Imagination may be more important than knowledge: The eight types of imagination we use

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Murray Hunter  
University Malaysia Perlis

Imagination is the ability to form mental images, phonological passages, analogies, or narratives of something that is not perceived through our senses. Imagination is a manifestation of our memory and enables us to scrutinize our past and construct hypothetical future scenarios that do not yet, but could exist. Imagination also gives us the ability to see things from other points of view and empathize with others.

Imagination extends our experience and thoughts, enabling a personal construction of a world view that lowers our sense of uncertainty. In this way our imagination fills in the gaps within our knowledge enabling us to create mental maps that make meaning out of the ambiguities of situations we face where information is lacking, which is an important function of our memory management. This partly explains why people react differently to what they see due to the unique interpretations they make based on different prior knowledge and experience. Imagination enables us to create new meanings from cognitive cues or stimuli within the environment, which on occasions can lead to new insights.

Our knowledge and personal goals are embedded within our imagination which is at the heart of our existence, a cognitive quality that we would not be human without. Imagination is the means novelists use to create their stories. The Turkish Nobel Laureate Orhan Pamuk imagined a world he retreated into as a child where he was someone else, somewhere else in creating the narrative and story of his novel “Istanbul”.

Imagination is needed in marketing to create new value sets to consumers that separate new products from others. This requires originality to create innovation. Imagination is the essence of marketing opportunity that conjures up images and entices fantasy to consumers, allowing them to feel what it would be like to live at Sanctuary Cove in Northern Queensland, Australia, receiving a Citibank loan, driving a Mercedes 500 SLK around town, or holidaying in Bali. Imagination aids our practical reasoning and opens up new avenues of thinking, reflection, organizing the world, or doing things differently. Imagination decomposes what already is, replacing it with what could be, and is the source of hope, fear, enlightenment, and aspirations.

Imagination is not a totally conscious process. New knowledge may incubate subconsciously when a person has surplus attention to focus on recombining memory and external stimuli into new meanings. Most people tend to spend a great deal of time while they are awake “daydreaming”, where attention shifts away from the present mental tasks to an unfolding sequence of private responses. This may be enough to activate our default network, a web of autobiographical mental imagery, which may provide new connections and perspectives.
about a problem we have been concerned with. Recent research has shown that the brain periodically shifts phase locking during a person’s consciousness\textsuperscript{10}, where neural networks activate and these brief periods may be enough to allow the dominant left hemisphere give way to the right hemisphere, enabling a person to see the environment, problem or issue from a new perspective\textsuperscript{11}. This has been corroborated with research that found where people engage in mildly demanding intellectually challenging tasks during breaks from work that they are doing, there is a higher probability of finding solutions to problems that they have been engaged within their primary activity\textsuperscript{12}. These processes originate from the prefrontal cortex where we imagine ourselves and the feelings of others, the posterior cingulate cortex connecting our personal memories throughout the brain, and the parietal cortex connecting the hippocampus which is reported to store episodic memories\textsuperscript{13}.

Unguided imagination (or what was once termed “free association”) through dreaming and “daydreaming” enables the gathering of information from different parts of our memory, which may not be easy to access consciously. This information may come from a within a narrow domain or a much wider field. The more imagination takes account of the wider field, experience, and prior knowledge, the more likely these ideas created through imagination will have some originality – through complex knowledge restructuring. Allen McConnell writing about Steve Jobs in *Psychology Today* postulated that the large array of fonts designed for the Macintosh computer were inspired from Job’s interest and knowledge about typography he learned while doing a calligraphy class at Reed\textsuperscript{14}. It was Job’s imagination of seeing an array of fonts in the Macintosh that made it reality. There are very few serendipitous occurrences in creative insight. Most are the result of triggers and slow incubation periods that lead to a revelation\textsuperscript{15}.

Marsh and Bower called the above types of insights inadvertent plagiarism\textsuperscript{16}. Most cases of insight were inspired by something in the past; although though imagery these new concepts may have been given new types of manifestations. It is through the imagery of analogies that many breakthroughs in science have been achieved\textsuperscript{17}. Einstein developed his insight for the theory of relativity through imagining what would happen if he travelled at the speed of light, Faraday claimed to have visualized force lines from electric and magnetic fields from a wood fire giving insight into the theory of electromagnetic fields and kekulé reported that he gained insight into the shape of the benzene molecule after he imagined a snake coiled up in a circle.

Imagination is a multidimensional concept and encompasses a number of different modes which can be described as follows;

1. **Effectuative imagination** combines information together to synergize new concepts and ideas. However these are often incomplete and need to be enhanced, modified, and/or elaborated upon as more information from the environment comes to attention and is reflected upon. Effectuative imagination can be either guided or triggered by random thoughts, usually stimulated by what a person experiences
within the framework of their past experience. Effectuative imagination may also incubate from pondering over a specific problem within the occasional attention of a person. Effectuative imagination is extremely flexible and allows for continuous change. This is an important ingredient in entrepreneurial planning, strategy crafting, particularly in opportunity construction, development, and assembling all the necessary resources required to exploit any opportunity\textsuperscript{18}. Effectuative imagination also leads to other forms of imagination that assists in the construction of concepts, ideas, and action scenarios. Effectuative imagination enables flexibility in our thinking.

2. **Intellectual (or constructive) imagination** is utilized when considering and developing hypotheses from different pieces of information or pondering over various issues of meaning say in the areas of philosophy, management, or politics, etc. Intellectual imagination originates from a definite idea or plan and thus is guided imagination as it has a distinct purpose which in the end must be articulated after a period of painstaking and sometimes meticulous endeavor. This can be very well illustrated with Charles Darwin’s work which resulted in the development of his hypothesis explained in his book *The Origin of Species* which took almost two decades to gestate and complete. Darwin collected information, analyzed it, evaluated and criticized the findings, and then reorganized all the information into new knowledge in the form of a hypothesis\textsuperscript{19}. This can be a long drawn out process, sometime decades long, with intermittent periods of high intensity and other periods where very little thought is given to the problem. Intellectual imagination is a very conscious process, although it may slip into other forms of imagination that enable new insights.

3. **Imaginative fantasy** creates and develops stories, pictures, poems, stage-plays, and the building of the esoteric, etc. This form of imagination may be based upon the inspiration of some fact or semi-autobiographical experiences (*James Bond*), extrapolated or analogized into new persona and events (*Star Trek*) that conform to or stretch the realms of reality into magic, supernatural mythology and folklore (*The kane Chronicles*, *King Arthur*). Imaginative fantasy may be structural with mythical people in real world settings (*The Planet of the Apes*), past, present, or future, with real people in mythical settings (*Lost in Space*). Fantasy may totally disregard the rules of society (*The Wonderful Wizard of Oz*), science and nature (*The Time Machine*, *Back to the Future*), or extrapolate them into the future with science fiction (*2001: A Space Odyssey*). Fantasy can also be based upon human emotions (*Romeo and Juliet*), distorted historical facts (*The Patriot*), historical times and political issues (*Dr. Strangelove*), take a theme and fantasize it (*1984*, *Animal Farm*), encapsulate dark fantasy (*Wag the Dog*), or evoke urban legend (*The Stepford Wives*, *Dusk to Dawn*). Imaginative fantasy can be a mixture of guided and unguided imagination and is important to artists, writers, dancers, and musicians, etc.
4. **Empathy** is a capacity we have to connect to others and feel what they are feeling. Empathy helps a person know emotionally what others are experiencing from their frame and reference\(^{20}\). Empathy allows our mind ‘to detach itself from one’s self’ and see the world from someone else’s feelings, emotions, pain, and reasoning\(^{21}\). Empathy can assist us in seeing other realities, alternative meanings of situations, which may consist of many layers. Empathy shows us that there are no absolutes, just alternative meanings to situations\(^{22}\). Empathy links us to the larger community and thus important to human survival in enabling us to understand what is required to socially coexist with others. Empathy shows that realities sometimes conflict. Seeing conflicting realities is a sign that we are starting to know. Howard Gardner postulates that the concept of empathy should also include our empathy with nature and our place within it\(^{23}\). High ego-centricity leads to reduced empathy and the inability to see other viewpoints. However recent studies on narcissistic individuals has shown that there are two types of empathy, affective empathy discussed above and cognitive empathy which involves the ability of people to see person’s emotional state without being able to feel what they are feeling\(^{24}\). Lack of empathy can also be compensated by strategizing and spontaneous mentalizing to manipulate others to their advantage. These Machiavellian personalities don’t necessarily feel the same emotions as those with empathy receive, so don’t feel guilty when manipulating others\(^{25}\). This type of behavior can be seen in short-term mating strategies by males\(^{26}\). Besides being extremely important in interpersonal relationships, empathy is an important tool for competitive strategy as it enables one to think about how our competitors would react to our moves and what they would do. Branding can also be considered a result of empathy as branding is designed to try and capture connections with potential customers by appealing to their emotions, self identity and aspirations.

5. **Strategic imagination** is concerned about vision of ‘what could be’, the ability to recognize and evaluate opportunities by turning them into mental scenarios, seeing the benefits, identifying the types and quantities of resources required for taking particular actions, and the ability to weigh up all the issues in a strategic manner. A vision helps a person focus upon the types of opportunities suited to their disposition. This sense of vision is guided by a person’s assumptions, beliefs and values within the psych. Vision has varying strengths in different people depending upon their ego characteristics and motivations. The ability to spot and evaluate opportunities is closely linked with a person’s imagination, creative thinking, propensity to action, and perceptions of their talents and available skills. According to Bolton and Thompson entrepreneurs spot particular opportunities and extrapolate potential achievable scenarios within the limits of their skills and ability to gather resources to exploit the opportunity\(^{27}\). These extrapolations from opportunity to strategy require both visual/spatial and calculative thinking skills at a strategic rather than detailed level. Adequate concentration is required in order to
have a strategic outlook upon things. This requires focus in strategic thinking, creativity, a sense of vision, and empathy. Strategic (and also intellectual) imagination can be utilized through thought experiments, the process of thinking through a scenario for the purpose of thinking through the consequences. Too little focus will result in random jumping from potential opportunity to opportunity without undertaking any diligent mental evaluations. Too much focus may result in narrow mindedness and even obsessive thinking which would result in either blindness to potential opportunities or at the other end of the scale taking action without truly “objective” evaluation. Strategic imagination in some cases is a form of wisdom.

6. **Emotional imagination** is concerned with manifesting emotional dispositions and extending them into emotional scenarios. Without any imagination, emotion would not be able to emerge from our psych and manifest as feelings, moods, and dispositions. Fear requires the imagination of what is fearful, hate requires imagination about what is repulsive, and worry requires the imaginative generation of scenarios that make one anxious. Through emotional imagination, beliefs are developed through giving weight to imaginative scenarios that generate further sets of higher order emotions. Emotional imagination operates at the unconscious and semi-unconscious level. People who show excessive emotional imagination would most probably be defined as exhibiting psychotic tendencies. Emotional imagination is one of the most powerful types of our imagination and can easily dominate our thinking processes.

7. **Dreams** are an unconscious form of imagination made up of images, ideas, emotions, and sensations that occur during certain stages of sleep. Dreams show that every concept in our mind has its own psychic associations and that ideas we deal with in everyday life are by no means as precise as we think. Our experiences become sublimed into our memory passing into the unconscious where the factual characteristics can change, and can be reacquired at any time. According to Jung, dreams are the invisible roots of our consciousness, and connect us to our unconscious. However the meaning of dreams is can only be based on our speculative interpretation. Some dreams are very straight forward, while others surreal, magical, melancholic, adventurous, and sexual where we are most of the time not in control.

8. **Memory reconstruction** is the process of retrieving our memory of people, objects, and events. Our memory is made up of prior knowledge consisting of a mix of truth and belief, influenced by emotion. Recurring memory therefore carries attitudes, values, and identity as most of our memory is within the “I” or “me” paradigm. Memory is also reconstructed to fit into our current view of the world, so is very selective. The process of memory reconstruction occurs within our subconscious emerging into our consciousness without us being really being aware of the source elements, *i.e.*, *what is fact and what is belief*. Memory reconstruction is assimilative
and can construct new knowledge out of random facts, beliefs and experiences which may lead to insight.

Each form of imagination outlined above certainly overlaps and may operate in tandem. Imaginative thinking provides the ability to move towards objectives, and travel along selected paths. Imaginative much more divergent than logical thought, as imagination can move freely across fields and disciplines, while logical thinking is orientated along a narrowly focused path. From this perspective imagination is probably more important than knowledge as knowledge without application is useless. Imagination enables us to apply knowledge.

However imagination can also be dysfunctional. Personality disorders and the emerging emotion can dominate our imagination with fear, anxiety, paranoia, and/or narcissistic tendencies, etc. This may prevent a person from imagining new alternatives to their current goals and behavior, thus allowing their past fears and anxieties to dominate their thinking. Imagination can consciously or unconsciously dissociate a person from the reality of their everyday life where they may fall into the life of fantasy. Abstract imagination can very quickly take a person away from reality where current problems are ignored in favor of fantasy.

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9 This sensation can be experienced when a person is reading a book and absorbing nothing, going through the motions of running the eyes through the text, reading but not absorbing what is being read while the mind’s attention is somewhere else, often not within our conscious awareness.


19 Darwin began keeping notes on the phenomena of evolution on his early voyages in the 1830s and made a sketch of his book *The origin of Species* in the early 1840s. However he expanded and almost completely rewrote it after another decade and a half of further observations, finally publishing the book in 1859. See Bartlett, F.C. (1928). *Types of Imagination*, *Journal of Philosophical Studies*, Vol. 3, pp. 78-85.


30 Hunter (2012), *op. cit.*, P. 341.
