langer points out in one of her published accounts of the monastery study, because an experiment like this had never

been run before, “any positive results would be meaningful...old age is taken to be a one-way street to incapacitation.” What she found, however, surprised even her own team of researchers. Before and after the experiment, both groups of men took a battery of cognitive and physical tests, and after just one week, there were dramatic positive changes across the board. Both groups were stronger and more flexible. Height, weight, gait, posture, hearing, vision—even their performance on intelligence tests had improved. Their joints were more flexible, their shoulders wider, their fingers not only more agile, but longer and less gnarled by arthritis. But the men who had acted as if they were actually back in 1959 showed significantly more improvement. Those who had impersonated younger men seemed to have bodies that actually were younger.

The physiological results provided evidence for a simple but invaluable fact: the aging process is indeed less fixed than most people think. But the study also helped launch Langer’s next 30 years of research and a slew of seemingly simple concepts that have changed the field of social psychology and made their way into the realms of medicine, education, business, law, and the arts. “Wherever you put the mind, the body will follow,” she told an audience of nearly 400 at a recent lecture. Her results, she knows, can push the limits of credibility, but she revels in that space: “At the end of the [monastery] study, I was playing football—touch, but still football—with these men, some of whom gave up their canes,” she tells the audience. “It is not our physical state that limits us,” she explains—it is our mindset about our own limits, our perceptions, that draws the lines in the sand.

IF THIS STUDY sounds like the stuff of Hollywood, it now officially is. In a culture obsessed with youth, word of Langer’s work made it to Los Angeles, and a few years ago, movie producers bought the rights to her life story. They’ve proposed a film about





Ellen Langer at home, with her dogs and her own painting of a dog.

the study at the monastery, and Jennifer Aniston has agreed to co-produce the movie and play the 34-year-old Langer. Now in development, the film has been picked up by DreamWorks Studios, screenwriter Paul Bernbaum (*Hollywoodland*, 2006) has written a script, and the producers are looking for a director.

These are facts that Langer loves to announce. “Didn’t anyone tell you there’ll be a movie where Jennifer Aniston will be playing me?” she asked a hotel ballroom packed with psychologists and physicians at a recent Harvard Medical School conference. A full professor of psychology since 1981 (Harvard’s first tenured woman in that department), she is a natural on stage, with a ham comic’s timing. “Why am I telling you about the movie? Because I’m telling everybody.”

At five foot three, with a deep, gravelly voice and the frenetic energy of her native New York City, Langer can commandeer a room. Her lectures have drawn audiences ranging from government officials in Malaysia to vacationers at leadership guru Tony Robbins’s resort in Fiji. She has written 11 books, five targeted to a general

audience; *Mindfulness* (1989) was an international bestseller.

Most often, she’s asked to lecture on that eponymous subject, an idea she has been refining since the late 1970s. “Mindfulness” might evoke the teachings of Buddhism, or meditative states, and indeed, the name and some of these concepts do overlap. But Langer’s version is strictly nonmeditative (“The people I know won’t sit still for five minutes, let alone 40,” she quips). Hers is a simple prescription to keep your mind open to possibility.

Mindfulness, she tells the medical school audience, is the process of actively noticing new things, relinquishing preconceived mindsets, and then acting on the new observations. Much of the time, she says, our behavior is mindless. She recounts one of her favorite anecdotes: “I once went to make a purchase and I gave [the cashier] my credit card and she saw it wasn’t signed.” The cashier asked Langer to sign it, which she did, and the cashier then ran it through the machine. When the receipt was generated, she asked Langer to sign that as well. With the newly signed card in one hand, and the receipt in the other, “[the cashier] then com-

pared the two signatures,” Langer says, with deadpan delivery. She nods, as if counting beats, waiting for the audience to catch up. A moment later, the room rumbles with laughter. Mindlessness blinds us to new possibilities, says Langer, and that is what drove her to study its flip side. Often, researchers in psychology describe what is, she explains. “But knowing what is and what *can* be are not the same things.”

This is what she calls “the psychology of possibility,” and Langer practiced it long before the positive psychology movement—the study of happiness and the best of human nature—came into vogue in the late 1990s (see “The Science of Happiness,” January-February 2007, page 26). Her research, she explains, is designed to break down the well-worn ruts of our thinking. “If I can make one dog yodel, then we can say that yodeling is possible in dogs,” she is fond of saying, and she applies that reasoning to what she now calls her “counterclockwise” study. “[The

lasted (“I practiced Jewish chemistry—a little is good, more is better,” she says of her technique). An introductory psychology course with Philip Zimbardo (now a professor emeritus at Stanford) led her to change her major. Famous for his controversial 1970s experiment that asked students to play prison guards and prisoners (Zimbardo’s scheduled two-week-long experiment had to be stopped after six days when it proved frighteningly effective), he and Langer have remained friends.

“Ellen is a special one-of-a-kind person/character/scientist/artist/rabblouser/mensch,” he wrote in an e-mail, eager both to extol her work and recount stories from when “she was a smart-ass kid” in his NYU class. The praise came first: “Her extensive innovative research and compelling writing took mindfulness out of Zen meditation caves and into the bright light of everyday functioning.” In the 1960s and ’70s, the mind-body connection, on the whole, was (and to some, still is) the province of gurus and spiritualists, Zimbardo explained; science meant mechanical explanation, and human behavior was seen as the product of thought.

Langer, he says, has always been a firebrand. As an undergraduate in his class, she missed a final-exam question asking which surrogate “mothers” abandoned infant monkeys preferred—wire dolls bearing food, or dolls covered in soft cloth bearing nothing. The correct answer on Zimbardo’s exam: “monkeys wearing *schmattas*,” the Yiddish word for rags or dowdy old dresses—a word Langer didn’t recognize. She argued her case and lost (“I told her I’d take even more points off for not honoring her heritage...everyone of Jewish faith must know what a *schmatta* is or be suspect of harboring Protestant genes,” Zimbardo says). In a class of 250 students (most of whom were Jewish), she earned a 98 out of 100; no one else came close to a 90. (For the record, Langer offered her own rebuttal these 40-odd years later: “When I said

it in my head, it sounded like “schemata,” not *schmatta*...you don’t expect Yiddish from an Italian.”)

“Honestly, we don’t have to fictionalize much—about the research, or her character,” says Grant Scharbo of Little Engine Productions, the company developing the *Counterclockwise* movie with Aniston’s production company, Echo Films. “Ellen is a whirlwind whose mind goes a mile a minute.” As a character, he says, she is a screenwriter’s gold mine. But long before he’d met her, he says, “it was her research that drew me in.” Now, he is gambling that it will also draw in audiences. The movie, he explains, will focus on the counterclockwise study with the old men at the monastery and show some of her prior work that gave rise to the counterclockwise idea.

LANGER’S EARLIEST RESEARCH was on the illusion of control; while she was a graduate student at Yale, a poker game with colleagues led her toward the idea for her doctoral thesis. As dealer, she skipped one player and accidentally gave his card to the next



Surrounded by her own works, Langer wields a brush in her home studio. A self-taught painter who took up the avocation in midlife, she describes her autodidactic approach to art in *On Becoming an Artist: Reinventing Yourself Through Mindful Creativity* (2005).

results at the monastery] do not show us that everyone who talks about the past will show the same results,” she writes in her latest book, *Counterclockwise: Mindful Health and the Power of Possibility* (2009). “[They do] tell us, however, that it is *possible* to achieve these kinds of improvements, but only if we try.”

Langer’s spirit suggests her upbringing. Born in the Bronx, she grew up in a two-bedroom Yonkers apartment she shared with her parents and older sister, and has never lost what she calls her “pushy New Yorker” attitude. She calls herself an “anticrastinator”—“Why get things done later when they can be done now?”—and as colleagues and students in her lab well know, she expects the same of others.

Married young, she began her college career at New York University as a chemist, but neither the marriage nor the chemistry

person. “It drove everyone crazy,” says Langer, but weeks later, it drove her to the lab. Her dissertation on perceived control examined the factors that make people believe they will succeed in games of chance. She set up a lottery and found that people who chose their own numbers considered them more valuable (in one measure, she says, if someone else took “their” numbers, people tried to buy them back).

Today, scholars in several fields—in particular, behavioral economics—still cite that research (see “The Marketplace of Perceptions,” March–April 2006, page 50). “People don’t always realize her influence, but her lottery-ticket study made its way into thinking on many important economic concepts,” says Dan Ariely, a professor of behavioral economics at Duke. For example, it influenced the “endowment effect,” an economic theory developed in the late 1980s that showed that ownership of stocks or property leads people to inflate the value of those assets. Ariely describes one of his current studies, in which people told they were wearing Armani sunglasses reported they could see better through them than through identical generic brands.

When Langer began her career, “very few social psychologists were thinking about the role of unconscious processing of information anymore,” says Yale provost and Argyris professor of psychology Peter Salovey. Most of the reigning theories held that human behavior was the product of rational, calculated thought, and attribution theory—the idea that people acted rationally on the basis of their beliefs—was the dominant psychological dogma. “People in the field were concerned with the different ways people think,” says Langer, “and I questioned whether, and on which occasions, we might not be thinking at all.” Langer’s dissertation and her subsequent work, says Salovey, turned that concept on its head: instead of cognition *determining* behavior, Langer showed that thinking—and sometimes the absence of it—often *emerges from* behavior.

In a study Langer conducted in the late 1970s with Ben Zion Chanowitz and Arthur Blank of the Graduate Center, City University of New York, the researchers approached people using copying machines and asked if they could cut in line. The reasons given, if any, ranged from the sensible to the senseless: for instance, “May I use the Xerox machine because I’m in a rush?” versus “May I use the Xerox machine because I want to make copies?” They found that subjects overall were more amenable when given a reason, but were equally compliant whether the reason was real or ridiculous. Their behavior, she showed, was *mindless*: people responded more to the familiar framework of a request than to the content of the actual question. (But there were limits to this phenomenon, Langer says: “...because an elephant is after me” didn’t cut it.)

Langer and her colleagues were not the only scientists exploring these areas at the time. Among others, Herbert Benson, Mind/Body Medical Institute associate professor of medicine and founding president (now emeritus) of the institute, had published research a few years earlier showing that meditation could affect brainwaves and reduce heart rate. Social psychologist Robert Zajonc’s “mere exposure effect” showed that even brief encounters outside our awareness could influence our preference for objects and people; for example, people who were shown a

series of random shapes that flashed by so quickly it was nearly impossible to discern repetitions, nevertheless later reported preferences for the shapes they had been exposed to most often. Beginning in the 1970s, University of Massachusetts professor of medicine (now emeritus) Jon Kabat-Zinn, the founding director of its Stress Reduction Clinic and the Center for Mindfulness in Medicine, Health Care and Society, began to demonstrate various clinical applications in Western medicine for Buddhist philosophy and meditation.

But the field of social psychology generally views Langer as a pioneer who helped usher in a new paradigm. “[Langer] pointed out that social inference is not always a conscious and deliberate act; rather it is often the province of mindless automata,” professor of psychology Daniel Gilbert wrote in the 1989 anthology *Unintended Thought*. “This clarion call was widely appreciated, and if Langer did not quite set the stage for a psychology of unconscious social inference, she at least rented the theatre.”

LANGER’S WORK HAS ALSO EARNED its share of skeptics. Though many of her empirical studies have been published in the field’s leading journals, in her books and lectures she often describes studies that are in progress, or have not been peer reviewed.

The counterclockwise study is a case in point; the results have been described in several of her books, but have never appeared in a professional journal. “Many of these changes might take place if elderly men were simply taken on a vacation,” she wrote in *Mind-*

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fulness, and at the time of the study, Langer and her colleagues were not able to bring other “vacationing” comparison groups to the monastery. “We cannot be sure just to what to attribute these changes,” she wrote.

Today, she attributes the results to mindfulness, and the “why” she says, is not the central question. “What matters here is what actually happened,” she explains. “Men who changed their perspective changed their bodies.” Context, she says, is everything.

Langer has demonstrated this idea time and again in several other studies—many of which *are* peer reviewed. In an experiment she conducted with fellow researchers, Langer hypothesized that people asked to role-play air force pilots would ultimately improve their own vision. (To enter military flight school, candidates must have at least 20/70 vision—20/20 when corrected—a fact aspiring pilots would know.) Nineteen Air Force ROTC cadets from MIT, many of whom hoped to become pilots, were selected as subjects for the experiment, given baseline visual acuity tests, and then split randomly into two groups. One group stepped into a flight simulator and, with an instructor’s help, began their maiden voyage. The other group also climbed into the pilot’s seat, but they were told the simulation module was broken. Both groups were then asked to read letters on the sides of airplanes they saw through the cockpit window—letters lifted right from the eye chart they’d read earlier. The group flying planes as fighter pilots improved their vision by 40 percent—a statisti- (please turn to page 71)

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cally significant result. The comparison group showed no change at all.

More recently, in an experiment with her student Alia Crum '05, now a doctoral candidate at Yale, Langer extended these ideas to health in general. "We took a group of 84 hotel workers"—people who "mindlessly" claimed they never exercised, but spent their days on their feet cleaning rooms and pushing carts—"and told half of them that their work *was* exercise... just like being in a gym," Langer explains. One month later, the experimental group showed statistically significant changes—those room attendants had lost an average of two pounds each, lowered their blood pressure by 10 points, and reduced their waist-to-hip ratios; none reported any change in eating habits or working hours.

"Now contrast the way we talk about cancer to the language we use to describe a cold," says Langer. "We think of each cold as a new one—we're not 'in remission.'"

Many reported having done *less* exercise than usual. In the control group, however, there were no significant changes. "That group," Langer says, smiling, "actually *gained* body fat."

This is an instance of the well-documented placebo effect, Langer explains at the medical school conference, only in her version, there's no sugar pill. She has spent the bulk of her career trying to "make this process more direct," she says—to achieve the effect *without* the pills. "It's not the placebos at work here": it's the mindset we adopt when we take them.

Context matters, she explains ("I can see a candy bar from a great distance when I'm hungry," she tells the audience); in another experiment, she showed that merely inverting an eye chart so that the large "E" is on the bottom can make people read letters they couldn't see before. "Because it gets progressively smaller," she says, "the [standard] eye chart itself tells you, 'Soon, you're not going to be able to see.'"

Such findings have very real ramifications for many fields, but none more important than health and medicine. This is the topic of *Counterclockwise*, in which she argues that our mindless decisions—our deference to doctors' opinions, our willing-

ness to accept diagnoses, even the way we talk about our illnesses—can have drastic effects on our physical well-being. In a study currently submitted for publication, Langer, Shelley Carson (an associate of the department of psychology), and Aline Flodr '07 asked breast-cancer survivors whether they considered themselves in remission or cured. The "cured" group reported better general health, more energy, less pain, and less depression. The research was correlational: its findings suggest a relationship between variables, but cannot prove causation. But as Langer and her colleagues write, "[T]he extremely significant results of this study warrant further research and a possible rethinking of how to instruct breast cancer survivors to envision their relationship with the illness."

"Now contrast [the way we talk about cancer] to the language we use to describe a cold," says Langer, embarking on one of

her more controversial claims. "We think of each cold as a new one—we're not 'in remission.' Why is a cancer-free survivor 'in remission,' but someone who's never had it deemed 'healthy?'" (Few, if any, have challenged this claim in writing—Langer has not yet published the "cured versus remission" study—but cancer cells, unlike a cold virus, can and sometimes do remain undetected in the body after symptoms have disappeared.)

Langer believes that the more we adhere to labels and categories, the less open we are to possibility. "What if we called alcoholism an allergy instead of a disease?" she asks in *Counterclockwise*. "How many people trying and failing to have a baby are labeled 'infertile?' ... Why exercise and take medication if one is likely to die soon anyway?"

"In medicine, we pretend that human biological responses are predictable, but they're not," says Deepak Chopra, M.D., who credits Langer with a profound influence on his thinking as a young doctor, and later as an author and lecturer on spirituality and mind-body medicine (see "The Chopra Prescriptions," September-October 1989, page 22). "As doctors, we are trained and conditioned to look at the

human body as a frozen anatomical sculpture," he adds, "but you can have two patients with similar problems and medical histories whose outcomes will be totally different, depending on their own social variables and thinking."

This, too, is Langer's point, which she hopes both physicians and patients will heed. Doctors don't know when a patient will die, they know only what studies of other people have told them statistically. A "terminal" diagnosis, she says, may be a self-fulfilling prophecy. No records tell how often doctors' prognoses are wrong.

Although all her lectures differ somewhat, Langer often includes a PowerPoint slide with a quotation from Arthur Schopenhauer: "All research passes through three phases. First, it is ridiculed. Second, it is violently opposed. Third, it is accepted as self-evident."

Langer sees her work as largely still in stage two, but unquestionably headed toward stage three. "This theory [of mindfulness], it's so simple," she told the medical-school audience. "A third of people with virtually all disorders self-heal using placebos," she said. But it's not the placebo that affects recovery: "You're making yourself better."

This simplicity may be the key to her wide appeal. Her research describes practical problems and provides practical solutions that can be applied without changing a thing. "You don't have to meditate or go on a retreat," she explains. "You don't have to *do* anything." As a result, readers have flocked to her psychology books, and lectures fill to capacity. Now, with a film in the works, her audience is poised to expand exponentially—and Ellen Langer can't wait.

"Virtually all the world's ills boil down to mindlessness," she says. If you can understand someone else's perspective, then there's no reason to be angry at them, envy them, steal from them. Mindfulness, she believes, is a tool for the masses that can prop open our minds. "It's not something you have to strain to do, it's like those optical illusion brain teasers," she says. "Once you've seen there is another perspective, you can never *not* see that there's another point of view." ▽

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