

Innovation and Creativity

Something new or just a rearrangement?



"The very first paradox resides in the very idea of creation," says Jacques Barzun in his article "The Paradoxes of Creativity."¹ How can you make something from nothing since, as William Shakespeare's *King Lear* says, "Nothing will come of nothing?" Yet organizations and individuals are bent on being creative, on being more creative, on being an "innovation leader." Charles Handy subtitled his most recent book *The New Alchemists*, "how visionary people make something out of nothing."² Richard Florida has become well known for explicating the "creative class" and what it likes and where it lives. Editors at *Fast Company* dubbed the December 2004 edition of the magazine its "creativity issue." What's going on here? Making something out of nothing used to be the prerogative of the gods.

In fact, the word *creative*, which entered the English language (from Latin) in the late fourteenth century, was used only in reference to *the Creator* for almost 200 years. The word "innovate" doesn't even appear in English until the sixteenth century, when it was used in a negative way to describe troublemakers and revolutionaries.

Nowadays, people love the new, the original, the creative. A recent Bain and Company poll of corporate CEOs showed that 80 percent of them have "becoming more innovative" as one of their top three strategic goals. However, nearly two-thirds say they are making little progress toward such a goal.³ In another example of this quest, Prime Minister Jean-Pierre Raffarin recently launched a new national agency for innovation; its goal is to create a million new businesses over the next five years.⁴

The Monitor Group's CEO Mark Fuller quoted in *Fast Company* claims poetically that "competitive advantage roots best in soil nourished by disciplined, sustained innovation."⁵ *The Economist* pronounced in a September 4, 2003, article that "with the pace of innovation heating up, an enterprise that fails to replace 10 percent of its revenue stream annually is likely to be out of business in five years."⁶

Networked innovation in a networked world

Innovation has come to have many names: open innovation, wicked innovation,⁷ compete-against innovation, disruptive innovation, sustaining innovation. Clayton Christensen's still influential 1977 book *The Innovator's Dilemma* distinguishes between "sustaining technologies" (that improve product performance) and "disruptive



technologies” (“innovations that result in *worse* product performance, at least in the near-term”). With case studies and examples drawn largely from the high-tech industry, Christensen presents his case for organizational innovation of both kinds. His conclusion: “The dilemma posed to innovators by the conflicting demands of sustaining and disruptive technologies can be resolved.”⁸

Christensen’s second book on the subject, *The Innovator’s Solution*, continues the theme, urging us to begin disruptive innovations ourselves as a way to growth. “Executives cannot twist an on-off valve to start and stop the flow of opportunities and problems from deliberate and emergent directions,” says Christensen.⁹ In the last few years, with the enormous growth in interest regarding networks, many observers see innovation as the product of rubbing against new ideas on the outsides of organizations.

“Networks support new ideas,” says *The Hollywood Report* published by Herman Miller. “They allow people connected to the ideas to align themselves with supporters while remaining only loosely connected to more pragmatic and generalized support.”¹⁰ Named after the practice in the movie industry of assembling a team of actors and staff to make a movie and then disbanding it, the report explores the nature of networks, especially how they are hospitable to new ideas. When you think about it, almost all innovation is networked; no one exists in a vacuum. As Linton Weeks notes in “Networks: The Way to Get Things Done,” the organizing principle for networks is *the idea*.¹¹ The idea connects people and drives progress. It’s no wonder that innovation and networks are becoming more and more associated.

Open-source development is another mechanism for innovation among widely dispersed people and assets. Berkeley political economist Steven Weber in his 2004 book *The Success of Open Source* explored perhaps the most well-known example—the development of the Linux computer operating system.¹² Weber believes that not only will this mode of innovation become more common (witness the website Wikipedia and IBM’s January 2005 action to open some 500 patents to the public as long as the rules of open-source development are followed), but also it will change our very understanding of innovation and intellectual property.

Still, no matter what mechanism we use to make creativity and innovation real and usable by organizations and individuals, we are even today impressed and intrigued by the mystery surrounding the act of creation. How does it happen? Can we force it to happen? Will singing in the shower always produce a good idea? How many times did 3M engineer Art Fry sing in his church choir before he got the idea for Post-It® notes so that he could find his place in his hymnbook? How many baths did the Greek philosopher and mathematician Archimedes take before one day he “discovered” the principle of displacement and made the word “Eureka!” known for the rest of history?

Solo genius versus interaction

John Briggs’ quirky book, *Fire in the Crucible* explores “the roots of creativity” in an attempt to understand how people succeed or fail at innovation. The title refers to alchemy and the search for a way to transmute all metals into gold. (Interesting, isn’t it, that this book and Charles Handy’s *The New Alchemists* allude to the belief that a Philosopher’s Stone could turn base metals into precious ones? Is that the archetypal image for human creativity?) Drawing largely on examples from literature, science, and the arts, Briggs analyzes the role of creative vision in creativity, the interplay of context and friends and collaboration, the nature of ambiguity and creativity, and the relationship between creativity, emotion, and mysticism. One conclusion: Almost no one creates any good idea or makes a startling discovery by himself or herself. The “lone creator” is a myth. Yet Briggs cautions: “Growing realization of the extent to which creators collaborate is balanced by a growing realization of how difficult collaboration is.”¹³

Andrew Hargadon in *How Breakthroughs Happen* also argues that “getting past the smoke and mirrors” of the myth of the solitary genius requires us to adopt “a networked perspective” on the process of innovation. To explain the real process of innovation we need to consider such diverse fields as “network theory, cognitive psychology, microsociology, and the social studies of technology.” Hargadon examines the work of Boston’s Design Continuum as well as historical figures such as Thomas Edison (a favorite subject among writers on innovation) and Henry Ford. After discussing many innovations from the light bulb to the assembly line to General



Motors' OnStar® system, Hargadon concludes that there is much more "to creativity than designing the innovative organization, picking innovative people, and keeping them happy."¹⁴ There is also the need for incredible diversity of ideas among curious people and the serendipitous juxtapositions (à la Art Fry and his hymnbook) that all the managers in the world can't plan for.

Still, some have tried to define the traits of the most creative and remarkable people. John Masters, former president of Anschutz Exploration Corporation, an oil and gas exploration company, has presented a list of characteristics of the "most exceptionally creative explorationists." He includes intensity ("Pleasant maybe but not here to mess around"), dedication, individuality ("They do not follow normal rules"), dynamism, ("Respected but not exactly popular"), independence ("Natural leader, poor follower"), and focus ("Obsessed with their craft").¹⁵ Lone geniuses or not, creative people do seem to have their own agendas.

The creative environment

In his chapter titled "The Power of Place," Richard Florida explores the connections between place and creativity. Florida's "creative class" is "moving away from traditional corporate communities" to places that are "diverse, tolerant, and open to new ideas." Place, by which he means city or town or neighborhood, "is becoming the central organizing unit of our economy and society, taking on a role that used to be played by the large corporation."¹⁶

Stanford researcher and professor Bill Cockayne, himself a member of several teams to develop new products in Silicon Valley, also sees the environment—both natural and built—as crucial to creativity and innovation. He points to Volkswagen's new corporate university at Wolfsburg as a learning environment that begins with an innovative building shaped like linked DNA strands. "It's a building aimed at transdisciplinary, team-based creativity and innovation," he says. He adds however that innovative places are "not about who has the most lofts. It's about who has a mixture of thinking, economy, energy. Look at South Africa. It's an extremely creative place." "Enlightened spaces are even more important now than ever before," he adds, even as innovation spreads around the world and the most exciting innovation takes place outside universities and corporations and in

countries with emerging economies such as Brazil and the Czech Republic. If you want to see real innovation, Cockayne says, "Look abroad, look afar."¹⁷

Considering the impact of place on innovation, the Herman Miller research project *Patterns of Creative Work* makes several connections between creative people and their environments. "Creative people are all highly aware and critical of how their environments affect their ability to work."¹⁸ Creative people usually work in multiple locations, from offices to pubs to trains. Another common characteristic: Creative people modify their environments to add the functions and experiences they want.

Creativity and innovation for profit

A much more pragmatic and business-like approach to creative collaboration appears in *Creativity at Work*, a book by two business school professors at the University of Michigan. The authors systematically discuss the factors affecting creativity, which they describe as "a purposeful activity (or set of activities) that produces valuable products, services, processes, or ideas that are better or new." They present "creativity profiles" and identify the stages of creativity as "incubate, imagine, improve, invest." Organizations, say the authors, can adopt specific strategies—including certain kinds of physical environments—that will result in frequent and productive creativity.

The authors also describe "idea spaces" that "help employees cultivate and share knowledge." Citing the story of Gordon MacKenzie and his "Humor Workshop" at Hallmark Cards in Kansas City, the authors praise the ability of unconventional workspaces to inspire people and heighten creativity, although they use the word "space" to mean both physical and mental room. "Communities of practice" are also ways of nurturing and sustaining creativity among groups. "Community is also a conduit for invention," they say. "How a workspace is organized physically speaks volumes about how work is done and how the organization values creativity."¹⁹

Of course many people have written about and studied the best way of profiting from human creativity and innovation. An Accenture white paper, "Good Ideas Are Not Enough—Adding Execution Muscle to

Innovation Engines,” states flatly that “most companies are able to commercialize less than one in five promising ideas” and that “many companies fail to execute innovations successfully and realize value.”²⁰ James Andrew and Harold Sirkin in their *Harvard Business Review* article “Innovating for Cash” put it more bluntly: “Unless you make money from innovation, it’s just another expense.”²¹

Explaining creativity remains elusive

Yes, we can study all the famous cases of discovery in the past. We can say with certainty that George Nelson had his Irving Harper, that Charles Eames had his Don Albinson, that every famous innovator has his or her context. We can show that the Zeitgeist influenced Picasso and Braque, that, as author Charles Murray says in *Human Accomplishment: The Pursuit of Excellence in the Arts and Sciences, 800 B.C. to 1950*, “At irregular times and in scattered settings, human beings have achieved great things.”²² But we cannot be sure that we completely understand why. Creativity and innovation lie at the heart of the mystery of potential that is the human brain. Aided by technology, cognitive scientists today are making great strides into understanding how the brain works. Will they discover a “creativity gene?” A hitherto hidden set of synapses that account for bursts of original thinking and new connections? That remains to be seen.

In the meantime, one of the best books about human creativity is Alan Fletcher’s *The Art of Looking Sideways*. As its title implies, creativity and discovery result from the slant view, the off-center perspective, the second glance. One of Fletcher’s shrewd insights provides an appropriate place to end this review of the literature on human creativity and innovation: “By the way, have you noticed that it’s the brain that sleeps while it’s the mind that dreams?”²³

- 1 Jacques Barzun, “The Paradoxes of Creativity,” *The American Scholar*, Vol 58, No 3, Summer 1989.
- 2 Charles Handy, *The New Alchemists* (London: Hutchinson, 1999).
- 3 Darrell Rigby and Chris Zook, “Open-Market Innovation,” *Harvard Business Review*, October 2002, pp. 81-89.
- 4 European Communities, “French Prime Minister launches new body for SMEs and innovation,” *EUbusiness* 25 January 2005; available at <http://www.eubusiness.com/topics/SMEs/france.2005-01-25>; accessed 2 February 2005.

- 5 Michael A. Prospero, “Innovation Awards,” *Fast Company*, December 2004, p. 65.
- 6 Economist, “Expect the Unexpected,” *The Economist*, 4 September 2003.
- 7 Michael Schrage, “Wicked Innovation,” *Technology Review*, June 2004; available at <http://www.technologyreview.com/articles/04/06/schrage0604.asp?p=1>; accessed 2 February 2005.
- 8 Clayton M. Christensen, *The Innovator’s Dilemma* (Boston: Harvard Business School Press, 1977).
- 9 Clayton M. Christensen and Michael Raynor, *The Innovator’s Solution* (Boston: Harvard Business School Press, 2003), p. 230.
- 10 Herman Miller, *The Hollywood Report*, research report, 2003.
- 11 Linton Weeks, “Networks: The Way to Get Something Done,” *See: The Potential of Place*, Fall 2004, pp. 64-65.
- 12 Stephen Weber, *The Success of Open Source* (Cambridge: Harvard University Press, 2004).
- 13 John Briggs, *Fire in the Crucible: Understanding the Process of Creative Genius* (Grand Rapids, MI: Phanes Press, 2000), p. 321.
- 14 Andrew Hargadon, *How Breakthroughs Happen: The Surprising Truth About How Companies Innovate* (Boston: Harvard Business School Press, 2003), p. 5.
- 15 John A. Masters, “The Art of Exploration,” Presentation to the 1996 AAPG Annual Convention, San Diego, 20 May 1996.
- 16 Richard Florida, *The Rise of the Creative Class* (New York: Basic Books, 2002), pp. 215-234.
- 17 William Cockayne, telephone interview, 25 January 2005.
- 18 Herman Miller, *Patterns of Creative Work*, research report, 2004.
- 19 Jeff DeGraff and Katherine A. Lawrence, *Creativity at Work: Developing the Right Practices to Make Innovation Happen* (San Francisco: Jossey-Bass, 2002), p. 153.
- 20 Ajit Kambil, “Good Ideas Are Not Enough: Adding Execution Muscle to Innovation Engines,” Accenture white paper, 2002; available at http://www.accenture.com/xdoc/en/ideas/innovation/inno_good_ideas.pdf; accessed 2 February 2005.
- 21 James P. Andrew and Harold L. Sirkin, “Innovating for Cash,” *Harvard Business Review*, September 2003.
- 22 Charles Murray, *Human Accomplishment: The Pursuit of Excellence in the Arts and Sciences, 800 B.C. to 1950* (New York: Harper Collins Publishers, 2003), p. xiii.
- 23 Alan Fletcher, *The Art of Looking Sideways* (London: Phaidon Press, 2001).