

CREATIVITY, THE MYSTERIOUS MUSE



CREATIVITY IS THE X FACTOR.

How do we come up with new ideas? How do we develop or present something in new and beautiful ways so that it touches heart and mind, perhaps changing people in important ways? How can we keep from being stuck in a rut?

Not just authors and artists, but business leaders, cooks, sales people, parents, church leaders, computer geeks, athletes, and many others want to know the same thing. If we want to do something fresh, if we want to stand out, if we want to get ahead in a crowded field, creativity is the magic juice we want to drink. But where can we find it?

Some people seem to have an overabundance of creativity. Comedians who spontaneously crack one impromptu joke after another to the delight of their audiences. Chefs who spin out amazing new dishes every week to the delight of their customers.

Over two hundred years ago Mozart had such an overflow of inspiration he could “waste” it. He once wrote a divertimento for two horns and string quartet, calling it “Some Musical Fun” though we know it better by the name “A Musical Joke.” The composition intentionally includes an abundance of “wrong” notes before it completely collapses in disarray at the end. Mozart was likely poking a little fun at the inept musicians he often had to endure who played his works.

Yet the composition contains themes that any composer of the day might have died for. Mozart, however, apparently had enough excess creativity that he could throw these away in a bit of satire.

With such geniuses around, should those of us without superpowers launch ourselves into the Slough of Despond? Can there be any hope for us? Seemingly, you either have the gift of creativity or you don’t.

I disagree. While some people appear to be superabundantly creative, plenty of imagination remains for the rest of us if we are willing to work at it. In fact, we can use several nonmagical strategies to increase our originality. And yes, I offer some

here. But first, what makes something creative? Let me try to take a bit of the mystery out of the magic.

COMBINE TWO THINGS NOT USUALLY CONNECTED

Way back in the twentieth century, two researchers wanted to find a means to measure creativity in people. So Sarnoff and Martha Mednick developed the unfortunately named RAT test (Remote Associates Test).¹

The test consisted of giving subjects thirty sets of three words. In forty minutes the respondents were to come up with the one word that linked each set. So, for example, they might be given the words *cottage*, *Swiss*, and *cake*. The word linking all three, and the correct answer, was *cheese*.

Most helpfully the Mednicks defined the creativity they were trying to measure in this way: “the forming of associative elements into new combinations which either meet specified requirements or are in some way useful. The more mutually remote the elements of the new combination, the more creative the process or solution.”²

Essentially, creativity isn’t concocting something entirely unprecedented. Rather it is bringing together two things that have been around for a while but previously hadn’t been combined. Innovation almost always involves building on the past.

Clarence Birdseye went to Labrador in the early 1900s where he was taught how to ice fish by the Inuit. He noticed that at -40°C the fish they caught froze very quickly and tasted very fresh when cooked later. Birdseye was a naturalist. But fast freezing was the innovation that revolutionized the food industry and launched him into an entirely different career. He inaugurated a whole new sector of commerce based on combining two preexisting elements—food and freezing temperatures.

Then there was the Oxford philologist who invented a language. How did he do that? By combining several preexisting elements—his knowledge of languages and their histories, his Catholicism, his love of nature and suspicions of the industrial world, and his interest in Norse mythology—to create not just Elvish but what we know as Middle Earth. This didn’t come to J. R. R. Tolkien instantly. He worked on it for decades, and only part of the outcome was *The Lord of the Rings*.

Here’s another example to chew on. In 1928 Harry Burnett (H.B.) Reese started combining chocolate and peanut butter. Today it sells more than any other candy in the United States.

Or for book lovers, consider the printing press. Five hundred years ago Gutenberg created the printing press when he made a delightful combination of books and a wine press. Many people still think that’s a good combo.³

When *Wired* magazine is trying to spot future trends (that is, creative ideas or products that will be important in the next few years), they do exactly what the Mednicks did

fifty years before. They look for people who combine things in new ways. *Wired* calls them cross-pollinators.⁴ The novel intersection of two disciplines, two enterprises, two hobbies has been the source of new sciences, new marketing methods, new music.

When the mathematician John von Neumann applied mathematics to human strategy, he created game theory—and when he crossed physics and engineering, he helped hatch both the Manhattan Project and computer science. His contemporary Buckminster Fuller drew freely from engineering, economics, and biology to tackle problems in transportation, architecture, and urban design.⁵

Such thinking about creativity is not new. In fact, the idea is hidden away in the Latin word *cogito*, translated “I think.” Its literal meaning is a combination (appropriately) of *con* (with) and *agito* (to drive or put in motion). So even the ancients thought of thinking as driving or putting two things in motion together.

In just a moment I will look at practical, straightforward strategies we can use to increase the chances for coming up with new combinations, but first let me mention one other way of thinking about creativity.

While convergent thinking seeks to identify what unifies a set of different objects or ideas, divergent thinking goes the opposite direction. In this form of creativity, instead of starting with a diverse group, we start with a single entity but then try to go in as many directions as possible.

For example, to test one’s ability to think divergently, start with a common object, like a piece of paper, and see how many uses for it you can come up with in sixty seconds. My list looked like this:

1. Write a letter.
2. Make a paper airplane.
3. Use as a bookmark.
4. Pick your teeth.
5. Cut a cake.
6. Make confetti.
7. Make a funnel.
8. Make a party hat.
9. Make a snowflake.
10. Put a footprint or fingerprint on it.

What both convergent and divergent thinking have in common is the potential for making unusual combinations. Bringing two (or more) things together that aren’t usually joined. That is the essence of creativity.

INCREASING YOUR RANGE

We come then to practical ways to train our creativity. To begin, if we are not catching any fish, maybe we need to restock the lake. That is, if new ideas seem to be hard to come by, maybe we need to replenish our minds. How? Learn more and experience more.

With a fuller life and mind, we have more options for things to connect in fresh and innovative ways. Some people might call it trivia, but I like to think of it as enriching life experiences. To start, we can get out of our routines.

We all have our favorite activities. They may be sports or cooking or reading or auto repair or crafts of some sort. Because we enjoy them, we do them over and over again. But if our goal is to become creative, we need to branch out.

That may not sound like much fun. If I really enjoy softball, learning to crochet may not seem all that exciting. Therefore, I suggest we begin by branching out into another sport—say karate—instead of something entirely different like painting. Likewise, if I enjoy cooking Italian food, I could learn about Japanese cuisine.

What about for writers? If I write mostly romance novels, I might start reading true crime books or narrative history. Maybe I blog about parenting and families. Then reading classic literature like *Pride and Prejudice* or *Oliver Twist* or *Anna Karenina* could be fruitful. If I mostly read writers of one gender, I can read the other. If authors of one ethnicity are what I turn to most regularly, I will try some different ones. If I only read living authors, I read those of the past (or vice versa).

We can keep expanding our reading horizons into other unexplored fields like psychology, economics, science fiction, young adult fiction, memoir, or business books. While economics may seem like an arcane academic subject, I can still find books for a general audience that are quite stimulating, like *Freakonomics*, *Fast-Food Nation*, or *The World Is Flat*. I try a variety of genres, and when I find a different one I like, I read more in that area.

Of all people, writers need to be lifelong learners with a curiosity about everything and anything. Who thought immunology could be interesting, but *The Immortal Life of Henrietta Lacks* is fascinating! Psychology may seem like a snoozer, but read Oliver Sacks's *The Man Who Mistook His Wife for a Hat*, and the world will seem wilder and more multifaceted than you ever thought possible.

Besides learning more in a wider variety of areas, we can up our creative game by expanding the range of our experiences. Don't go on vacation to the beach every year, try the mountains. Don't just watch musicals on TV, go to the theater and see a live production. And you won't have to sell your second car for tickets to a show at your community theater.

Maybe I have never volunteered at a food pantry or tutored at a nearby high school.

Never been outside the country? Travel can be a terrific eye-opening experience, especially if we can get away from the top tourist sights and see how ordinary people work and live.

All these opportunities to learn and experience new things increase our treasure house of memories, knowledge, emotions, and abilities. The more we have in our bank, the more we can draw from, the more we have to combine and recombine in potentially new ways. In short, the more potential we have to be creative.

A LITTLE HELP FROM MY FRIENDS

Another key source of ideas is other people. Creativity need not be a solo. It can be done in chorus.

When my wife and I were working on our Bible study guide *Grandparenting*, we deliberately asked grandparents we knew what they thought we should include. What were the most important things other grandparents should know? What are the problems and difficulties that arise? How do they interact with their grandchildren? Their answers were a great resource for us that had a major impact on what we wrote.

Brainstorming with others helps us get out of our ruts. Get a group of people together, tell them everyone's contribution is welcome, that no idea is too crazy, and that in the initial phase no evaluation (positive or negative) is permitted. Write down every idea, preferably on a board where everyone can see.

When new ideas start coming more slowly, begin evaluating. Give everyone a chance to pick a couple ideas from the total list that they think have potential, and mark those with a star. That way you don't have to take time on the myriad of bad or mundane ideas that emerged. That's pretty much what advertising executive Alex Osborn had in mind when he first suggested brainstorming in the 1940s.

But there can be problems with this approach. Some people don't think well on their feet. They may be intimidated by the group process. Another difficulty is that groups tend to converge, and the range of their ideas can narrow down quickly.⁶

To overcome this, Art Markman says the place to start is by letting people brainstorm on their own first. Then compare lists. Studies show this results in a wider variety of ideas and possibilities.

One way to do this is called the 6-3-5 method. First, get six or so people together. Second, have them each write down three ideas on a piece of paper. Third, have everyone pass their paper to the person next to them, and each person writes down three more ideas. So you end up passing the paper five times until everyone has seen each of the six pieces of paper, which now each have eighteen ideas on them.

After that you can share the ideas together and start talking and evaluating, letting

each person pick one or two they like best. The advantages are that people aren't limited by groupthink and those who are internal processors can participate in way that is more comfortable for them (thinking and writing on your own).

GET SOME EXERCISE

Bobby Fischer was a World Chess Champion in the 1970s who stood out as an eccentric genius in a field full of eccentric geniuses. As portrayed in the movie *Pawn Sacrifice*, he walked out of a chess match complaining about the lighting, ransacked his own hotel rooms looking for bugging devices, thought the Russians were watching him through his TV, and believed the US government was listening to him through (wait for it) his dental fillings. Though his mother was Jewish, he was vocally anti-Semitic, holding to many conspiracy theories about Jews.

He was also an astounding chess innovator in a traditional realm. He learned Russian so he could read the best Russian books and journals about chess. He studied games and strategies of the previous century when others had discarded them as hopelessly antiquated. He devised a new kind of chess clock and a variation to the game called Fischer Random Chess.

His chess play itself was also innovative and risky. He played all out to win when the strategy of many grand masters was to settle for draws. His forceful end-game tactics often won him games that many considered to be inevitable ties.

One reason for this success was due to yet another Fischer innovation. His end games were so effective because he could push forward relentlessly and creatively even at the end of an exhausting four- or five-hour match when his opponent tired and lost concentration. How did he manage this? He played tennis.

During his famous World Chess Championship match with Boris Spassky in 1972, he would play tennis on off days. Throughout his career he would swim, lift weights, or engage in other exercise while his opponents didn't. He knew that to be in shape mentally he had to be in shape physically. To do his best in chess, his whole body had to be fit. Forty years later science has caught up and proven him right.

Not so many years ago, the brightest minds in neuroscience thought that our brains got a set amount of neurons, and that by adulthood, no new neurons would be birthed. But this turned out not to be true. Studies in animal models have shown that new neurons are produced in the brain throughout the lifespan, and, so far, only one activity is known to trigger the birth of those new neurons: vigorous aerobic exercise, said Karen Postal, president of the American Academy of Clinical Neuropsychology. "That's it," she said. "That's the only trigger that we know about."⁷

Writers, editors, programmers, students, and others who sit and use their brains

in concentrated work for four or five hours at a time should take a tip from the grandmaster if they want to stay at the top of their game. For over thirty years I have run regularly, three to five miles several times a week. I am convinced it is something that not only kept me healthy but enhanced my creativity and kept my thinking sharp.

If the first way to enhance your creativity is to fill your mind and life with a wide range of information and experiences, and the second is to bring other people into your process, then the third is to regularly get good exercise. Fischer was an eccentric (okay, paranoid) chess master. But he was also right about tennis.

TAKE A VACATION

Several years ago I enjoyed reading *The Making of the Atomic Bomb* by Richard Rhodes. For my taste it was the perfect combination of science, history, politics, and World War II.

One thing that struck me, however, was how time and again during the late nineteenth and early twentieth centuries brilliant physicists like Niels Bohr would get stuck on a physics problem for months or even years. After working tirelessly they finally took a vacation and—boom (metaphorically)—the solution would come. Even though Rhodes recounted several such episodes, he never pointed out the pattern.

Wired magazine once ran a photo essay that chronicled the genesis of eight innovations. Again, the author of the piece failed to point out that only one (maybe) occurred at work. The idea for television came while plowing a field. Netflix was cooked up at home. Post-it Notes emerged in a church choir loft. The idea for Harry Potter came while J. K. Rowling was stuck on a train.⁸ They could have also mentioned that the idea for bar codes came at the beach.⁹

Away from the pressures of the office, classroom, home, or laboratory, where the left brain (focusing on reason, logic, and problem solving) is working on overdrive, the right brain (where ideas often come from) can't get a word in edgewise. On vacation, on break, in the shower, in a new environment, the right brain has a chance to rise to the surface and contribute. The result can be a beautiful thing.

The point is clear: if you want to solve a stubborn problem or need some new, innovative ideas—leave work, go on a trip, get out of your usual environment.

FOUR STAGES OF CREATIVITY

What I have proposed here about creativity lines up well with the pioneering work of Graham Wallas.* Wallas based his work on the historical experiences of great minds like the German physicist Herman von Helmholtz and the French mathematician Henri Poincaré, who followed much the same pattern as the nuclear physicists mentioned in *The Making of the Atomic Bomb*. Wallas suggested four stages.

Stage 1: Preparation. We investigate a particular problem from “all directions,” involving wide-ranging research, study, and reflection. We talk to, interview and work with others to give us new perspectives and data. We practice quickly coming up with new ideas such as through improv or writing exercises.

Stage 2: Incubation. We step away from the problem, think about other things, do other things. We go on vacation or take a sustained break to allow the background processes of our mind to work on the issue. Regular physical exercise can also stimulate our thinking capacity.

Stage 3: Illumination. Often suddenly, as if out of nowhere but grounded in the first two stages, a solution comes to mind.

Stage 4: Verification. We take the “happy idea” or burst of inspiration and work it out more fully in the laboratory, the office, the home, the classroom, the workshop, or the marketplace.

*See Graham Wallas, “Stages in the Creative Process,” in *The Creative Question*, ed. Albert Rothenberg and Carl. R. Hausman (Durham, NC: Duke University Press, 1976), 69-73. This was excerpted from Graham Wallas, *The Art of Thought* (New York: Harcourt Brace Jovanovich, 1926), 79-83, 85-87, 93-95.

IT TAKES PRACTICE

Learn as much as you can about everything. Brainstorm with others. Get some exercise. Take a vacation. Here’s another very down-to-earth, very unmagical way to become more creative—practice.

A friend at work once offered improv training at lunch break for anyone who was interested. Improv (short for improvisational theater) has become a popular form of comedy in which most of what is performed is unscripted, unplanned, and unrehearsed. Audience members are often invited to shout out, for example, a place name, the names of some famous people, perhaps a fruit, and a type of crime. Instantly the players enact a scene based on these suggestions.

I for one am as spontaneous as a frozen lake, so this was a bit of stretch. But I was fascinated that by regular practice of certain techniques and exercises, I could learn to think and react quickly (and sometimes humorously) to the cues, prods, and comments of others in the sketch.

One key improv guideline is to always accept what the other person says and build on it rather than contradict it.

PARTNER What’s that kangaroo doing in the office?

ME That’s not a kangaroo. How could it be? We don’t live in Australia.

All my logic and curmudgeonliness bring the scene to a halt like the ground brings my gutter cleaning to a halt when I realize I am no longer on my ladder. Better to go with the premise of my partner than reject it.

PARTNER What’s that kangaroo doing in the office?

ME I think he’s interviewing for CEO.

Now at least my partner has something to work with. If I regularly practice with the “accept anything” rule in mind, I will rapidly improve my improv.

In one exercise, two players begin a scene with no instructions as to what it is to be about. They are also limited to just three lines. One starts with whatever comes to mind, then the other responds, after which the first player responds to the second. Then the scene is stopped. It is quick with little risk if it turns out badly. But by doing this multiple times in the space of fifteen minutes (and then over a period of days or weeks), players will grow in their ability to quickly spit out dialogue. Dozens of other improv exercises can help us learn to quickly come up with ideas and invent dialogue.¹⁰

Bloggng for over a dozen years has helped me do the same thing. Writing a blog is not the hard part, you see. Coming up with ideas for blog posts is. So I have over the years been training my mind to look for potential topics as I watch a movie, read a book, talk to friends, hear a lecture, or just people watch. Some ideas I immediately turn into blogs. Others I just keep in a list that I review regularly to see which ones may now be ripe for the picking.

Just like improv exercises, writing exercises can do the same thing. I mentioned the game *Balderdash* in chapter seven on writer’s block. You can find many other exercises online that often only involve writing a line or two. Just be sure you write quickly and don’t get hung up evaluating. The purpose is not to come up with a perfect sentence. The purpose is to train your mind to come up with something new quickly. There will be plenty of time to review and revise later.¹¹

Yes, the results of creativity can be magic. But it need not be mysterious. As we’ve seen that stimulating creativity can be as ordinary as, first, branching out into new fields of learning and experience. Second, getting ideas from other people. Third, getting good physical exercise. Fourth, taking a vacation. And last, practicing.

Now come up with three more ways.

NOTES

¹“Remote Associates Test,” Remote Associates Test, accessed December 20, 2018, www.remote-associates-test.com.

²Sarnoff A. Mednick, “The Associative Basis of the Creative Process,” *Psychological Review* 69, no. 3 (1962): 221. The notion that associating two separate ideas is core to creativity goes back even further to Scottish philosopher David Hume who, in the eighteenth century wrote, “Thro’ this whole book, there are great pretensions to discoveries in philosophy; but if any thing can intitle [sic] the author to so glorious a name as that of an *inventor*, ’tis the use he makes of the principle of the association of ideas, which enters into most of his philosophy.” David Hume, *Abstract of A Treatise of Human Nature* (1740), in *An Enquiry Concerning Human Understanding*, ed. Peter Millican (Oxford: Oxford University Press, 2007), [35] 145.

³Thanks to Dave Zimmerman for these last two examples.

⁴Thomas Goetz, “How to Spot the Future,” *Wired*, April 24, 2012, www.wired.com/2012/04/ff_spotfuture/all/1.

⁵Goetz, “How to Spot the Future.”

⁶Art Markman, “Your Team Is Brainstorming All Wrong,” *Harvard Business Review*, May 18, 2017, hbr.org/2017/05/your-team-is-brainstorming-all-wrong.

⁷Melissa Dahl, “How Neuroscientists Explain the Mind-Clearing Magic of Running,” *Huffington Post*, April 27, 2016, www.huffingtonpost.com/science-of-us/how-neuroscientists-expla_b_9787466.html. See also Maheedhar Kodali, Tarick Megahed, Vikas Mishra, Bing Shuai, Bharathi Hattiangady, and Ashok K. Shetty, “Voluntary Running Exercise-Mediated Enhanced Neurogenesis Does Not Obliterate Retrograde Spatial Memory,” *Journal of Neuroscience* 36, no. 31 (August 2016): 8112-22; doi.org/10.1523/JNEUROSCI.0766-16.2016.

⁸Mathew Honan, “Photo Essay: Unlikely Places Where *Wired* Pioneers Had Their Eureka! Moments,” *Wired*, April 24, 2008, www.wired.com/2008/04/ff-eureka.

⁹Gavin Weightman, “The History of the Bar Code,” *Smithsonian*, September 23, 2015, www.smithsonianmag.com/innovation/history-bar-code-180956704.

¹⁰For example, see “Improv Games,” *Improv Encyclopedia*, accessed December 20, 2018, <http://improvencyclopedia.org/games>.

¹¹You can find many online sources for writing exercises. Here are just a few: “Welcome to Writing Exercises,” *Writing Exercises*, accessed December 20, 2018, writingexercises.co.uk/index.php; “9 Creative Writing Exercises,” *Authority Pub*, accessed December 20, 2018, authority.pub/creative-writing-exercises; Mary Jaksch, “10 Creative Writing Exercises to Inspire You,” *Write to Done*, accessed December 20, 2018, writetodone.com/10-best-creative-writing-exercises.



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