Abstract

This paper describes and updates the Propulsion Theory of Creative Contributions (Sternberg, 1999; Sternberg, J.C Kaufman, & Pretz, 2002). Theories of creative products need to be updated to reflect the new global world with such technological bounty. This theory describes eight different ways that someone can make a creative contribution (anything from a creatively-written e-mail to a revolutionary new communications device). The theory then categorizes these contributions based on their relationship to the existing domain. The first four contributions all represent achievements that stay within the framework of a pre-existing paradigm. The final four types of creative contributions represent attempts to reject and replace the current paradigm. New examples reflecting the technological advances of the last decade are presented.

Taking the Propulsion Model of Creative Contributions into the 21st Century

Creativity is a field often in flux as technology and society advance. Such world developments impact some theories of creativity more than others. Some theories emphasize the person, such as Amabile’s (1996) Componential Model of Creativity, the Investment Theory (Sternberg & Lubart, 1995, 1996), or the Amusement Park Theoretical Model (Baer & J. C. Kaufman, 2005, J. C. Kaufman & Baer, 2004). Other theories study the creative process, such as the Creative Cognition approach (Finke, Ward, & Smith, 1992), Csikszentmihalyi’s idea of Flow (1990), or the pioneering work of Wallas (1926). Yet the focus most dependent on the ever evolving modern world is likely creative products.

Creative products are getting quicker and simpler to make as technology allows people greater access to previously elite domains, such as composing music or recording a video. Creativity may be found in something as simple and common as text messaging (Zaman, Rajan, & Dai, 2010). Theories of creative products need to be updated to reflect the new global world with such technological bounty.

For example, Csikszentmihalyi’s Systems Model (1996, 1999), focuses on the interaction between the creative person, field (i.e., the gatekeepers, such as teachers and editors), and domain (i.e., science or poetry). Gangadharbhatla (2010) updated Csikszentmihalyi’s model to incorporate the increased importance of technology. Csikszentmihalyi’s Systems Model still includes the person as a key component. A theory that exclusively considers the creative product is the Propulsion Theory of Creative Contributions. This theory was first proposed by Sternberg (1999) and then expanded with J. C. Kaufman and Pretz (Sternberg, J. C. Kaufman, & Pretz, 2001, 2002, 2003; Sternberg, Pretz, & J. C. Kaufman, 2003).

This theory describes eight different ways that someone can make a creative contribution (anything from a creatively-written e-mail to a revolutionary new communications device). The theory then categorizes these contributions based on their relationship to the existing domain. The first four contributions all represent achievements that stay within the framework of a pre-existing paradigm. Perhaps the most basic type of contribution that someone can make is replication. Replication tries to keep things status quo – to reproduce past work. Consider a scientific study whose sole goal is to show that an earlier experiment can be reproduced, or maybe a romance novel that is mighty similar to earlier novels, with different main characters and a new setting. Or think of the people who spend Sunday afternoons in a museum, trying to copy a famous painting. Are they creative? Absolutely, and they help create that nice ambience that make museums fun on the weekends. But these painters are not necessarily trying to advance the artistic domain.

In the 21st century, millions of replications can be
found on YouTube. Any time a song or dance becomes extremely popular, hundreds of people will film themselves singing or dancing and post it on the web. For example, Beyoncé’s recent song “Single Ladies” featured a distinctive, Fosse-inspired dance that immediately became fodder for parody and simple imitation. Covered or spoofed by the Chipmunks on the television shows Glee and Saturday Night Live (Johnson, Jr, 2009), it has also been the subject of countless fan tributes. Children and older adults alike have filmed themselves dancing along to the song (and sometimes singing). Most of these YouTube videos do not represent a specifically new contribution, but they are nonetheless a creative replication.

The second type of contribution, redefinition, takes a new look at the domain. A redefinitive contribution doesn’t necessarily try to push the domain forward, but rather tries to present a different perspective. Gregory Maguire’s novel Wicked (1995). The classic story of The Wizard of Oz, for example, has been adapted into a movie, a radio play, and a stage musical. It has also been re-imagined in several different ways (such as The Wiz). Maguire presents a different perspective on The Wizard of Oz by shifting our allegiances. He begins the book well before Dorothy’s arrival in Oz. He delves into the history of the wicked witch (who he names Elphaba – from LFB, L. Frank Baum’s initials) and Glinda the good witch. Glinda is presented as a vacuous blonde obsessed with popularity, and Elphaba is portrayed as an empathetic intellectual activist.

More recently, the Wii fitness games have redefined the act of physical fitness. These games use sensors and a balance board to track a person’s movements. The same basic physical motions that would be used in calisthenics, aerobic exercise, or yoga are also used in the Wii games. However, such exercises are done in the context of playing games (such as bowling or tennis). A person can get a full physical workout, just as if in a gym, while being entertained.

A third contribution, and perhaps the type of contribution that achieves the most immediate success, is called forward incrementation. This type of contribution pushes forward the domain just a little. Maybe the creator makes a slight change in what already exists. These additions usually are not groundbreaking – it takes the domain in the same direction it was heading. Many television shows represent forward incrementation. Castle, for example, is a standard mismatched cop show, except one of the “cops” is actually a bestselling mystery writer. Bones takes the same formula, except the lead “cop” is a forensic anthropologist. So You Can Think Dance is a variation on the American Idol blueprint, with dancing replacing singing. None of the shows are ground-breaking, but they go beyond replication (many of the standard cop and doctor shows are simply replicating NYPD Blue and ER).

In addition, most successful websites are a result of someone nudging the domain a little bit further and applying an Internet sensibility. Amazon’s success has been to present an on-line bookstore with infinite books, whereas eBay tackled auction houses. Craigslist is classified advertising and Travelocity is a travel agent. Some websites are interactive adaptations of television shows, such as ESPN.com or CNN.com. Comparably, Netflix is a company that modified the basic idea behind Blockbuster Video (renting movies for a few days for a small fee). The first forward incrementation was conducting all business through postal mail; people no longer had to leave their house or worry about returning their movies. The second forward incrementation was Netflix’s early adoption of allowing users to download movies to watch on their computers.

The final contribution that stays within the existing definitions of a domain is advance forward incrementation. This contribution pushes the domain ahead two steps instead of one – and the creator often suffers for it. This type of creative product includes people who were a little before their time. Think of the musicals of Stephen Sondheim, such as Sweeney Todd, Follies, Pacific Overtures, or Merrily We Roll Along. The only one most people have may have heard of is Sweeney Todd, from the Johnny Depp movie. However, most are considered brilliant by true theatre buffs (Gordon, 1992). Sondheim’s musicals represent an enormous leap forward from earlier theatrical shows. His intricate lyrics and complex music are still following in the path of previous creators (such as Cole Porter or Kurt Weill). One big push forward about his work can be found in his serious, dark subject matters. He writes about murderous barbers, a secret society that lives in department stores, Japanese imperialism, Georges Seurat paintings come to life, presidential assassins, and a partially deformed Italian woman’s romantic obsession. As is often true of advance forward incrementation, future generations have produced many theatrical writers in the Sondheim mold (e.g., Michael John LaChuisa, Jason Robert Brown, and Adam Guettel).

It is hard to discuss current advance forward incrementation contributions, because they are often not well-known during their time. For example, the television show Buffalo Bill ran in the early 1980s. Created by Tom Patchett and Jay Tarses, the show only lasted two seasons despite 11 Emmy nominations in its short run (including Best Comedy nomination both years). The show told the story of a narcissistic talk show host who was truly unpleasant. Today there are many shows about despicable people. The Wire, House, and Breaking Bad, for example, all have cult-like followings. In the feel-good 1980’s, however, Buffalo Bill was out of place and before its time.

The final four types of creative contributions represent attempts to reject and replace the current paradigm. Re-direction represents an attempt to redirect the domain to head in a new direction. The toy company Mattel, for example, helped redirect the domain of toy selling in the 1950’s. Up until this time, toy manufacturers targeted wholesale suppliers and toy stores for their products. If companies decided to stock the toy, then it sold, if not, it didn’t. Sometimes, manufacturers might try to target parents. But Mattel spent its last financial resources to
purchase commercial time on the Mickey Mouse television show and reach the children directly. This decision changed the ways that toys were advertised (to many a parent’s chagrin). Children all across America demanded Mattel’s Burp Gun, and millions were sold (Panati, 1991; Stern & Schoenhau, 1990).

More recently, the easy accessibility of all media has enabled older movies to be considered in a new light. Terrible movies of the past have been rediscovered and presented as being laughably bad. The films of Ed Wood are an example. Earnestly and incompetently made, they have found a new audience who sees them as comedies and not the horror movies they were intended to be (Grey, 1994). Another example is Troll 2. Revered as the worst movie of all time, Troll 2 has found new fame as a comedy (A. Kaufman, 2010). Indeed, a recent documentary called Best Worst Movie highlighted its curious legacy. Wooden acting, sloppy costumes, and stilted writing hinder the story of a family that travels to a town called Nilbog and ends up trying to evade ever-present goblins. Today, the popular has found a new popularity in midnight screenings and tee shirts as new fans enjoy the unintended humor.

Most of these contribution types represent “forward” thinking; reconstruction/redirection looks backwards. This contribution is an attempt to move the field back to where it once was (a reconstruction of the past) so that it may move forward from this point — in a different direction. An example of reconstruction/redirection is the Mahjong craze of the 1920’s, which started when a businessman brought the traditional Chinese high-stakes, male-oriented mix of dice and dominos to America. The classic game was reconceptualized as a low-stakes, female-oriented leisure time activity, and became a huge hit (Panati, 1991).

More recently, the world of online-gaming has demonstrated reconstruction/redirection. Most browser-based games aim for quality graphics. The graphic designs may be artistic, cartoonlike, or futuristic. Some browser games, however, are designed to look as though they were created many years ago. Older games often suffered from poor graphics because of low resolution. As a result, individual pixels could be seen. Today, a game with pixelation could be presumed to be poorly programmed — yet many designers are purposely choosing to create pixelated games to get a “retro” feel. Such games look as though they were created 25 years ago, yet they play as modernly as their sleeker counterparts (Deitz, 2010).

Perhaps the most radical of all the creative contributions is reinitiation. In reinitiation, the creator tries to move the field to a new (as-yet-unreached) starting point and then progress from there. Reinitiation is Marcel Duchamp entering a urinal into a 1917 art exhibit and calling it “Fountain”, or Lavoisier inventing a revolutionary new chemistry. Like advance forward incrementation, it is difficult to predict which new products will have such an impact on the field. One possible nomination for reinitiation is the advance of hands-free gaming. Microsoft’s Kinect uses new technology to recognize a player’s voice and movements. A person can control the game with basic body movement. In typical computer games, a game character would normally be told to jump by pressing a button. With Kinect, the players would physically jump themselves. A player can use his or her voice to give instructions to the game (such as to save or change a feature).

Finally, the last contribution is integration, in which two diverse domains are merged to create a new idea. Consider, for example, two of the most popular science fiction creations of all time. Gene Roddenberry’s Star Trek and George Lucas’s Star Wars both were able to integrate the fields of science fiction and westerns. Star Trek was a television show that was based on a similar concept as the western show Wagon Train — sturdy and resilient men and women prevailing over an assortment of different types of people. Star Trek used human and Vulcan characters, and had them triumph over a variety of different alien species (Panati, 1991). In a similar vein, George Lucas used a famous western plot in a science fiction setting. The basic story of Star Wars closely mirrors the plot of the John Wayne classic The Searchers; again, however, the setting of the Old West is replaced by outer space. Star Wars also integrates the field of Japanese Samurai movies; the plot of Star Wars. A New Hope is reminiscent of Kakushi Toride no San Akunin (1958). The character of Obi-Wan Kenobi can be seen to represent a Samurai warrior, while the two robots of R2-D2 and C-3PO resemble two crooks that were hired to help rescue a princess in the original Japanese movie.

A prime recent example is the creation of the iPhone. The initial iPhone 2G synthesized two different handheld devices: a phone and an iPod. Creating a phone that also allowed you to play music, take photos and check e-mail (and, eventually, serve as a GPS and video camera) was a merging of two distinct yet complementary products. Handheld music devices with exponentially more space than a Walkman were popular. Phones that could offer more than simply making phone calls were popular. By combining these two concepts, Apple created one of the best-selling products of the 21st century.

Creativity theories are often proposed and then simply reiterated. A good theory, however, should grow and develop along with the times. The goal of this paper has been to update the Propulsion Model of Creative Contributions to reflect recent developments in media and technology. In the years to come, there may be new ways to be creative that may require the development of new categories (or new theories).
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References


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