

Unconscious Leadership: Are We Still In Kansas?

Dr. Raymond L. Forbes Jr.

Chair, MS in Business Psychology, Franklin University

Abstract: *Recent discoveries in neuroscience continue to reveal the important role of the unconscious in determining human thinking, feeling and behavior. Using current research findings, this paper will attempt to peel back the curtain relating to the role of the unconscious mind in impacting key leadership decisions, motivations, attitudes and behaviors. This work will also provide some elemental brain basics for leaders, look at some current myths regarding unconscious functioning, explore some relevant research findings, and suggest some implications for leaders from the findings. Woven throughout are comparisons with the classic children's story, *The Wonderful Wizard of Oz*.*

Keywords: *Brain, Leadership, Metaphor, Oz, Unconscious*

I. Introduction

The study of the unconscious mind has a long and checkered past. Enlightenment philosophers such as Descartes, Hume, Locke, Schopenhauer and von Hemholtz [1] even questioned its very existence. Pioneering biologist Charles Darwin referred to the unconscious repeatedly in his classic biological treatise *On the Origin of the Species*[2]. Modern inquiry into unconscious brain functioning was popularized by pioneer neurologist and psychoanalyst Sigmund Freud, who pictured it as a seething cauldron of motives and emotions [3].

Freud's disciple, Carl Jung, had a differing and more benign view of the unconscious, even going so far as to suggest a collective unconscious shared by all humanity. Jung believed the collective unconscious was inherent in the structure of the brain and contained the whole spiritual heritage of human evolution. The collective unconscious was believed to contain information on the history of mankind's evolution stored in the form of ideas, images and patterns within each individual brain [4].

Evolutionary biologists have since proposed that the unconscious arose prior to the development of highly advanced mental processing and language in humans. The unconscious was viewed as a principal means for advancing survival and reproduction. More recently, author Arthur Koestler indirectly referred to the unconscious mind as the "ghost in the machine." Koestler further conjectured that the explosive growth of the human brain has resulted in an ongoing pathological split between emotion and reasoning [5].

1.1 The Wizard Revealed

In the often retold timeless children's tale *The Wonderful Wizard of Oz*, American author L. Frank Baum [6] follows the adventures of the plucky young girl Dorothy down the yellow brick road in search of the Wizard of Oz. Oz is purportedly a very powerful and secretive sorcerer capable of returning her safely home to the state of Kansas in the American Midwest. The saga begins with Dorothy and her little dog Toto being uprooted from her simple prairie home by a violent wind. The howling tempest eventually unceremoniously deposits them unhurt in as surpassingly strange and foreign land.

During her travels, Dorothy encounters many fascinating characters including three unique traveling companions. Each member of this adventuresome trio is also attempting to obtain from Oz something of exceedingly important personal value. For the Strawman it is a brain, for the Tin Woodman a heart, and for the cowardly Lion it is courage. Surviving many dangers along the path, the group eventually reaches the Emerald Palace, the home of the Wizard of Oz. While seeking an audience with the reclusive wizard, the group accidentally discovers that he is a fake. Oz is actually something of a common man, hiding behind a curtain, using simple magic and voice projection to give the impression that he is omnipotent.

Dorothy and her friends are greatly disappointed that the sham wizard cannot directly grant their individual wishes. Oz, however, is able to offer them practical advice on how to get what they want from Glinda, the Good Witch of the South. Additional travels and personal tests are required. In overcoming their changed circumstances, Dorothy shows perseverance, the Strawman demonstrates intelligence, the Tin Woodman expresses feelings, and the Lion displays bravery.

As it turns out, by confronting their individual fears and doubts and overcoming the adversities encountered, the travelers are granted their individual desires. They all find the confidence and inspiration, provided by their unconscious, to reach their personal objectives through individual and collective effort. Together, they are able to move from positions of conscious fear to unconscious joy.

The difficulties and triumphs in the story provide an intriguing metaphor for the current state of research on the relationship between leadership and the unconscious mind. Similar to unmasking a powerful shaman, the historic storyline parallels the ups and downs of a titanic struggle for research legitimacy and credibility.

1.2 The Elephant in the Room

Much of the early research literature on brain function tended to disregard or deny the role of the unconscious as a determinant of behavior. Although the brain receives about five million bits of new information every second, the conscious brain can typically handle only about forty bits. The huge processing power of the unconscious mind permits the conscious mind to use its energy to reflect on the past, consider present risks and opportunities and make future predictions. The unconscious brain also contains the equivalent of a threat detection and avoidance radar (the amygdala) that can automatically override conscious attention when the organism is threatened.

Brain investigation, until recently, has focused primarily on conscious mental function. The research emphasis has tended to center on the workings of the brain's newest evolutionary elements, the four lobes of the cerebral cortex. However, eminent psychotherapist Gerald Alper suggests that there is far more to the human mind than the order, predictability and rationality associated with consciousness awareness [7]. To make his case for mind diversity, Alper cites as examples such characteristics of the mind as: spontaneous emotion, novelty, randomness and contingency. He also argues that conventional research has denied the existence of the unconscious mind and that it has become the proverbial, invisible and non-discussable "elephant in the room."

1.3.1 Brain Basics

Our fundamental brain structure appears to be relatively unchanged after hundreds of thousands of years of maturation and development. In that time, some brain areas have been repurposed to better match up with growing environmental complexity. For example, the incorporation of vocal chords into the windpipe has enabled human speech and the brain circuits that handle physical pain are also used to process emotional pain. The developing brain, guided by a general genetic DNA blueprint, also follows a set of basic rules. Beginning at the fetal embryo stage, the growing brain elaborates from bottom to top and from back to the front.

Essentially, the brain is organized into three highly interconnected levels: a lower level (the brain stem), a middle level (the limbic system) and an upper level (the cerebral cortex). The lowest level is concerned with the regulation of basic life survival functions such as respiration, salt levels and heart rate. The center level deals with the five senses, emotions and memory. The top level is the seat of thinking, language, logic and self-reflection.

Neuroscientists believe that a large portion of the thin top layer of cerebral neurons, about the thickness of a US five cent piece, called the prefrontal cortex, is what makes humans, human. Operating together, the hyper-connected three brain levels are what enable us to think, act and feel. The brain works primarily through an estimated 84 billion neurons organized into circuits and networks. Neurons are also supported by specialized brain cells called glial, or "glue cells," that provide for their care and maintenance as well as enabling the speed and efficiency of their electrical transmissions.

To gain a sense of perspective on the range of size of neurons, they range from about the width of a human hair to over two meters in length. On average each neuron is connected with up to 10,000 other neurons. Essentially, every cubic millimeter contains about one billion connections. The brain functions by employing electro-chemical processing using substances called neurotransmitters and hormones. Its high plasticity allows its physical structure to change in response to both internal and external demands.

Plasticity also means that a brain is able to adapt, learn and intellectually grow throughout its entire lifespan. The brain is also something of an energy hog, although it typically constitutes only 3% of total body weight, it consumes about 20% of the total energy available. Additionally, it generates enough electrical power to light a twenty watt light bulb. Unfolded, the brain's surface area is about the size of a table napkin. The two halves of the cerebral cortex work together and are connected by a dense thumb-sized bundle of nerves called the corpus callosum.

The left hemisphere of the brain tends toward specialization for internal processing and ordering of information, and the right hemisphere for processing novel stimuli from external sensor information. The brain's wiring is also such that the left side of the brain controls the right side of the body and right side of the brain controls the left side of the body. It appears that as a result of ancestral genetic heritage, we are also predisposed toward grasping certain types of meaning over others. For instance, the intrinsic ability of a baby to infer emotion by reading its mother's facial expressions. Meaning is established by the pairing of experiences with emotions in the association areas of the brain.

II. What We Think We Know That Isn't So

As the consequence of mounting research evidence, the belief among many neuroscientists is that consciousness is a direct consequence of brain function. Additionally, that our sense of self is a product of both nature and nurture. The self is viewed as a product of the interaction between our genetic heritage and our accumulated environmental experiences. We arrive in the world not as a blank slate, but with certain instinctual responses and predilections for learning already in place. Indeed, our brains are primed to learn certain things.

We also appear to be prone to adopt particular thinking and feeling preferences in spite of a great deal of direct evidence to the contrary. American cowboy satirist Will Rogers was noted for his wry, earthy and on-target sense of humor. Reputedly, during one of his unpretentious monologues, Rogers dryly noted, "It ain't what you don't know that gets you into trouble, it's what you know for sure that just ain't so."

Here are some of the currently prevailing misconceptions or "what isn't so" about the brain and mind:

- Our personal thoughts and opinions drive our choices (primarily unconscious influences appear to do so [8])
- The brain is fully developed during childhood (although the brain can learn at any age, it usually doesn't become mature until our mid-twenties [9])
- We see what's actually out there in the world (vision, hearing, and the perception of time are all constructions of the brain [10])
- The contents of the unconscious are unknowable (neuroscientists are currently working on a catalog of the unconscious [11])
- The unconscious mind is hallucinatory, primitive and irrational (there are parts of the mind that are not accessible to consciousness due to the architecture of the brain; this is a normal condition [12]).
- Brain neurons can't regenerate (some areas of the brain such as the hippocampus associated with memory and some sensory smell neurons have shown an ability to regenerate themselves [13]).

III. Some Surprising Discoveries from Neuroscience

Counter to Will Rogers's assertion about truths, here are some recent findings from brain research that appear to be accurate:

- On average, men's brains are 10% larger and contain about 4% more cells than women's brains. Women's brains contain more neurons and cellular connections, are more compact, and potentially more efficient. The corpus callosum tends to be thicker in women than in men [14].
- Limbic resonance or the out-of-conscious awareness convergence of two individual's brainwaves and body rhythms, has been detected electronically [15]
- An explainer circuit in the left hemisphere of the brain that continually seeks the meaning of life events has been discovered. Called, the interpreter, this circuit looks for order and reason even when there may be none and fabricates an explanatory story although no real evidence may exist to support it [16]
- The placebo effect, or pain relief associated with the release of the brain's own opiate-like substances, has been found to be real [17]
- Mirror neurons, specialized brain cells that fire when observing others actions that enable us to understand their intentions, have been found in parts of the brain [18]
- The brain appears to have two basic modes of decision making: System 1 - Fast, automatic, effortless and driven by the unconscious mind, and System 2- Slow, deliberate and calculated driven by the conscious mind [19]

IV. Leadership and the Intuitive Mind

After reviewing the available research, author Malcom Gladwell suggests that the unconscious mind, rather than being Freud's malevolent entity, is actually a helpful and benevolent adjunct to the conscious mind. Gladwell further proposed that the unconscious mind could be likened to a kind of computer that quickly and quietly processes the data we need as human beings in order to continue functioning [20]. In an evolutionary sense, the unconscious mind appears to have evolved as a means of enabling human survival by serving as a repository for lessons learned through significant fearful and pleasurable experiences. The unconscious evolved as a way of thinking without thinking, of operating below the surface awareness and for reaching conclusions without overtly announcing to us what it is doing and how it is doing it.

The unconscious mind has also been implicated as the primary source of leadership intuition. Defining intuition as "knowledge without rational thought," author Roy Rowan has reported on the extensive use of intuition by seventy-five chief executives. Rowan further implied that often the largest obstacle to creative decision making is not having the fortitude to follow a good hunch [21].

Another of the leading proponents of the value of unconscious-based intuition for senior leaders is Professor Weston Agor. Founder of the Global Intuition network, he has devoted extensive research effort to determine the value of intuition in executive decision-making focused on increasing overall organizational productivity [22]. Agor further describes intuition as a learnable skill. Following the Myers-Briggs personality typology regarding extroverts and introverts, Agor believes that there are both extroverted intuitives as well as introverted intuitives in the leadership ranks.

Evolutionary psychologist Nigel Nicholson has written extensively on how we use our stone-age minds in the information age. Using the term "executive instinct" to portray the unconscious mind's operation, Nicholson [23] notes that just because we have instincts does not imply that we don't have choices. Further, Nicholson suggests that a system that knows itself has the advantage of more control over its own destiny.

Similarly, psychologist Clay Claxton has proposed that the greatest element of useful understanding that we acquire during our lives is not explicit knowledge, but rather implicit know-how. Claxton further suggests that we continue to make increased use of this ability throughout our lives to recognize patterns and change ourselves accordingly. We are able to do this without necessarily being able to articulate what we have learned or even indicate that we have learned anything at all [24].

Founded on twenty years of work, psychologist Gary Klein has demonstrated that intuition is, in fact, a tangible and learnable skill. On the basis of his subject learning, Klein suggests that intuition is really the way that we translate our experiences into action [25]. Researchers in the last fifteen years have determined that leaders who think too much can interfere with and be detrimental to intuitive judgments. Mood also appears to influence decision making style. When individuals are in a sad mood they tend to rely on a more analytical and less intuitive approach to understanding the non-verbal behaviors of others [26].

V. Implications

Twenty-four hours a day, below our conscious awareness, our brains are busy making subtle connections between things that may outwardly appear to be completely unrelated. Stories, mottos and metaphors provide a rich ground for activating these linkages. For example, the motto of the American mid-western state of Kansas, the initial and final location of the Oz story, translates from Latin into English as “to the stars through difficulties.” This maxim also seems to be an appropriate allegory for both the travails of Dorothy during her visit to Oz as well as for some of the leadership implications arising from the research on the unconscious mind.

A sudden meaningful integration of these subterranean mind connections, sometimes called the “Eureka Effect,” may spontaneously bubble up into awareness as an intuition [27]. In considering the use of intuition in the business world, researchers have noted that many effective CEOs are aware of the limits of the scientific method and rationality for decision making. Logic and scientific analysis appear to be most useful when answering three critical questions: Does it add up? Does it sound OK? and, Does it feel right? Of the three, science and logic appear to make the least influence on both sounding and feeling right [28].

The research evidence also suggests that fear is the most dominant of our emotions. Fear taxes the unconscious brain and can itself be unconsciously generated by overloading our unconscious with fear processing. As a result, we consume valuable energy that could be used for more productive tasks. Additionally, when the body is in a constant state of fear alert, toxic chemicals such as cortisol are circulated throughout its many systems.

The ability to be creative is also strongly linked to powerful unconscious brain processes [29]. Creativity seems to be highly dependent on the ability of the unconscious mind to make purposeful, unique connections from information that may have seemed at first to be irrelevant. Thinking creatively requires deliberate attentional blurring rather than intense focus [30].

Henson and Rossouw [31] have suggested two simple things to do to better engage the unconscious mind when dealing with high levels of complexity. The first relates to getting better exercise and the second is to use laughter. They also recommend taking regular breaks and getting sufficient sleep. Improved individual and organizational effectiveness may also ensue from the identification and reduction of unconscious biases [32]. Spending more time recognizing, naming and countering unconscious biases in such areas as hiring decisions, performance appraisal, and work assignments can result in significant organizational payoffs.

VI. Future Projections

An old Danish proverb admonishes against the tricky task of making future projections. This ancient adage advises, “It is difficult to predict, especially if it's about the future.” So, what might a modern-day Dorothy, armed with expanding knowledge from neuroscience research, think about unconscious mind prospects for the future?

One future possibility is that leadership will continue to move in the direction of fostering unconscious competence. This is the stage of intuitive knowledge developed through trial and error, employing complex connections hidden to the conscious mind, and with the results stored in unconscious memory [33]. The intent is to empower leaders to be better informed by their personal knowledge, to feel more comfortable in the use of intuition, to more thoughtfully reflect on their experiences, and to modify their behavior accordingly so that they will be better able to influence a desired outcome.

Exploration of ways to improve human performance on and off the job via unconscious processes is another strong future possibility. Initially studied by psychologist Mihaly Csikszentmihalyi [34], “flow” is the descriptive term for an internal state that generates peak performance. Flow is characterized by clear goals, immediate feedback, a loss of self-consciousness, a distorted sense of time, and a balance between task challenge and current ability level. Research will continue on finding more efficient ways to trigger the flow state including neural feedback, wearable devices to monitor biometrics, three-dimensional simulations, neuroactive chemicals and advanced meditation.

Effective leaders will also increasingly move toward recognizing the primacy of human feeling as an essential ingredient of successful decision making. Greater numbers of leaders will employ neuroscience-based models such as SCARF that recognize the potency of the unconscious mind in affecting motivation and behavior. SCARF was developed by David Rock, the founder of the Neuroleadership Institute [35]. Where: S is status, C is certainty, A is autonomy, R is relationships, and F is fairness. Status denotes one's perceived importance related to others, Certainty concerns one's need for clarity and the ability to make accurate predictions about the future. Autonomy is connected to a sense of control over life's events. Relatedness is tied to one's sense of connection with others. Fairness represents a just and unbiased exchange between people.

Some of the potential future advantages of harnessing the power of our unconscious minds include: being better able to learn how to learn, gaining insight into how to best sustain and retain key workforce members, taking superior advantage of the internet's opportunities, besting the competition, and being more fully engaged in productive work [36]. Brain scientist Antonio Damasio may have best captured this change in stance related to unleashing the emotional power of the unconscious mind. In a twist on the brain as machine analogy, Damasio proposes that humans are not necessarily thinking machines but rather feeling machines that happen to think [37].

VII. Conclusion: Why We Are Not in Kansas anymore

In the 1939 movie version of "The Wizard of Oz," Dorothy, after surviving a very bumpy ride on the whirlwind, is roughly deposited in strange and unfamiliar surroundings. Recovering her wits, and surveying the puzzling landscape, Dorothy cautiously remarked to her little dog, Toto, "I've a feeling we're not in Kansas anymore." At the end of the story Dorothy and Toto are returned to where they began, greatly changed by their experiences but eager to begin their lives anew in familiar surroundings.

Analogously, the state of the current research on the unconscious has also dramatically changed, transported by a whirlwind of worldwide scientific brain investigation. Just as modern day Kansas is vastly different from that caricatured in the Wizard of Oz, the growing tide of research has succeeded in moving our level of understanding of the unconscious mind to a new and very different stage.

The inescapable fact is, however, that we are our brains. Our brains have evolved through the millennia via their continual interaction with the physical world. This persistent two-way interaction has led to the development of many practical heuristics. These practical rules-of-thumb we still use as a shorthand means of conserving brain energy and coping with the uncertainties of our individual and collective circumstances [38].

Today we seem far removed from the departing Kansas metaphor. Our knowledge of the unconscious has grown substantially over the years since the publication of *The Wonderful Wizard of Oz*. Leading neuroscientist Kevin Mitchell [39] likens our brains to an extremely complex system like a Formula One racing car engine. He concludes that it is much easier to mess it up than improve it.

On the other hand, humans have shown a decided penchant over the millennia to be inveterate tinkerers.

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