

## Imagination, Creativity and the Human Brain

Jonah Lehrer, *Imagine. How creativity works*  
(Houghton Mifflin Harcourt, Boston, New York, 2012)

Ioana MAFTEI\*

Jonah Lehrer is a young, 30 year old writer and journalist, contributing editor at Wired Magazine, The Newyorker and Radiolab and also a columnist for the Wall Street Journal. He has advanced studies of psychology and has so far written three books: *How We Decide*, *Proust Was a Neuroscientist* and *Imagine*. Lehrer is a neuroscientist and “fancies himself – and not without reason – as a sort of one-man third culture, healing the rift between sciences and humanities by communicating and contrasting their values in a way that renders them comprehensible to partisans of either camp” (Ings 2011).

His *Imagine* starts with the promise of revealing the secrets which stand behind the human imagination and creativity, acts that are of the utmost importance in any instance of communication (may it be an informal dialogue, a debate or a speech), but have always been regarded as somewhat impossible to explain in all depths. Lehrer does not however make any distinction between the two concepts, as he notes in his *Introduction* that “creativity is a catchall term for a variety of distinct thought processes”. He thus takes a step forward by talking about the importance of the right brain hemisphere, correlating it with insight and epiphany versus ordinary analysis and the need of an insight to study the actual insight that takes place in the process of creativity.

This book is filled with puzzles and riddles (“A giant inverted steel pyramid is perfectly balanced on its point. Any movement of the pyramid will cause it to topple over. Underneath the pyramid is a \$100 bill. How do you remove the bill without disturbing the pyramid?”), examples of the birth of memorable advertising slogans (“I ♥ NY” and “Just do it” – Nike) or business ideas (post-its, more efficient mops and Barbie dolls) and anecdotes of great writers and poets, how some of them (Graham Greene, James Agee, Philip K. Dick, Robert Louis Stevenson) used drugs as incentives to help them work better and the effects they have on the human brain, also adding pictures to make it all more clear to the readers. Moreover, he tells stories such as the one of Bob Dylan

---

\* Universitatea „Al. I. Cuza” Iași.

writing one of his best songs, describing vividly what could have been his brain activity “during the frantic first minutes of writing” evoking his sense of frustration and feeling of possession generally associated with the moment of inspiration.

Moreover, Lehrer studies activity in cities that produce more creative individuals due to the increased amount of possibilities in education and cultural background, but also in different periods of time, concluding that some epochs are more abundant in creativity than others. Lehrer also mentions some research regarding teamwork versus the work of individuals, group creativity, the conditions, rules and practices that allow a team to find easier solutions to a problem. Starting from this he writes a number of self-help advice, that should prove useful in putting creativity to use from a lucrative and even remunerative point of view, mentioning self control as one of the key elements but also proposing a number of policy changes in a wide range of areas, from education to the way in which interior designing affects creativity (following the example given by Pixar studios and Steve Jobs).

Lehrer farther stresses the importance of fMRI (functional Magnetic Resonance Imaging) and EEG (Electroencephalography) in studying this phenomenon of apparent inspiration, stating that the insight is preceded by intense neural activity, burst of gamma waves a few milliseconds before it, and finds “the *neural correlate of insight*: the anterior superior temporal gyrus (aSTG). This small fold of tissue, located on the surface of the right hemisphere just above the ear, became unusually active in the seconds before the epiphany”. In addition to this, apparently there are not just gamma waves involved in the creative process, but also alpha waves, which explain the importance of the relaxed and positive state of mind because directing ones attention inward means allowing the alpha-waves to do remote associations and deliver the moment of insight. While Lehrer does on the one hand say that taking warm showers and being happy could help, on the other hand he narrates how Bob Dylan creates a masterpiece while being totally depressed, noting that “the imagination, it turns out, is multifaceted” and inspiration should sometimes be intensely sought, although concentration inhibits imagination, revealing that people suffering from ADHD actually have a “creative blessing” and adding that sometimes patients with severe brain injuries have proven to be more insightful than people without any brain damages.

These are not the only lacks of coherence and accordance in John Lehrer’s *Imagine*, the author stating at first that the whole credit in the

imagination or creativity process should be attributed to the right hemisphere, only to later mention that there are in fact more brain portions involved. He also mentions that there is little room for originality as the insight comes mainly from past experience and ideas, recombining those to take a new shape, although he states that “our thoughts are shackled by the familiar” which mostly constrains people to act or answer in a certain way, as proven by deciphering the riddles presented in this writing. All this allows the readers to understand that passing from specific examples to a more general theory is not always the right way in a scientific demonstration.

There are nevertheless merits that should not be taken away from this book, as Lehrer has shown great talent in making connections between his theory and a number of philosophers such as David Hume or Friedrich Nietzsche and his two archetypes: the Dionysian Artist and the Apollonian artist and their different perspectives. He even quotes from the works of Virginia Woolf when referring to the subject of daydreaming, while also bringing into attention the work and experiments of various psychologists and neurobiologists, resulting into a fascinating book written in an unpretentious language that aspires to clarify scientific terms to the ordinary readers, militating for the demystification of some common-knowledge concepts by proposing the use of science as an infallible method.

#### **Refereces**

- INGS, Simon. 2011. *Proust Was a Neuroscientist by Jonah Lehrer – review*. The Guardian, February 11.
- LEHRER, Jonah. 2012. *Imagine. How creativity works*. Boston, New York: Houghton Mifflin Harcourt.