DECISION SCIENCE INSTITUTE
The Development of Habits and Moral Reasoning:
Moral Decision Making Through the Lens of Neurobiology’s ‘Chunked’ Routines

(Full Paper Submission)

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ABSTRACT
To determine whether habits can be inherently ‘good’ or ‘bad,’ requires a closer look at the relationship between the development of habits and moral behavior. This paper attempts to summarize the neuroscience associated with routine decisions, or habits, and examine how those findings align with the established views of moral development such as those attributed to Aristotle (350 B.C.), Kohlberg (1984), Callahan (1988), and Starratt (1991). Due to the linked nature of judging individual morality along cultural norms, the establishment and change of societal habits is discussed in connection to an individual’s development and alteration of existing habits.

KEYWORDS: Ethics, Moral Decision Making, Social Norms, Habits, Organizational Change

INTRODUCTION
Consider the first time you choose to go into a Starbucks for a cup of coffee. Tired and in need of caffeine, you may have wandered in only to stop to carefully consider all the options and pricing before determining what to order. Yet with each subsequent trip you begin to funnel the decisions into a routine, and soon the barista is preparing your ‘usual’ without you needing to order or even think about what you want. A habit is born! (Ariely, 2008).

Neurological research indicates the first time we are faced with a new type of decision, our brains go into action as we utilize its full potential to analyze and assess the situation (Duhigg, 2012; Graybiel, 2008; Schultz, 1997, 1998, 2000, 2006). With repetition, the brain converts the sequence of actions into an automatic routine, or chunks, and the root of a habit is formed. Many habits are simply routines repeated without considering their impact as we shift into an automatic pilot mode. In casual discussion, we may even classify habits as good or bad. Saying ‘please’ and ‘thank you’ is taught to a young child to develop a ‘good’ habit, while the same child may be chastised for sucking her thumb—a ‘bad’ habit. Driving provides another example of the need for intense brain activity in the early decision making stages that shifts into habits done without much conscious effort with repetition. While the judgment of ‘good versus bad’ driving is less precise, the verdict is often heard through the horns of other drivers and stipulated by insurance agents working on accident claims. However, can a habit truly be inherently good or bad?

The dichotomy of ‘good’ and ‘bad’ is the source of much debate in moral and ethical studies as well. The benchmarks used in assessing the moral path are as complex and varied as the situations we face in daily life. But if we only carefully reflect and analyze a dilemma the first time it is encountered, how will the routines and habits we develop impact our moral behavior? Callahan (1988) described conventional morality as “simply to be directed by traditional or customary rules and practices without stopping to examine or criticize those rules or practices or customs” (p. 10), which mirrors this concept of following habits albeit at a personal and societal
level. She contrasted conventional morality with reflective morality, where the “individual begins to reflect on what principles will govern his or her actions, particularly when those actions involve the rights and interests of other people” (p 10). With reflective morality, we take a closer examination of the situation, our own moral integrity, and the rights and interests of others—to think before falling into our habitual response. Callahan used the concept of a “reflective equilibrium” to suggest the deliberation we should use between our moral convictions, principles, and background beliefs in determining a course of action.

In developing moral perspectives, Aristotle (350 B.C.) also emphasized the importance of developing good habits indicating we learn virtues through practice. Through a discussion of actions along a continuum of “excess to defect” (Book 2, Chapter 6), Aristotle indicated the mean represented virtue and temperance. Perceptions of action extremes and location of the mean were based on a societal standard, which could be considered the cultural habit. But what if the apparent cultural mean disadvantages a classification of people? Can the norm or behavioral habit be altered?

**Research Questions**

To determine whether habits can be inherently ‘good’ or ‘bad,’ and if so can ‘bad’ habits be altered, requires a closer look at the relationship between the development of habits and moral behavior. More specifically, how have the advances in neurological research influenced our understanding of brain functions regarding habit formation and application? Does this neural perspective impact the morality of behavior driven by habit? And if habits are deemed morally ‘good’ or ‘bad,’ what triggers changes whether at a personal level or to societal standards and cultural habits?

To answer these questions, this paper attempts to summarize the neuroscience associated with routine decisions, or habits, and examine how those findings align with established views on moral development. With each advance on the mapping of the brain comes questions on how it aligns with our existing perceptions of decision making and morality, as well as how that knowledge should be used by society as a whole. Due to the linked nature of judging individual morality along cultural norms, the establishment and change of societal habits is discussed in connection to an individual’s development and alteration of existing habits.

**UNDERSTANDING THE NEUROLOGY OF HABIT FORMATION**

**Habits Defined**

Habits refer to actions that are repeated or routine. Attributed to John Locke in 1755, an early definition of habit was “a power or ability in man of doing any thing [sic], when it has been acquired by frequent doing the same thing” (Crook, 2013, p. 275). More recent descriptions conclude that “habits are learned, recurrent patterns of behavior that are enacted with minimal reliance on conscious resources or effort” (Darity Jr., 2008, p. 402). When defined as this type of automatic action in response to a regular environmental cue, habits can account for roughly 45 percent of an individual’s daily life (Darity Jr., 2008).

The repetition without conscious effort is where habits begin to gain a ‘good’ and ‘bad’ identifier as many before and after Locke warned of the need to beware of the power of habits to drive our actions. Some of the first cautions to develop ‘good’ habits come from the translations of Aristotle (350 B.C.), who specified that the habits we form as youths greatly impact the development of strong moral character. Evangelists of the 19th century echoed this warning of
the control habits can gain over our lives in influencing actions (Spear, 1868; Stone Cabot, 1840). Some reiterated another of Aristotle’s recommendation to remain vigilant regarding customs of peers to avoid adopting vices that appear as norms of behavior when keeping ‘bad company’ (Unknown, 1897). Even English authors of the 17th and 18th centuries, such as William Law and Samuel Johnson, used their fictional characters to demonstrate the importance of ‘good company’ in developing habits to build one’s moral character (Jensen, 1999). Central to the heed called by all was that once habits take root they become established and are very difficult to alter.

**Functions of the Brain**

As neuroscience established methods to study the inner workings of the brain, a greater understanding on the mechanics of thought has developed. For example, in trying to understand addiction Wolfram Schultz (1997, 1998, 2000, 2006) has done extensive research on primates and learned reward systems which elicited anticipation responses similar to Pavlov’s dogs. Using macaque monkeys with electrodes inserted in their brains, Schultz (1997) reported on the limited brain structures that are used in response to appetite events and elaborated on the physiological workings of the nigrostriatal dopamine projection system and “projections from midbrain dopamine neurons to ventral striatum and frontal cortex” (1998, p. 1). As his research progressed (2000), so did the level of detail—and the need for an anatomy lesson—as he described the dopamine neuron paths to the amygdala (memory, decision-making, and emotional reactions), striatum (reward detection), orbitofrontal cortex (goal representation), medial temporal cortex (reward detection), and dorsolateral prefrontal, premotor, parietal cortex (reward expectation) areas of the brain. In other words, the linkage of brain activity to the anticipation of predictable consequences revealed automatic responses that drive decision outcomes which established patterns of behavior or habits (2006).

Ann Graybiel (2008) looked directly at habits “because they invoke a dichotomy between conscious, voluntary control over behavior, considered the essence of higher-order deliberative behavioral control, and lower-order behavioral control scarcely available to consciousness” (p. 359). With dozens of wires inserted into the brains of rats running mazes, she found neural circuits interconnecting the neocortex (higher order conscious thought) with the striatum and basal ganglia (procedural learning, routine behaviors, and emotion). Graybiel described extensive activity in the basal ganglia when learning a new habit which dropped off with repetition. She reported that habits tended to follow specific stimulus or contextual cues and that “fully acquired habits are performed almost automatically, virtually unconsciously, allowing attention to be focused elsewhere....And finally, habits can comprise cognitive expressions of routine (habits of thought) as well as motor expressions of routine” (p. 361). Graybiel and Morris (2011) reviewed other research focused on the biological functions of ‘thoughtful action’ and found consensus around a distinction between deliberate, goal-directed decisions and habitual behaviors that are done “without continuous cognitive representation of their consequences” (p. 365) or nearly at an unconscious state.

**Habit Chunking**

The rats and monkeys with implants demonstrated neural activity patterns changed with the establishment of habits. Graybiel (2008) described the drop in basal ganglia activity as the repetitive patterns were settled in terms of ‘chunking.’ With a spike in neural response as the habit cues were recognized, subjects quickly fell into the nearly unconscious response of the chunked patterned behavior. Using analogies such as learning to ride a bike versus biking every evening, she indicated that once acquired, habits can be retained for long periods of time. She
supported the chunking concept through other neural research on the transition from novice to expert skill learning in venues from baseball pitching to assembly line work. Duhigg (2012) cited other research examples of how the chunking of habit patterns allows for the repetition of action triggered by a cue but without directed mental thought in animals and in human subjects. Without extensive neurological jargon, he described numerous human subjects who suffered injuries to various regions of their brains, including loss of areas controlling short-term memory, but who are able to retain behavioral habits and function without any apparent problems.

**Ethics of Neurological Research Methods**

As neuroscience delves deeper into the brain in an attempt to understand the human thought process, ethical concerns have been raised regarding the methods. Prefrontal lobotomies used to treat mentally ill patients and medical research practices employed by the Third Reich during World War II have been halted (Illes & Bird, 2006). Studying the human brain has also advanced from observing those who suffered traumatic injuries to neuroimaging technology such as magnetic resonance imaging (MRI). With new technologies comes new ethical concerns. Ethical questions now center on issues such as criminal applications of brain scans, reporting of incidental findings during non-clinical brain imaging, and cognitive enhancement (Fukushi, Sakura, & Koizumi, 2007). While these are all important ethical considerations, the medical questions will be left to those more qualified to address the concerns, such as a physician determining what to do with an incidental finding of a tumor while performing an MRI researching brain activity. As such, the ethical practices of the neurological researchers are beyond the scope of this paper.

However, the criminal application of brain scans blurs the line between medical intervention and determining one’s ability to distinguish between ‘good’ and ‘bad,’ such as in pleas of diminished capacity. Lawyers and courts question if allowances should be made when neurobiological factors lead to behaviors and challenge an individual’s knowing intent (Bird, 2006). Yet even as the legal question is debated, the moral question remains. In reviewing 40 years of research on the brain, Squire (2009) reiterated the consistent finding that there is a “major distinction between the capacity for conscious, declarative memory about facts and events and a collection of unconscious, nondeclarative memory abilities, such as skill learning and habit formation” (p. 12711). As one accepts the research findings regarding the drop in basal ganglia activity approaching an unconscious state with the formation of habits (habit chunking), the next question is if this neural perspective impacts the morality of the behavior driven by habit.

**ETHICAL IMPLICATIONS OF HABIT NEUROLOGY**

**Aristotle Made ‘Good’ by Habit**

To explore the morality of habits requires a look back at the start of ethical theory in ancient Greece with Plato’s pupil Aristotle and Aristotle’s Nicomachean ethics (Kucukuysal & Beyhan, 2011). Looking for the mean between excess and defect, man became ‘good’ by practice (Aristotle, 350 B.C.). Aristotle espoused that virtue was the result of habit and that the habits formed as a youth greatly impacted one’s character. Practice to develop ‘good’ character necessitated obeying rules and principles designed to make us ‘good.’ But just following the rules of others was not enough to be considered virtuous. For acts to be considered ‘good,’ Aristotle contended the agent must do them first with knowledge, second as a chosen course of action because they are good, and third from a firm and unchangeable character.
Aristotle (350 B.C.) advocated the need to practice good habits to develop a good character. Neuroscience aligns with this concept that replication creates permanent changes in the brain’s functions, as demonstrated by the learning process as habits are formed and the brain chunks rote responses to cues with repetition. However, if future actions are simply the unconscious following of an existing habit, where are the knowledge and choice Aristotle required to complete a ‘good’ act?

**Neurological Science and Aristotle**

If we go into automatic pilot with a habit, how can choices be made? Aristotle (350 B.C.) believed virtue “is a state of character concerned with choice” (Book 2, Chapter 6). In describing choice, he distinguished between voluntary and involuntary acts with the difference centered on the awareness of the particular circumstances of the action and he concluded that “choice involves a rational principle and thought” (Book 3, Chapter 2). Neurological research demonstrated that after a quick spike of brain activity in recognition of a cue, we revert to rote behaviors of habit without conscious thought (Squires, 2009). “This perhaps exposes the paradox of habit, where we are both open to influence but not continually confronting the world anew” (Blackman, 2013, p. 209). And without a conscious awareness of the choice being made, Aristotle would argue man could not be virtuous.

But virtue is often considered more an attribute of the soul than the brain, so simply considering the mechanical operations may be short-sighted. Plato was one of the first to consider man’s decision-making processes and viewed the head as the most important command of thought and life (Lemonick & Nash, 1995). Aristotle disagreed with his teacher and advocated the importance of the heart, for he saw men die of heart not head injuries (Zhang, Wang, Peace, Zhan, & Zhang, 2008). While science proved Plato’s positioning with the brain in the skull, the debate continued on the location of “the mind, the elusive entity where intelligence, decision making, perception, awareness and sense of self resides” (Lemonick & Nash, p. 44). The discussion moved from the corporeal brain to the incorporeal soul as the home for morality. In the 17th century, Descartes picked up the dispute and declared the flow of decisions of the soul was separate from physical tissue—‘Cogito, ergo sum’ (I think, therefore I am). But in the 18th century when Galvani hooked electrical currents to the sciatic nerve of dissected frog legs to twitch the muscles, researchers began to consider in earnest how information flowed from the brain to other parts of the body (Illing & R.B., 2004). While today brain functions are compared to the workings of a computer for storage, coding, and retrieval, the methods of the mind and soul remains elusive (Pandya, 2011).

**Aristotle Rebuttal**

Part of the difficulty in determining Aristotle's (350 B.C.) precise meanings falls in the coding and translations of his work (Harre, 2012). For example, *kata ton orthon logos* was been interpreted by Ross as ‘right principles or rule’ and by Lear as ‘in accordance with the right rule’ (Pagan, 2008). Lear was described as insisting that according to Aristotle “there are no rules on how a virtuous person should act” (Pagan, p. 242) but that because a person was virtuous he no longer needed rules. And while the teleological Aristotle spoke of *ethos*, it is not a direct translation of ‘habits’ in the literal and contextual aspects of virtuous pursuit. In fact, there are a variety of types of virtues, ranging from punctuality to compassion to perseverance. Hayden (2010) indicated only the highly specific virtues like tidiness and punctuality can be considered habits, while virtues of higher order like courage and integrity only appear in the face of adversity. Croom (2013) spoke to developing a habit of ‘deep thought’ which required attention to situational cues and analysis to determine action. As situational cues are decoded,
perception separates events to allow for a range of responses (Heath, 2009), often leaving habits as more a disposition than overt behavioral outcome (Hodgson, 2010).

While habits affect choices and past choices affect habits (Aristotle, 350 B.C.; Hodgson, 2010), the action taken appears as a result of thinking, even if only for a brief instance, before responding with a habitual chunk of rote actions (Graybiel, 2008). And if character is formed through habits, than even criminals with ‘bad’ habits can be taught new patterns in efforts to reform and prevent future transgressions (Dodsworth, 2013). Thus Aristotle’s three principles of morality remain intact, as we first perceive a situation with knowledge, second as a course of action is chosen hopefully because they are good, and third from a firm and unchangeable character developed through a consistency of responses over time . . . or habits.

Perhaps Aristotle was also closer to the truth in his belief of a connection between the heart and virtue than Plato’s view of control solely in the head. With an ability to adapt to situational cues, the mind has also proven to be resilient to brain injuries (Duhigg, 2012). The adaptations observed have shown scientist how much is still unknown about how thoughts originate and develop.

**Kohlberg Moral Development**

Kohlberg (1984) tried to peer inside the mind by tracking the cognitive development of young children through adulthood to gauge moral judgment. Neurological research confirms the adolescent brain is not fully developed before roughly 21 years of age, ratifying Kohlberg’s observations (Illes, 2010). Kohlberg in turn recognized “advanced moral reasoning depends upon advanced logical reasoning” (p. 171) as moral development may lag, but cannot precede the biological advances of the brain. In describing the six stages of moral development, Kohlberg also emphasized the role of society in teaching, training, and reinforcing the norms of behavior to establish patterns or habits. A toddler begins by linking concrete actions directly to consequences to avoid punishment and meet immediate interests. Through social perceptive- or role-taking stages, an individual gains an understanding of his place in society as the system norms are cultivated. Using terminology of pre-conventional and conventional to describe the progression of moral judgment from concrete operation to role-taking, Kohlberg referenced the social reinforcement of norms to establish habits of convention. To move into the post-conventional stages, one needs to recognize the complexities inherent in moral commitments and step back from the habits of society to a ‘prior-to-society’ state.

**Societal Norms as Habits**

Bennett (2013) further linked personal and societal habits as part of the ‘architecture of the person.’ Like Kohlberg (1984), Bennett connected the attainment of higher levels of moral development to responding beyond the inherited past to form personal codes of ethics that outstretched current society’s norms. Lumsden (2013) qualified social norms internalized as habits only to those considered to be rationally legitimate. As habits became binding, they could be considered a feature of reality as actions became “a reflective act of reason” (p.73). These social norms become further codified in processes of governance from organizational codes of conduct to governmental policies and laws (Bennett, Dodsworth, Noble, Poovey, & Watkins, 2013; Buchholtz, 1989/2001). Codification accumulates and stabilizes the past to perpetuate habits into the future and anchor current actions. Callahan (1988) described this concept as conventional morality, “simply to be directed by traditional or customary rules and practices without stopping to examine or criticize those rules or practices or customs” (page 10). And like
Kohlberg and Aristotle (350 B.C.), she called for deliberation or a transition to reflective morality for the autonomous moral agent

... to reflect on what principles will govern his or her actions, particularly when those actions involve the rights and interests of other people. ... [which] involves the movement beyond 'knee-jerk' reactions and merely self-interested behaviors to principled action where the acceptance of the principles governing one’s behavior is the result of a careful reflection which takes into account the moral integrity of the agent and the rights and interests of others” (Callahan, pp. 10-11).

Alignment of Aristotle, Kohlberg, and Callahan

Hargrave (2009) summarized this societal impact by contending “outcomes are not produced by individual actors alone but rather through collective action processes” (p.98) referring to the political conditions and cultural norms used to frame individual moral outcomes. Aristotle (350 B.C.), Kohlberg (1984), and Callahan (1988) represent different perspectives on morality that appear to align on this belief of an individual’s orientation with basic society norms (conventional) before advancing to a higher (post-conventional, reflective) level of principles. While society and personal habits dictate the basic level, the neurological insight of habit chunking seems to merely reinforce the internalization of these values rather than refute them. However, to move beyond the conventional routine requires reflection, analysis, and deliberation of the situation to determine the ethical course of action. In neurological terms, it necessitates the separation of a cue from the automatic behavioral chunk to engage in thoughtful action.

So if habits of society are perpetuated through individual habits reinforced to society norms and individual habits occur unconsciously, how is the loop broken? More specifically, what triggers the reflection called for by Aristotle, Kohlberg, and Callahan to break the habits?

BREAKING THE HABITS

Reflection Needed

Habits perpetuate by bounding into action as a result of learned stimulus/cue-response patterns (Duhigg, 2012; Graybiel, 2008; and Schultz, 1997, 1998, 2000, 2006). Citing numerous examples from Alcoholics Anonymous’ 12 step program along with diet, exercise and smoking cessation campaigns, recognizing a need for change appears to be the first step in breaking that pattern according to Duhigg. The ability to alter actions is then dependent on identifying the cues that drive the behavior and on determining the reward associated with the cue-response in order to replace the habitual behavior with a more desirable act. While understanding the motivation and rewards reinforcing a habit can assist in making a modification more permanent, no change is guaranteed. Heath and Heath (2010) refer to attempts to change habits as ‘steering an elephant.’ Although the rider knows the new direction to pursue, the chunked habit behavior (elephant) is difficult to override once the automatic routine kicks in.

Kohlberg (1984) indicated jumpstarting the awareness of a need for change through role-taking opportunities. By providing chances to consider situations from other perspectives, both individual and societal, role-taking can bridge the development between moral stages. And, “moral dilemmas involve situations in which one cannot escape deciding” (Callahan, 1988, p. 9) as value conflicts must be resolved. But an individual with a strong deontological perspective as issues grow more complex can still tend to the enforcement of the rules rather than consider the specific consequences. In fact, Carol Gilligan (1987) found that although people are aware of
other moral perspectives, most have a preferred view. While her focus was on gender differences in the application of the ethics of justice versus the ethics of care, the end result was still the tendency to follow existing habits in communicating and resolving ethical dilemmas. With an inherent bias towards justice or care, the structuring of a moral dilemma will echo that bias thereby creating a lack of neutrality in its expression. Starratt (1991) also viewed no social arrangement as neutral and advocated applying a critical eye to the analysis—the ethic of critique.

Starratt (1991) called on the reflection to be deeper, to question the habitual cue-response, by asking a) who benefits, b) who dominates, c) who defines, and d) who legitimates before embarking on any action plan. In this manner he aligns with Aristotle (350 B.C.), Kohlberg (1984), and Callahan (1988) in calling for a true reflection of rational principles and thought, before resolving a moral issue. The habitual cue-response link to a reward may also aid in motivating the need for this type of contemplation. When the morality of the decision feels unsettled or misaligned to the individual’s values, instead of satisfaction with the response, the individual may experience a guilty conscious. This dissatisfaction or lack of a desired reward can call the habit into question to motivate change.

Creating New Cues and Rewards

Uncovering the motivation and rewards associated with a habit may provide a spark for instigating the reflective thinking required for higher order morality. Normally, cues present themselves in a consistent manner to be followed by the learned ‘good’ habit to acquire the expected reward. However, a habit can be recalled in unfamiliar circumstances such as manners learned at home used at work or school, or completing a morning grooming routine in a hotel instead of at home (Duhigg, 2012). There are underlying similarities in the situations that allow the brain to quickly recalculate the cues and initiate the learned habit. Diagnosing the similarities can help decode the cues triggering the chunked habitual response. Known cues can then be avoided to elude triggering bad habits and to disrupt behaviors, such as an alcoholic avoiding bars to drink or a gambler avoiding casinos to place wagers (Witt, Tam, & Witt, 2005; Wood & Neal, 2007). When avoidance is not a practical alternative, diagnosed cues can be considered a signal for a replacement action which allows the individual to receive the same desired reward, albeit with a new habit.

The key to breaking a habit to replace one action (automatic response) with another (deep reflection or critique) is making a tangible link of the action to the cue and reward (Duhigg, 2012). Duhigg suggests even the simple step of writing down the intention can contribute to the erosion of the automatic response system triggering the habit chunked behavior, such as transcribing ‘I will stop and reflect before acting when . . . ’. While declaration of intent works best when a habit is weaker, its impact can be strengthened when linked to a directed contemplation of the situational cues triggering a response (Verplanken, Aarts, van Knippenberg, & Moonen, 1998). In other words, committing to think first when a cue presents or to just work to identify triggers can aid in breaking the bad habit cycle. Ensuring that the positive reward is still received upon completion of a new action will also provide an incentive for its repetition. Organizations who use pay for performance to indoctrinate employees to new work habits are also beginning to use incentives to alter other employee habits such as smoking, over-eating, and illicit drug use (Sindelar, 2008).

“We are most effective when we believe in ourselves and our ability to make a difference, not just individually but collectively, as a unit” (Belza, 2007, p. 3). Working collaboratively to change habits is the hallmark of many weight loss programs (Duhigg, 2012). Organizations can follow
these examples to shift bad ethical habits by requiring collective moral deliberation (Stansbury, 2009). However, these practices require committed ethical leadership to model the desired behaviors and to promote rational deliberation. Leadership and change initiatives can originate at all ranks of an organization not just with top management (Calabrese, 2002; Connor, Lake, & Stackman, 2003; Hersey, Blanchard, & Johnson, 2001; Kouzes & Posner, 2002). And as individuals and organizations change habits, societal norms begin to shift, causing more individuals and organizations to question and become dissatisfied with their habits until a tipping point is reached and new patterns become new habits (Duhigg, 2012; Gladwell, 2000).

CONCLUSION

Individuals do not always make rational decisions (Ariely, 2008; Duhigg, 2012; Sindelar, 2008). When habits are cued, automatic chunked actions are triggered and implemented without much conscious awareness (Duhigg, 2012; Graybiel, 2008; and Schultz, 1997, 1998, 2000, 2006). Whether the habit is considered ‘good’ or ‘bad’ may depend on the appropriateness of a repetition or the alignment of the action to societal norms. If the habit fails to provide the desired reward, or instead creates a sense of dissatisfaction, motivation exists to make a change. However, to break the rote response pattern requires attention to the cues and rewards linked by the habitual behavior, regardless of the physical or moral nature of the act.

While Aristotle (350 B.C.) referred to moral virtue as a mean between excess and deficiency, to produce the ‘just man’ required knowledge and choice (from reflection), and a firm character foundation (obtained by establishing moral habits). Kohlberg’s (1984) stages of moral reasoning established the baseline of concrete operational and social perspective-taking ( adoption of personal and societal habits) before advancing to higher phases. Callahan (1988) also called for moral deliberation to move from conventional to reflective morality. Starratt (1991) outlined the ethic of critique which provides guidelines for moving individuals from habitual thinkers to ask the probing questions to resolve moral dilemmas. Such deep reflection results in the higher levels of moral deliberation required of individuals to begin to question the societal norms, against which morality is judged.

In the search for a catalyst of change to initiate deeper reflection, morality begins to converge with organizational change and leadership literature. But the research needs to continue . . .

The study of the brain, mind, and soul has engaged some of the finest intellects of yesteryears. It remains an ennobling pursuit, worthy of all those who are dedicated votaries of science. (Pandya, 2011, p. 146)

REFERENCES


