

THE POWER OF
**THINKING
DIFFERENTLY**

An Imaginative Guide To
Creativity, Change,
& the Discovery Of New Ideas

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CHAPTER TWO

Constellating the Creative Process

How do I find new ideas? Let me count the ways...

My local library and bookstore are well stocked with books that are in some way addressing creativity. Often during my research, I have found myself overwhelmed by the number of books and theories that describe the creative process. Maybe, you've felt the same way.

Oftentimes, advocates of creative thinking—or those that claim to have techniques to cultivate it—speak to one aspect of the term and completely neglect all others. For example, a book on creativity may address it within the context of business and fail to make any translations to the context of the artist or the parent. Conversely, another may associate creativity solely with the artist.

What follows is a magical mystery tour that visits several descriptions of the creative process. This whirlwind exploration is meant to give you a quick glimpse of the many ways people approach the creative process. Through a bird's eye view of what you are getting into, I hope to prepare you for *how* to think differently.

Visiting all perspectives is beyond the scope of our tour, for, as they say, there are many ways to skin a cow (or is it milk a cat?). Additionally, many of the perspectives we'll visit will not have clear fences separating them. The intention of this tour is simply to share with you a few of the prominent views held by several creative guides I have come across in my creative travels. Access to multiple perspectives opens up possibilities, and reflecting on the creative process itself is no exception.

Let us begin this tour by riding up to the top of the observation tower, and I will do my best to point out the highlights of the landscape.

The actual journey through the terrain will come in the chapters that follow.

The Magic of Creative Genius

From our view high above the creative landscape, a typical creative tourist will quickly point out how the creative process looks miraculous. They may see the piercing prose of Alice Walker, the improvisational outpouring of Robin Williams, or the scientific ingenuity of Einstein and stand in breathless awe at their works—completely convinced that creativity is only for a select few.

To the untrained eye, creativity can look like the result of some unexplainable magic—a mysterious undertaking reserved for the wizards, not accessible to us Muggles. However, on closer inspection, we find that many of these wizards have often experienced the same setbacks as the rest of us. For instance, Robin Williams was voted least likely to succeed by his classmates, and Einstein was labeled by one of his teachers as “mentally slow.”

In fact, many creativity texts that talk about inventors and artistic geniuses seem to point to serendipity and perseverance as a common underlying factor of their creative process. In other words, within this context, creativity appears to be the result of hard work, skill, and in some sense, luck.

The Genius of Mozart

“People err who think my art comes easily to me. I assure you dear friend, nobody has devoted so much time and thought to composition as I.”

Mozart is often thought of as an example of creative genius. Yet music did not flow unimpeded from his mind onto staff paper like water through a garden hose. He did not simply turn on his creative faucet at will. Mozart had to work hard to birth his material. His musical muscles received such a strenuous workout that, by the age of twenty-eight, Mozart had deformed hands because of all the hours he had spent practicing, performing, and composing.

Additionally, Mozart did not grow up in a musical vacuum. His father, Leopold Mozart, was also a gifted composer and expert violinist and spent a good deal of time teaching his son music theory. Mozart

may have been gifted, but especially so in the sense that he was born to a father so well versed in music.

Realizing that behind Mozart's wizardry lay hours of practice, work, and musical experimentation can help make his creative process more familiar and accessible to us.

Pasteur and the Kellogg Brothers

Fanciful tales, such as Newton under the apple tree, Benjamin Franklin flying his kite during a storm, or Bill Gates' incident with elf-sized toilet paper (*ah...that's micro soft!*), often surround impactful inventions or discoveries.*

One of my favorite examples is Louis Pasteur's discovery of a vaccination for cholera. While performing experiments, he accidentally gave some chickens an old culture of the bacteria. He monitored and further tested these chickens, though he fully expected them to die from the old batch of cholera. Instead, what he found was that they had become immune, able to survive new cultures.

Though a lucky accident, it changed the initial perception that bacteria causing cholera always bring on the illness. This opened up the possibility of using inert bacteria as vaccination to develop immunity. It gives some credence to the idea that our initial perceptions may limit us from seeing the possibilities that lie beneath the surface.

The same is true of the Kellogg brothers, who accidentally ill prepared a batch of grain. At the time, grain was usually eaten warm, but because it had been ill prepared, the brothers had the idea of serving it cold instead. Though the idea, at first, seemed to be a silly attempt to utilize the mistake—and experts predicted failure, the brothers' "cornflakes" were a success and are still eaten today.

Though Pasteur and the Kellogg brothers were in some sense *lucky*, they all had to work hard prior to and after their run-in with chance. First, they needed to work hard prior to their serendipitous event to interpret it as a meaningful occurrence. The Kellogg brothers were primed by their knowledge of grain to eventually conceive of serving it cold. Without his many hours in the laboratory, Pasteur would not

* This is a joke. I do not know of any interaction between Mr. Gates and the elf community. Nor do I know if elf toilet paper is actually soft. It very well could feel like sandpaper.

have been able to explain why his cholera-exposed chickens became cholera resistant.

Furthermore, they all had to work hard after their creative insight in order to make their ideas a reality. The Kellogg brothers had to reproduce their ill prepared grain for public consumption, while Pasteur had to do more tests to verify he had truly discovered a cholera vaccination.

In some ways, it is very hard to look beyond the myth of creative genius. It can be hard to think that a Salvador Dali painting or an Emily Dickinson poem is the product of some sort of serendipity. But, according to this framework, hard work and perseverance can place us in a position to be more “lucky-accident” prone—better able to see opportunities where others might see only misfortunes.

Our creative tourists may object to this perspective by pointing to the fact that no matter how hard we work, there is no way we could be the next Da Vinci or the next Madame Curie. *There’s no way I could have worked hard enough and have been lucky enough to have created the Mona Lisa or to have come up with the theory of radioactivity.* While this may be true, there weren’t any Da Vincis before Da Vinci or Curies before Curie either (not counting their parents of course, but I’m sure you get my meaning).

The point isn’t that you can necessarily replicate somebody else’s creativity, but that you can enhance your own—that you can arrive at your own unique ideas.

You may not be the next Mozart, but you can definitely be a more creative you.

Stepping into Intersecting Streams: Generating Creative Ideas¹

From the vantage point of the observation tower, another creative tourist observes that the creative process could also entail mixing a diversity of ideas and ingredients and observing what unique flavors arise. It may look like the unique combination of ideas of the Minotaur or the diverse array of ingredients found in a Chili Surprise.

For instance, you’ll never know what you’ll get by mixing leftover liver and pumpkin pie until you try. Or say, you are a painter looking for new inspiration for your next work, a science teacher looking for a new way to teach electromagnetism, a chef trying to improvise because

you are ill equipped, or a businessperson searching for a new product. What kinds of ingenious ideas can you come up with if you only had a hammer to work with? What interesting devices can you imagine if you tried intersecting a hammer with these different needs?

Well, by entering the intersection of multiple perspectives a hammer could become a unique ink stamp, an electrical conductor, a garlic crusher, or a bookmark geared towards the do-it-yourself crowd.

Had you been crazy enough with your concoctions, you may have even been the first to stumble upon the iced coffee, the protein shake, or the corn dog.

Diversify Through Collaboration

The simplest way to enter such an intersection is by being immersed in a diverse group of people. Smith Miller, former CEO and Chairman of Royal Dutch/Shell, has found that unique concepts often arise through such interaction.

You begin to find that you get some really neat ideas generated from creating a culture where people of different ethnicities, cultures, backgrounds, countries...come together.²

The writer, choreographer, musician, and problem solver often produce unique works and solutions through collaboration with others or by exposing themselves to other's works.

- The very unlikely pairing of David Bowie and Bing Crosby produced one of the most popular Christmas recordings of all time.
- Jazz musician and instructor Jamey Aebersold advocates listening to jazz recordings and live performances of other musicians in order to become a better jazz improviser.
- During World War II, the Allies initially had difficulty breaking the German coding system and were unable to decipher the communications transmitted between German submarines. At the time, cryptologists usually came from the field of linguistics. However, it took a British collaboration of mathematicians, scientists, classicists, chess grand masters, and crossword addicts to decipher the code.³

We often have preconceptions about what others can bring to the table. And we often have an adverse feeling towards those that have views different from our own. But the point is this: In order to get beyond our own limited perceptions, we need to allow ourselves to be immersed in different ones.

It may feel awkward, but the next time you are in need of some interesting ideas, you may want to invite over the most unlikely group of characters and just see what arises. Though their individual ideas may not be what you are looking for, they may provide you with novel inspiration for your own creative insights.

Diversifying Ourselves

In addition to collaborating with others, you can step into the intersection by becoming a diverse individual. One way to do this is through immersion into a new culture, whether it be ethnic, class, professional, organizational, or otherwise. The CEO may arrive at a new idea by spending some time in the shoes of their lowest level employees. The wealthy may arrive at new insights by living amongst the poor. Or creative associations may arise after experiencing life in another country. Howard Schultz arrived at his ideas for Starbucks after noticing the intimate relationship Italians had with coffee.

Simply putting yourself in a new environment other than your predominant one may expose you to new thoughts because you are surrounded by new stimuli. Step out of your normal confines and onto the sidewalks of your town. The color of the evening sky may inspire your next painting. The falling leaves of spring may inspire your next poem. And a stroll through your commercial streets may inspire your next business idea.

On my street, I see a postal store and a Mexican restaurant.

Oh! How about burritos delivered by mail? (It's just an idea.)

The most common means of diversifying yourself is through a type of direct research—groping for ideas until a few coalesce into something interesting. By continually learning new things, you can progressively grow a stable of concepts from which you can make new associations. An author may look to learning about the judicial system or read police reports in preparation for a crime novel. And a clothing designer may browse around a fabric store or walk through the mall for inspiration for their next design.

You can also expand your stable of concepts by simply following a diversity of interests. Frank Herbert, the author of the science fiction novel *Dune*, was a very diverse individual. His background included being a photographer, oyster diver, judo instructor, and jungle survival instructor, among many other things. This diversity of interests provided him with a wealth of ideas that he was able to interconnect in his science fiction epic. Gandhi, though of a Hindu background, studied the ideals of Christ, Buddha, the Baghavad Gita, and was inspired to manifest a nonviolent, mass political movement.

Like an expert chef, these individuals were able to turn their soup of ideas into something meaningful and unique. Though we may not all end up writing epic novels or leading political movements, we can all create our own distinctive stews. Just don't be discouraged if it initially causes your stomach to feel a bit queasy (especially if your burrito arrived through overnight delivery). From this perspective, the creative process calls for gathering as many interesting ideas as possible; the filtering and fine-tuning can always come later.

Stepping Out of the Stream: Non-Linear Problem Solving and Divergent Thinking

Many of the creative tourists on the observation tower find that, though they may immerse themselves in a diversity of ideas, it is often their own rigidity in thought and behavior that prevents them from truly entering the intersection. In other words, the accumulation of knowledge can help with creativity, but it is useless unless we are able to synthesize it in unique ways. For example, no matter how many areas of study we participate in, it is only by letting go of our dominant perceptions of a hammer that we can make new associations, such as realizing its potential as a garlic crusher, percussion instrument, or fly swatter—though I do not advocate the latter.

Fresh Eyes

It is in this spirit that creativity speaker Ernie Zelinski believes that being creative is the key to living in a changing world.

Creative people are flexible people... What survives on earth is what effortlessly adapts to the changing environment and changing circumstances. Your flexibility will help you change

plans in midstream, respond to the unexpected at a moment's notice, or rearrange a schedule without experiencing emotional turmoil.⁴

Perceiving the world with fresh eyes will make you more flexible and less bound by dominant ideas within a particular field. In his book *The Structure of Scientific Revolutions*, Thomas Kuhn notes, "Almost always the men who achieved...fundamental inventions of a new paradigm have been either very young or very new to the field whose paradigm they changed." For instance, it was an artist named Samuel Morse that invented the telegraph, while an accountant designed the Coca-Cola logo.

This just goes to show that expertise does not always lend itself to creativity, and that novice perspectives may be more insightful than we think.

Lateral Thinking

So, while a few creative tourists view the creative process as a *stepping into a stream* of intersecting ideas, a few others articulate the creative process as a *stepping out of a stream*. While the intersection model emphasizes entering into new connections of ideas, this stepping out model emphasizes exiting firmly ingrained beliefs, paradigms, and perceptions. As a result, it is often referred to as divergent, breakthrough, out-of-the-box, or lateral thinking.

The latter term was made famous by psychology professor Edward de Bono. *Lateral* is meant to contrast logical, straight ahead, brute force linear thought that he terms *vertical*. Imagine that problem you were barreling through or that creative task that you tried to hammer out using familiar ideas and techniques. Instead of approaching a problem with familiar concepts, lateral thinking requires that a person explore new and unconventional ideas and perspectives.

Lateral thinking refers to following a path of inquiry that veers off from the more common, predominant path—one that looks for a new angle of entry to a solution. Have you ever tried looking at a different direction by looking harder in the same direction? It doesn't work.

The intersection and lateral thinking models are really two sides of the same coin. Stepping into a stream of intersecting ideas often requires that you step out of old ones. However, in addition to generating new

ideas in general, books on the stepping out model often specifically refer to it as a process for problem solving, especially solving nonlinear problems where logical deduction must be bypassed in order to find a solution. Mathematician and researcher David Perkins refers to these types of problems as *rompecabezas*, which in Spanish means *head breakers*. He presents the following example.

Someone brings an old coin to a museum director and offers it for sale. The coin is stamped “540 B.C.E.” Instead of considering the purchase, the museum director calls the police. Why?⁵

By stepping into the intersection, you may be able to think of several possible reasons why the museum director called the police. But lateral thinking emphasizes stepping out of your dominant stream of thought and wading through these possibilities in order to find solutions that break through your common perceptions. Such a solution will not initially be apparent and provides an *aha* moment of clarity similar to the *haha* moments of understanding the punch line to a joke. In the case of this coin *rompecabeza*, a cognitive snap of clarity may occur when you realize that any coin made prior to the birth of Christ would not know to reference his birth.

Panning For Gold

Perkins uses the analogy of panning for gold in the Klondike to describe this process. There are seemingly lots of possible solutions to these problems, just as there is a lot of ground to cover in the Klondike.

Also, we often limit what we think is possible due to preconceptions and past experience, just as those panning for gold often limit their exploration to a small area due to past success there. But it is only by thinking beyond our common perceptions that a sculptor can envision a cocker spaniel in a block of wood, the digital designer can debug an elusive design flaw that he was convinced was the fault of the software engineer, or the music elitist can appreciate the poetic lyrics of a little known California jazz singer.

I like coffee, pizza, and running
I find mannequins stunning.
They all remind me of your beauty; they're just right.
Shall we wang chung tonight?

Granted, that last one may be a challenge, but it is only by venturing out into the unknown that you may find what you currently do not know...even if it concerns possibly learning how to appreciate something that we may fear or have negative reactions to.

Think of a dish you hated but now love, a career switch you feared but now find joy in, or an art form you never understood but now appreciate.

In fact, these types of lateral expeditions can often lead to uncovering the greatest treasures.

Ruminations of the Unconscious Mind

“What about those eureka moments that seemingly come out of nowhere?” asks a creative tourist looking out at the creativity landscape.

Unlike the previous perspectives involving an active process of finding creative ideas and solutions, here unique ideas often arise seemingly without much conscious effort. You’ve experienced this if you’ve ever had ideas pop into your head while enjoying a stroll in the park, while in the middle of an unrelated conversation, or while in the private solitude of your tranquil toilet room. This has led to the view that the creative process is a function of the unconscious mind, the cognitive mechanism that is churning in the background of thought.

Though there are those that underestimate the significance of the unconscious to help us formulate new ideas and solutions, it may in fact be more suited for creative insight than the conscious mind because it has no self-censorship and makes no judgments. As a result, ideas are free to recombine with others to form novel associations and unique patterns.

Professor Kenneth Kraft, a Buddhist scholar at Lehigh University, refers to this type of thinking as *water mind*. The idea is that this frame of mind is akin to the clear and reflective properties of water. It refers to the stilling of our conscious thought allowing us to pay more attention to our unconscious mind.

Guy Claxton, professor of Learning Sciences at the University Of Bristol Graduate School Of Education, refers to the unconscious as the tortoise mind. He makes a distinction between three different speeds of mind.

1. *Faster than thought*: referring to the instantaneous reactions to environmental stimuli our brain and body make in order to keep us alive.
2. *Speed of thought*: corresponding to our conscious thinking, such as when we are deliberating, weighing pros and cons, and constructing arguments.
3. *Tortoise mind*: referring to when we are contemplative or dreamy, think more leisurely, have less purposeful and clear-cut thoughts, and are tolerant of ambiguous information.

Incubation

In creativity texts, the unconscious mind is often associated with the incubation stage of the creative process. This is the period when the conscious mind no longer attacks a problem or attempts to will its way to a new idea. Rather, having done these things, the tortoise mind is allowed to simply incubate. It is what occurs when you “sleep on” a problem in order to solve it. Complex mental processing occurs without your conscious control, below your awareness, just like how your kids are messing around when you aren’t looking.

American poet Amy Lowell provides an example of how incubation was key to writing her poem, *The Bronze Horses*. After having thought that horses would make a great subject of a poem, Lowell simply let the idea go. Rather than consciously work on the poem, she simply filed it away in her unconscious. “Six months later, the words of the poem began to come into my head; the poem—to use my private vocabulary—was ‘there.’”

Befriending the Tortoise Mind

One of the key points of this tortoise mind view of the creative process is that we must provide it with space and time to do its work.

Orit Gadiesh heads Bain & Company, one of the world’s leading strategy consulting firms. She is well respected in her field and is well known for her ingenuity. According to her, in order to be successful, “You have to be willing to ‘waste time’ on things that are not directly relevant to your work because you are curious. But then you are able to, sometimes unconsciously, integrate them back into your work.”⁶

Yet, as anyone who has had sudden insight knows, sometimes the incubation period is not months, days, nor hours. The jazz musician

must seemingly access their tortoise mind instantaneously when improvising during a jam session. The improvisational comedian can often come up with new material on the spur of the moment based off of audience interaction.

Creative improvisation is dependent on three main factors that we will continue to discuss in detail throughout the book.

1. Hard work and perseverance: For creativity to flow in an immediate fashion, the jazz musician, the comedian, and any other creative person has to have practiced their craft and practiced improvising—that is, practiced being creative.
2. Joy in the endeavor: As psychology professor Mihaly Csikszentmihalyi notes in his book *Creativity*, the ability to tap into the creative well of the subconscious is very much dependent on one's enjoyment of their endeavor.⁷ The more fun we are having in our endeavor, the more conducive we will be to creative manifestations.
3. Being at ease: You must be at ease and trust the flow of the creative, associative process—something creative geniuses, such as Einstein and Leonardo da Vinci, were well known for doing. If we worry or place pressure or expectations on ourselves, we can inhibit our access to creative ideas.

For this last reason, in order for creativity to foster, we need to enter into a relationship with the subconscious mind, where it is allowed to reveal itself on its own terms rather than on the terms we consciously place on it.

In other words, you can't tell the subconscious what to do. Rather, you have to listen to what it is telling you.

The details for how this all works can be found in Chapter 14. But you can begin to get a sense of this by simply taking a few deep breaths and by letting go of the need to get anywhere or achieve anything. This is the only way to clear enough mental space to become aware of what your subconscious has to offer.

You'll be pleasantly surprised by the goodies you'll find after doing some mental spring-cleaning.

The Altered Mind

Have you ever been drunk?

How about high?

If you have, you may recall how your awareness was changed at the time. The world and your experience of it altered in some way, and you may have found yourself immersed in some very unusual thoughts (pink, polka-dotted, three-legged hippos perhaps). This is true whether you have been drunk on love, high on life, or if your mind was altered by some other means that you may be reluctant to divulge.

It does appear that, in order to participate in the creative processes, we must alter how we most commonly use our minds. Either we think differently, laterally, and outside the box, or we have to access the part of our mind that is beneath our conscious awareness. Either way, it seems as if we have to alter the way we think or access our thoughts. This has often been a point of reference for those that look upon creativity as being somehow related to mental illness, or the use of brain-altering substances. The latter was even the subject of a poem by Thomas Moore.

If with water you fill up your glasses
You'll never write anything wise;
For wine is the horse of Parnassus
That carries the bard to the skies.

Drugs, Alcohol, and the Creative Process

Substances such as these have often been used to either create random associations or to lessen the grips of old ones. Jazz saxophone great Charlie Parker was notorious for performing while on heroin. Guitarist Jimi Hendrix and comedian John Belushi both used drugs at the height of their creative careers. And French painter Maurice Utrillo was known to have painted incredible pictures of Paris while intoxicated.

However, the deaths of Parker, Hendrix and Belushi were all related to their substance abuse. What is more, as his drinking continued, the quality of Utrillo's paintings began to decline, and the end of his life was marked by "attacks of delirium tremens with horrible agitation and terrifying hallucinations."⁸

Even David Crosby, from the musical group Crosby, Stills and Nash, found that drugs did his creative process more harm than good.

What initially happens in the drug experience is that you feel the drugs helping because they will throw your consciousness up for grabs. And sometimes, early on in the process, that worked for me. The problem with drugs is, as you become addicted to them, they become so debilitating that the creative process stops entirely.⁹

Though the risks of using drugs and alcohol seem to outweigh the rewards, their effects on perception is undeniable. They do change the way we see the world, if only for fleeting moments. In some cultures, many indigenous, this is used to great effect providing its members with a tool to experience an altered perception of reality.

However, without a strong support group or community to provide us with a safe environment and structure for using these substances, we can find ourselves astray in any number of ways. For one, we can fall prey to substance abuse, using it out of habit rather than conscious volition. And another, without the context provided by a community, we can easily fall out of touch with the meaning associated with taking such things. Rather than use them for some transformative purpose, we may simply end up using them because of the addiction to the sensation and feelings that they evoke.

Creativity and Mental Illness

Professor of psychiatry Nancy Andreasen notes that recent films, such as *Shine* and *A Beautiful Mind*, have spotlighted mental illness and creativity. The number of creative individuals who have suffered some form of mental illness is numerous. It includes Isaac Newton, Friedrich Nietzsche, Leo Tolstoy, Jonathan Swift, and Robert Schumann to name a few.¹⁰

Andreasen points to two reasons why mental illness may seem to enhance the creative process. First, many illnesses, such as schizophrenia, are known to disorganize thoughts. This allows novel associations of ideas to come to the forefront. Second, many illnesses inhibit the brain's filtering system, allowing more stimuli to enter into our conscious awareness than usual.

However, the cost of this apparent creativity is great, as it hampers

one's capacity to function in the world. The inability to filter unnecessary stimuli makes it difficult to maintain focus, and this obstructs the performance of simple tasks and routine functions. Those with the inability to self-organize their thoughts form psychoses and are prone to delusions. Not only can this make it difficult to complete tasks, but it also can negatively affect their relationships with other people.

The Unaltered Mind

In 1961, in a Manhattan apartment, young Harvard psychologist Timothy Leary was conducting a scientific experiment with a new drug that he claimed would spur on the creative process. It was called psilocybin, which is a key component in magic mushrooms. The apartment was full of poets and writers, including Jack Kerouac. While Kerouac was under the influence of the drug, Leary gave him a paper and pencil, expecting Kerouac to write something extraordinarily creative. Kerouac attempted to comply, but he was only able to draw a few simple lines and laugh nervously—something that I do frequently without the use of mushrooms, magic, or otherwise.

Though there have been creative individuals with mental illness, or who have used substances to enhance their creativity, there is no evidence to show that these are *necessary* traits of the creative process. The association between these traits and creativity seem to stand out because they are popularized by movies, such as *Shine*, or by the attention placed on famous artists who suffer from substance abuse.

There are numerous examples of artists that turn this misperception on its head. Eugene O'Neill is often thought of as a writer whose creativity was at its height when he was drunk. Yet O'Neill has said, "You've got to have all your critical and creative faculties about you when you're working. I never try to write a line when I'm not strictly on the wagon." In contrast to popular belief, it was only after getting sober that he wrote some of his most famous plays, *Morning Becomes Electra*, *The Iceman Cometh*, and *The Long Day's Journey into Night*.

While mental illness and mind-altering substances can loosen one's preconceptions and expose one to a wider range of sensory stimuli, it can also drastically reduce the ability to function effectively in society. In exchange for more awareness of possibilities and alternative viewpoints, the person with the altered mind may deal with the inability to re-integrate his ideas into a coherent, consistent picture

of reality. In his book *Creating from the Spirit*, Dan Wakefield suggests that this inability to perceive a coherent reality may make the users of mind-altering substances ignorant of the truth of their own creative process.

The deadly idea of alcohol and drugs as glamorous keys to creativity runs through our whole society.... There is a genuine reason for the confusion about alcohol and creativity: the craving for the bottled spirits can mask the need for *spirit*, the source of creation. ¹¹

There are many ways to alter your thoughts, whether by listening to music, watching TV, relaxing, reading a new magazine, going out for a run, looking at a piece of art, lying down on the floor, stepping into the intersection, stepping out of the stream, dancing, spinning around a room, finding reason to agree with everyone you disagree with and vice versa, or by looking for the humorous side of everything anyone has to say.

Creativity is about discovering more possibilities. How many more ways can you think of to alter your own thoughts?

Releasing the Creative Spirit

In the above quote, Wakefield makes reference to yet another way of articulating the creative process—as a process having to do with the unleashing of spirit.

Let's recall the earlier observation that some ideas seem to come out of nowhere without much conscious effort. One creative tourist points to the unconscious mind as the reason for this. Though, within the context of spirit, another explains this phenomenon as divine inspiration or sourcing creative ideas from some place sacred.

All of us are endowed with spirit—which means that all of us are naturally creative. We wouldn't exist without the creative force, whose power is acknowledged and dramatized by the first story in the Bible, the creation story...“In the beginning, God created the heavens and the earth.” ¹²

Prior to the Enlightenment, almost all scientific discoveries, inventions, and art were attributed to the divine or described as being

divinely inspired. Even in our modern period, many frame their creative process in these terms. Russian composer Sofia Gubaidulina believes that art is a means to express something greater than oneself and approaches her compositions with the goal of forming a connection to God. Legendary jazz saxophone player and composer John Coltrane refers to his music as the spiritual expression of his being.

Spiritual Descriptions of the Creative Process

- In her book *The Artists Way*, Julia Cameron describes the creative process as the aligning with the creative energy of the universe. She terms this process “spiritual chiropractic.”¹³ To her, aligning with the creative energy of the universe allows the natural order of life—which is creativity—to flow openly through a person.
- Cameron also asserts that being open to creativity is equivalent to being open to the creativity of the Creator. This is a sentiment shared by opera composer Giacomo Puccini. In describing the creative process of composing his opera, *Madame Butterfly*, Puccini has said, “It was dictated to me by God; I was merely instrumental in putting it on paper and communicating it to the public.”
- Dan Wakefield writes extensively of this process in his book *Creating Spirit*. In particular, he emphasizes that all of us are capable of releasing this creative energy. He asserts that the reason many feel encumbered by the creative process is that they are stifled by preconceptions, negative behaviors, and life’s usual distractions. As a result, many of us fall into a spiritual sleep. In general, in order to wake up from this slumber, we must empty ourselves of our preconceptions and habits in order make room for the creative spirit.
- Artist and shamanic practitioner Tom Crockett frames this process in indigenous terms. He describes this channeling of the creative spirit as forming a connection between the artist and the “spirit that resides deep in our ancestral memory.”¹⁴ In this context, being creative is the sacred act of manifesting the divine breath into material forms, such as words, images, music, and dance.

Getting in Touch with the Creative Spirit

Within this indigenous context, Crockett describes many ways to get in touch with this creative spirit. For example, he advocates entering into a relationship with the soul of all material things. By doing so, he asserts that our perception of spirit in all material things will become clearer. Secondly, he points to dreams as a realm in which we can access the creative spirit, noting that many artists create works based on their dreams and dream imagery.

He also recommends the self-induced trance known as *shamanic journeying* as a method of accessing the creative spirit. The trance is meant to place the individual into a realm somewhere between normal consciousness and the unconscious and can be induced by various practices including meditation, visualization, bodywork, and by altering breathing patterns. Listening to the continuous rhythmic patterns of drums also induces this state of consciousness—a process known as rhythmic entrainment.

However, all major spiritual paths have various methods of getting in touch with the sacred. This could be through praying, through open conversations with the divine, through unselfish acts for others, or through doing one's tasks for a higher power. From this perspective, the creative process is always accessible to us, if we are only humble enough to receive it.

Comparing the Creative Processes

The description of the creative process as the *releasing of the creative spirit* shares many similarities with the other perspectives discussed so far. It points to an emptying out of old ways reminiscent of *stepping out of the stream*. It describes the creative spirit as coming not from the conscious mind, but from somewhere beneath or beyond it, similar to how novel associations seemed to manifest out of the blue from the unconscious mind. Furthermore, accessing the creative spirit through activities such as meditation, prayer, dreaming, and shamanic journeying places the individual into altered states of mind but without the drastic handicaps of the mentally ill or some of the self-imposed handicaps of those who take mind-altering substances.

Now some of you may have cringed throughout this discussion as if talk of spirit and divinity were equivalent to some icky goo that

you were afraid to get on your clothes. Or perhaps, some of you were overjoyed by its inclusion in this description of the creative landscape.

In either case, I call your attention to your initial impressions. What were your initial judgments? How did you interpret the language used here? How locked in are you to these interpretations? For the sake of creativity, you may see if you can't find alternative meanings. If you took these words literally, you may want to see how meaningful a metaphorical interpretation can be.

The Helmholtz Model

By far, the most popular way of articulating the creative process in psychology texts is the Helmholtz model. Though it has no relation to the Heimlich, when you're in a bind, this four-step process just may help you cough up some new ideas.

1. Preparation: It is in this stage that we do the groundwork to learn all we can about the problem that we are trying to find a creative solution for.
2. Incubation: As I have mentioned earlier, it is during this phase, after we have done our due diligence to think consciously and work through our dilemma, that we let our subconscious mind ruminate. This is where we let go of trying to find an answer and just wait patiently for it to arise in our awareness on its own terms.
3. Illumination: It is in this phase that possible solutions and unique ideas bubble up to the surface of our consciousness.
4. Verification: Finally, we take the possible solutions that appear through the illumination phase and test them. We poke and prod them to see if they are useful to us.

It can be very useful to think of the creative process as an easily graspable formulation of phases. To the creativity tourists in the observation tower, thinking this way of creativity makes it seem less daunting and more of an accessible undertaking.

Neuroscience: Activating Unique Neural Networks

From a biological point of view, the organ that is most praised for its involvement in our thought processes is the brain. Oddly enough

though, its mention in creativity texts is usually only limited to some general stereotype of the two brain hemispheres. The right is most often gushed over as the creative side, while the left is often referred to as the seat of our robotic, rational tendencies—as if it were a black and white issue. There are definite scientific reasons why popular culture tends to think of the brain hemispheres in this way, but as we'll explore later, the whole brain is critical for creativity.

So in order to get a good look at creativity from neuroscientific perspective, we need to go beyond just the general left-right talk and delve deeper into this spongy, contorted, walnut looking organ that we call the brain.

Complex and Diverse

Imagine the most complex thing you've ever set your eyes or hands on: a car, a rocket ship, the Internet, your home entertainment system, or your mother's meatloaf perhaps. The brain is more complex than any of these. And it isn't even close.

The brain is Mother Nature's David. It's the *crème de la crème* of ingenuity and invention. For the sake of simplicity, you can think of it as consisting of three major physical layers. The first layer is the part of the brain that regulates our heart rate, breathing, and our levels of wakefulness and sleep among other things. And as most of you have already experienced, it does this without our conscious effort. It does it automatically.

On top of this is a second layer that is responsible for controlling our body temperature, blood sugar levels, blood pressure, and hormone levels. This layer is also responsible for the famous 4 F's: feeding, fornicating, and the flight-or-fight stress response. Feeding refers to the drive to find food and feed ourselves. The flight-or-fight response refers to our response to potentially dangerous situations. So when we find ourselves threatened by a wild bear, this second layer of the brain kicks in, and we either run or prepare to duke it out—though nowadays it often gets activated by our boss's evil eye or by our latest mortgage bill. Lastly, fornicating refers to our impulse to listen to Barry White music...in a manner of speaking. And again, though we can have a conscious effect on these things, our brain performs all these tasks too below our conscious awareness.

Where humans and other highly developed mammals differ from

other creatures is in the development of a third layer known as the cerebrum, neocortex, or new brain. This is the Nerf-football-looking gray mass that most of us envision when we think of the brain. It is this third layer that is split down the middle into two halves called hemispheres.

Each hemisphere is comprised of four major sections called lobes that are critical for specific functions. These lobes are the hub of activity for processing specialized information. They are like the A-Team, each with their own specialty that enables us to function as a whole. For example, one lobe is heavily involved in processing visual information, another in processing audible information, and yet another is critical for planning.

To recap: Three major layers...the third split into two major halves, each with four sections...an organ that keeps track of a whole mess of bodily functions simultaneously, mostly underneath our conscious awareness....

Sitting on top of our bodies, behind our eyes is the most advanced technology ever invented and the most creative work of art ever manifested—molded out of the same stuff that forms the stars in the sky and the ground beneath our feet. And unlike just about anything else in our possession, you truly can't leave home without it...not that I've tried.

Commonalities

Like a great metropolitan city, the brain is always buzzing with activity due to its diversity in anatomy and functionality. Yet, amongst this diversity exist two crucial commonalities that are of great importance to our discussion of creativity.

1. While each of the lobes is thought of as specialized in some way, they each also have sections that are unspecialized. It is through this area, known as the association cortex, that different specialized sections of the brain are linked and associated. It's like having the financial center of town also including a section of folks whose job is to connect the financial center to the restaurant area or the shopping district. This unspecialized section may not be intimately involved in the finances, but they're critical in connecting the financial center to all other areas of the city.

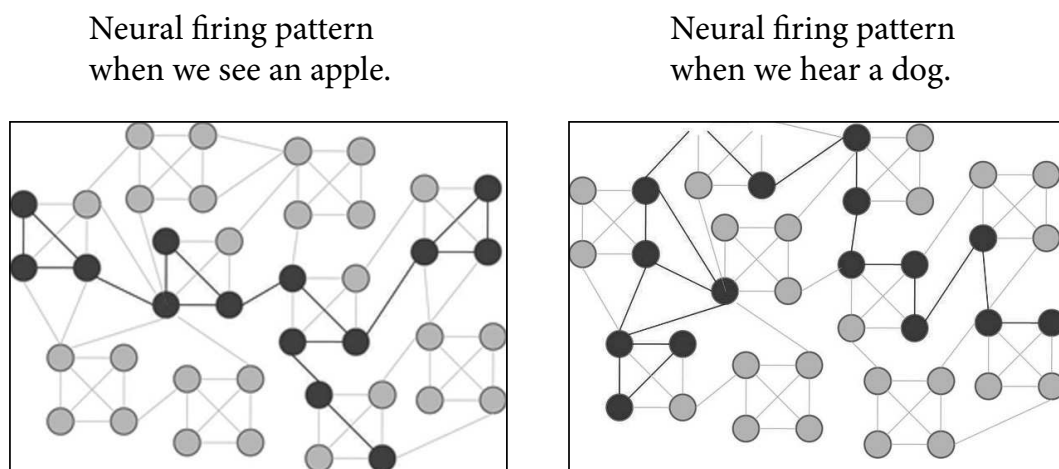
2. The entire human brain is comprised of trillions of brain cells called neurons. In one respect, you can think of the neurons as the people in the city. However, each of these neurons is typically linked to up to 10,000 other neurons in a vast neural network—like a spider web or a chain-linked fence. So the more popular analogy is to think of these neurons as computers within a vast communication network, since each neuron is in constant communication with clusters of other neurons. Each neuron can send only one of two signals to each other. They can either send a signal that urges other neurons to fire signals to others (shoot already!), or they can send one that suppresses such firings (don't shoot!). It is through this type of communication that the different areas of the brain speak to one another.

Creativity

Every time we feel, sense, see, think, speak, or decide to move our bodies, there is a unique activation of neural firing patterns; a particular web or chain of neurons is triggered, each communicating a signal to others in its chain like in a game of telephone.

For example, if we see an apple, one pattern may be activated, whereas if we hear a dog barking, another pattern of neurons is activated. Figure 3 below is a very, very generalized visual analogy of this.

Figure 3



In a very general sense then, thinking differently—creatively—means activating a unique network of neurons. It means that when

we look at a blank canvas or are pondering a dilemma, we find a way to trigger a particular web that we had not triggered before. It means stimulating a new chain and forming novel associations between neurons.

Hmm....novel associations...sounds familiar?

Understanding how the brain operates reveals a wealth of insights about the creative process, some that are often looked upon as beyond the realm of science. It has some very interesting implications for the validity of epiphanies; for how we should be educating our children; for how to foster creative environments; for the significance of mythology, religion, and poetry; as well as for how we can live lives that are more creative.

The neurological description you have just read is a brief summary of a pretty complicated framework. Fortunately, these ideas get fleshed out in great detail in the chapters to come.

It is this neurological framework that provides the foundation for the remainder of this book.

Summary from the Observation Tower: The Elephant in the Dark

For much of my creative research, I was stumbling around in the dark, exploring different aspects of the creative process. It was akin to the allegory of the blind men and the elephant. Each man perceived the elephant to be whatever part they were able to experience—a hosepipe for those feeling its trunk, a large fan for those feeling its ear, or a pillar for those feeling its leg.

In this same way, some experience the creative process as hard work and luck, while some believe it to be intersecting streams of ideas and perspectives. Some articulate it as removing oneself from ingrained beliefs and habits, while others see it as a four-step process. Yet others think of it primarily as the ruminations of the unconscious mind or the unleashing of the creative spirit.

By exposing you to these various perspectives of the creative process, I wanted to share the different ways that it is often spoken of in popular culture, taught in seminars, and written about in creative thinking books. Each perspective is useful, and with each analogy, we are given a unique way to identify with the process of thinking differently.

But now, with the help of cognitive science, I want to shed light on a new analogy, one that helped me constellate all the perspectives we have reviewed thus far. Just as the description of a 4-step process has provided many with an easily graspable framework for creative endeavors, it can be useful to have an understanding of what the creative process entails. It can be helpful to have some sort of a guide to help us contextualize what we feel and what we face as we try to think differently—an analogy or map that makes it easier to identify where we are in the creative process, the obstacles that often stymie the process, and the actions needed to transcend these obstacles in order to continue our creative undertakings.

How can any of us look at the same thing and see completely different things—intersecting streams, hard work, unconscious mind, and spirit?

These questions are at the heart of *Part II—How: The Creative Journey*. And there's a completely reasonable explanation for this.

By delving into the depths of neuroscience, we will investigate how we commonly think, why we commonly think that way, and how we can learn to think differently. What we will soon find out is that our sense of reason is often unreasonable. We will discover that it is only by deviating from our common sense that we can gain not just a more creative perspective, but also a more complete one.

This will all become clearer as we come down from our observation tower, tighten up our shoelaces, and begin to actually journey through the adventurous terrain of the creative landscape.