

Humans as Natural Creators and Innovators:

Review of *The Runaway Species*, by Anthony Brandt and David Eagleman

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Brandt, A., & Eagleman, D. (2017). *The runaway species: How human creativity remakes the world*. New York: Catapult. \$28. 296 pp.

The Runaway Species, by Anthony Brandt and David Eagleman, is a nice and highly readable introduction for laypersons to human creativity. The book is divided into three parts.

Part I, "New Under the Sun," introduces concepts of creativity. Part II, "The Creative Mentality," presents key strategies for creative thinking. And Part III, "Cultivating Creativity," discusses what organizations and schools can do to enhance the creativity of those for whom they are responsible. In all, the book contains an introduction, 13 chapters, and 296 pages, of which 251 are text and the rest, various kinds of end-matter. The book is chock full of well-chosen and interesting illustrations that greatly enhance the value of the narrative.

Part I suggests that creativity and innovation are intrinsic to human nature. In other words, whether parents and teachers like it or not, children are naturally creative. The only question is whether the parents and teachers will encourage this creativity, or rather will ignore or even stifle it. Part I also suggests that there are three basic ways to be creative: bending, breaking, and blending. Bending is the creation of variants on already existing ideas and products. Breaking involves taking an idea or product and reassembling it in a wholly new way. Blending is the combination of existing ideas or products to create a new idea for a product. These three processes have been described by various authors in different ways. For example, Sternberg, Kaufman, and Pretz (2002) have described similar processes as "forward incrementation" (minor variants on existing ideas), "redirection" or "reinitiation" (major changes in direction or the start of an entirely new direction for ideas), and "synthesis" (combining already existing ideas in a new way).

This book has many positive features. First, writing a successful trade book on creativity is hard to do well. Some of the books tend to be too scholarly; others are just pop psychology

with no theoretical or empirical basis. There are few trade books on creativity that are successful both scientifically and practically (e.g., Csikszentmihalyi, 1996; Grant, 2017), but they actually are quite rare. This book is both scientifically strong and accessible to the public.

Second, the book is highly readable. It never gets bogged down in jargon and is lavishly illustrated to show how its concepts can be understood in concrete, practical terms. The book is never boring. In a book of 251 pages, one might expect that skimming would replace reading after about 50-100 pages. This book never invites one to skim. What's there is all worth reading. There are no bum chapters.

Third, the book contains practical suggestions for how individuals and organizations can enhance their creativity, as well as examples of how they can be implemented. Too often, suggestions of scholars are sensible but hard to implement. That is not the case with this book.

Fourth, the book normalizes creativity. Too often, creativity is viewed by laypersons and perhaps even some professionals as something reserved for the gifted and talented, or something that is available only to people who happen to be born with some kind of special set of genes for creativity. This book, in contrast, emphasizes not only how normal creativity is. Indeed, the authors point out that humans seek creative change even when things are working rather well. They point out how truly inevitable creativity is in the course of human existence, unless it is suppressed by parents, schools, or government, as is happening right now in many countries, including my own, where the government is suppressing creative science that it finds politically distasteful (e.g., Schoonover, 2019). Such suppression is unfortunately quite common in dictatorships and in faltering democracies. It is also common in schools, as the authors ably point out.

Fifth, the book emphasizes the sociocultural nature of creativity. Laypeople often think of creativity as occurring in a vacuum. It doesn't. It is always an interaction between an individual or group and the sociocultural milieu in which people operate. It is important for readers to understand that creativity is not just something in the head but rather something that occurs through interaction of minds. What is creative in one time or place may be uncreative in another. And something that is too novel may be judged as uncreative, just because people are not ready for it.

Although the book is generally very strong, like all books, it has features that might have been handled differently and perhaps even better.

First, it is not as clear to us as to the authors that the human species exhibits "runaway inventiveness" with respect to other species. It may be, rather, that creativity means different things for different species. For example, bacteria, viruses, cockroaches, mice, mosquitoes, and many other species have managed, over the millennia, to outwit humans trying to suppress or even eliminate them. No sooner do humans find a creative way to rid ourselves of them than the pests find a way to outwit their human combatants. Are we really more creative than they are? In our own terms, sure. But perhaps not in their terms.

Second, the book does not really discuss the what has come to be called the "dark side of creativity" (Chamorro-Premuzic, 2015; Cropley, Cropley, Kaufman, & Runco, 2010; Gino & Ariely, 2011; Sternberg, 2010). The dark side of creativity refers to creativity used for socially or ethically undesirable ends. Examples would be creating more advanced and lethal poisons or weapons of war, creating advertisements for unhealthful products such as cigarettes, finding more and more creative ways of cheating customers, or finding new creative ways of stealing

personal information stored online. Creativity can be used in positive ways, but unfortunately, also in horribly negative ways (as in the gas chambers the Nazis used to exterminate people they imagined to be their enemies). Today, many of the same creative innovations that have brought us various kinds of comforts—such as coal and oil for heating and combustion engines for transportation—have in a sense turned against us and contributed to global warming that threatens not only our own species, but also many other species as well (or those that are still left!). Even positive inventions, such as the internet, bring with them a negative side, such as internet addiction and social media that too often are hate-filled and presenting falsehoods as facts. It would have been desirable for the authors to discuss more some of the downsides as well as the upsides of creativity.

Third, although there are many commonalities in creativity across disciplines—pointed out in the book—there are also differences (see Kaufman, Glăveanu, & Baer, 2017). It might have been worthwhile to point some of these out. Art and science, for example, all involve bending, breaking, and blending, but the people who become creative in art and science are often quite different in personality and in aspects of temperament. What are some of these differences, and what gives rise to them?

Fourth, although it may seem picky, the index is curiously inadequate. Many, if not most of the great creativity researchers of the present and the recent past do not get even one entry. Scholars may have different lists of who is great. But missing, for example, are Teresa Amabile, Beth Hennessey, Mihaly Csikszentmihalyi, Howard Gardner, Howard Gruber, Todd Lubart, Keith Sawyer, Dean Keith Simonton, E. Paul Torrance, and Tom Ward, among others (see also Kaufman & Sternberg, 2019). Actually, very few of the top researchers in the field

make the index. No index will have every name one looks for. It would have been desirable to have at least some significant number of them.

Finally, some of the suggestions are not entirely thought through. For example, giving prizes has upsides, but also has serious downsides. Extrinsic motivation can undermine intrinsic motivation (e.g., Ryan & Deci, 2000). Further, the impact of rewards on creativity also varies wildly based on a number of factors, from the exact manner in which the reward is presented (see Hennessey, 2019) to the context and population of creators (Byron, & Khazanchi, 2012). Moreover, the suggestions given are not exactly new. Why have they not been implemented widely in the past? The problem in education, at least in the last few decades, has never been a lack of knowledge about what to do. Rather, it is structural. For example: Teachers are usually not trained or encouraged to teach for creativity; schools rely heavily on tests that are indifferent or even hostile to creativity; creative teaching techniques are sometimes seen as reaching some students but not others; it is easier to teach for rote than for creativity; etc. The challenge for creativity in the schools is not knowing exactly what to do, but rather, how to make it happen within their constraints, given that we know what to do.

With these caveats, we nonetheless agree that *The Runaway Species* is an engaging and worthwhile book. We recommend it with enthusiasm to those interested in learning about creativity and how it has impacted and can impact society and its development.

References

- Byron, K., & Khazanchi, S. (2012). Rewards and creative performance: A meta-analytic test of theoretically derived hypotheses. *Psychological Bulletin*, *138*, 809-830.
- Chamorro-Premuzic, T. (2015, November 24). The dark side of creativity. *Harvard Business Review*, <https://hbr.org/2015/11/the-dark-side-of-creativity>.
- Cropley, D. H., Cropley, A. J., Kaufman, J. C., & Runco, M. A. (Eds.), *The dark side of creativity*. New York: Cambridge University Press.
- Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention*. New York: HarperCollins.
- Gino, F., & Ariely, D. (2011). The dark side of creativity: Original thinkers can be more dishonest. *Harvard Business School Working Knowledge*, <https://hbswk.hbs.edu/item/the-dark-side-of-creativity-original-thinkers-can-be-more-dishonest>.
- Grant, A. (2017). *Originals: How non-conformists move the world*. New York: Penguin.
- Hennessey, B. A. (2019). Motivation and creativity. In J. C. Kaufman & R. J. Sternberg (Eds.), *Cambridge Handbook of Creativity (2nd Ed)* (pp. 374-395). New York: Cambridge University Press.
- Kaufman, J. C., Glăveanu, V., & Baer, J. (Eds.) (2017). *Cambridge handbook of creativity across domains*. New York: Cambridge University Press.
- Kaufman, J. C., & Sternberg, R. J. (Eds.) (2019). *Cambridge handbook of creativity*. New York: Cambridge University Press.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, <https://www.sciencedirect.com/science/article/pii/S0361476X99910202>.
- Schoonover, R. (2019, July 30). The White House blocked my report on climate change and national security. *New York Times*, <https://www.nytimes.com/2019/07/30/opinion/trump-climate-change.html>
- Sternberg, R. J. (2010). The dark side of creativity and how to combat it. In D. H. Cropley, A. J. Cropley, J. C. Kaufman, & M. A. Runco (Eds.), *The dark side of creativity* (pp. 316-328). New York: Cambridge University Press.
- Sternberg, R. J., Kaufman, J. C., & Pretz, J. E. (2002). *The creativity conundrum: A propulsion model of kinds of creative contributions*. New York: Psychology Press.

