

Beyond the “Mad Scientist” and the “Crazy Artist”: Understanding and Appreciating the Creative Process

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I have chosen this title not to belittle or demean the scientist and the artist — rather, I use these terms to illustrate the stereotype which pervades our descriptions of the creative process.

What are the dangers of these stereotypes — stereotypes that emphasize irrationality and disorder?

First, the stereotypes are incorrect. Creativity often seems to the uninitiated to be a quality that borders, perhaps, on madness — but in fact, it follows a clear logic and process. A classic example is the painting of Jackson Pollock. Many view his painting as chaotic, random drips of paint on a canvas. But as the art historian Brian Winkler has shown, Pollock actually developed a thorough process for starting his works, building up layers of color and pattern, and finally going back and revising and editing (by scraping paint and reworking area of the canvas). In the world of science and business, we have the famous inventor and business entrepreneur, Thomas A. Edison, in his own words: “Genius is one per cent inspiration and ninety-nine per cent perspiration.” In other words, creativity is a process, a theme I shall return to later.

Moreover, the stereotypes lead to a loss of creative resources. If society looks at creative types as marginal figures, it will fail to cultivate them, and fail to use their talents to move society forward. Already, we tend to isolate rather than integrate the creative process — one only has to note that there are separate “art schools” or “art departments” in institutions of learning. The University of the Arts, in fact, two years ago began a program to help area schools integrate the arts into their traditional academic curriculum, but that integration could already have been a natural, organic part of all education.

How to address this situation? We are talking today of the “creative economy” as the wave of the future. Indeed, the “creative economy” may be the only answer — in a post-

industrial and post-informational age — to the question of where society or even civilization itself must go. But we need both definitions and directions.

There are many ways to talk about creativity, and one can use terms such as “genius,” “inspiration,” and “serendipity,” or the more modern (yet already well-worn) phrases such as “out-of-the-box thinking.” A number of years ago, I put together a handbook entitled “Looking Deeper, Seeing Farther: Readings in Creativity, Innovation, and Understanding,” as part of a large-scale consulting project in teaching innovation. A section of that handbook bore the title, “Themes and Characteristics of Creative Work,” and there I put forward what I saw as key aspects of creative thinking. These ran as follows:

Analogy and Metaphor — There are not only useful for visualization, but also for problem-solving: if we can resolve an analogous situation or issue, we can perhaps then solve the particular challenge we are facing.

Perception — In the creative sense, perception means the ability to see patterns where others are unable to do so.

Simplicity — Often the most creative solution is that which is most simple.

Adversity — The human mind deals with obstacles in two ways: retreating from them, or seeing them as challenges. The creative mind will often use the difficult or hostile environment as a chance to solve problems and display innovative thinking. The Roman writer Seneca stated: “The good things of prosperity are to be wished; but the good things that belong to adversity are to be admired.” Our own Philadelphian, the celebrated Benjamin Franklin, put it even more concisely, writing, “The proof of gold is fire.”

Technical Mastery — Creative problem solving demands the proper tools, techniques, and methods. Creativity can only come flourish if there exists the appropriate “vehicle.”

Persistence — Many creative ideas meet resistance. New ideas, new art, new discoveries, and inventions often defy traditional concepts or aesthetics, and are not readily accepted. But creativity can demand of the innovator that he or she persist despite such obstacles. Richard Feynman, the Nobel Laureate physicist, believed in doing lots of experiments and working through many possible solutions in attempting to find the right one. He said: “To develop working ideas efficiently, I try to fail as fast as I can.”

Although I wrote down these ideas several years ago, I still believe that all of these are key components to the creative process. But I also believe that there is an underlying element to all of these that is vital: the fact that there is a process in creativity.

Between the time that I wrote that handbook on creative work and now, I carried out a number of consulting projects; in doing those projects, I began to see how many people — often managers and administrators — failed to understand that innovative projects were not simply visions, or instant “acts of genius.” (I am thankful, by the way, that the University of the Arts administration has not made this mistake.) In business, when a new product or service is introduced, or in academic institutions when new curricula or policies are discussed, there is often the idea that a simple round-table discussion or a committee will generate a creative idea. We have seen in this country a number of failures that are a result of this thinking: the troubles of an auto industry that let Japanese innovation overshadow their own, the struggles of a public education system that has not adequately prepared a new generation of young people.

These failures come from the inability to see that the creative, innovative ideas that society needs are the result of a process. This process can be one of solving problems (as it often is in science), providing new ways of seeing the world (in art, but also again in science), and building new connections. Certain skills or practices often support creative behavior, including an ability to visualize, use of the imagination, expressiveness, and openness. As we examine creative insights, we can see that all of them are based on new ways of thinking, seeing, and understanding. But these “new ways” need a structure in which to grow, and that is what I mean by “process.” The process might be something like this:

- (a) articulation of the problem
- (b) gathering of a group to discuss the problem
- (c) a re-defining or “refining” of the problem
- (d) individual reflections on the problem
- (e) presentations of possible solutions to the problem — visual, textual, tactile, and so on
- (f) integration/selection of solutions

What is important here is to agree that there is a process at work. Process is essential to the clear stating of the creative issue at hand (in the example above, that issue is some kind of, let’s say, design problem), and the construction of a solution — even if that solution is very open-ended. Only through process can the input of creative people be fully understood and fully utilized. Simple round-table discussions can be enormously frustrating and tedious for the creative person; they want to see the A, B, and Cs of the



creative “act” — they want to know how are we going to do it, and when are we going to start!

As someone who has studied and worked in the fields of science, history, fine arts, and business, the creative process is something I have not only examined, but also *lived*. Many of my frustrations — suggested by my comments above — have led to developing my own philosophy concerning creativity, a philosophy fed by the ideas of many friends and colleagues in the worlds of academia, business, and government.

I see Philadelphia as a place that will see both the exploration and promotion of the themes and characteristics of creative work, and a locale to build an understanding of the creative process as a whole. As a Philadelphia native, it also pleases me that the City is hosting the Global Creative Economy Convergence Summit. Putting Philadelphia on the map as a creative, dynamic place to do business is long overdue.

My hope is that we can engage in a two-part mission: a focus on the immediate issues of creative thinking in this new evolutionary stage of our society and our economy, in terms of business, design, new careers, and so on, as well as a parallel focus on “meta” issues — how creativity will be the critical element in making our civilization global in a sustainable way — in building an exciting and meaningful world for the generations to come.

I look forward to a very creative future.
