

Emotion, Uncertainty, and Moral Imagination: A Framing of Biosocial Inseparability

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Abstract

Emotion, problem solving, and moral development are typically treated as three distinct areas of psychology and social science. However, there is clear overlap, if not inseparability, in their manifestation in real life. Humans do not form morals in a vacuum any more than they emote or solve problems in one. Likewise, they do not form morals separately from their emotional states or how they solve problems. The current paper reviews work from various fields, to draw attention to how complexity and uncertainty, imagination and problem solving, and emotion and morality, comprise an integral framework for how people form thought, behavior, and ethical practice. The formation process is not fixed, but ongoing and affected by both neurophysiology and culture.

keywords: emotion, ethics, moral imagination, paradox

Introduction

The terms *integration* and *interdisciplinarity* imply, by definition, the orchestration of objects or concepts that otherwise exist independently. *Inseparability*, on the other hand, which is perhaps closer to a non-reductive position, suggests that these same objects or concepts cannot function independently, but must work in relation to other objects or concepts. Similarly, the likes of emotion, imagination, and morality neither exist nor function in philosophical or psychological isolation, but are part of the larger biosocial process that produces human activity and behavior.

In the book, *Neurobiology and the Development of Human Morality*, Narvaez (2014) assessed emotions, thought, problem solving, ideological complexity, and morality as inclusive biosocial constructs, as opposed to mutually exclusive or independent. A similar interdisciplinary or inseparability approach has been rendered in a variety of discussions, in areas as wide-ranging as neuroscience (Churchland, 2011), affective anthropology (Röttger-Rössler & Markowitsch, 2009), imagination and mental simulation studies (Markman, Klein, & Suhr, 2009), and affective narratology (Robinson, 2005). The following subheadings outline some important precursors for considering moral imagination.

Ambiguity or Complexity?

Throughout most of history, the concepts of *ambiguity*, *uncertainty*, and *paradox* resided within the initial containers of Eastern and Western philosophies. However, as increasingly complex questions began to arise in several developing fields of inquiry, from mathematics and sciences to arts and narratives, these concepts moved to the theoretical boundaries of what those fields were addressing. Eventually, with the realization that many properties of the known universe—such as quantum mechanics and the very idea of infinite complexity—defy ordinary human perception and common sense, the terms ambiguity, uncertainty, and paradox have become part of the applied vocabularies in several fields (for a discussion on the potential hard limits of science, reasoning, and computing, see Yanofsky, 2013).

To illustrate the limits of ordinary human comprehension, consider the way human understanding of physical reality and the abstractions of such reality are formed. Beyond experiential evidence and cause-and-effect linkage, the boundaries of dimensional reality are assessed using large data sets and mathematical models (Tegmark, 2014), assessments that the human mind instantly rejects as impossible. For example, take the recent research on the zero-energy universe (Krauss, 2012), which indicates that, despite everything seen and believed about energy and reality, the total amount of all energy in the known universe is exactly nil. The far-reaching ramification is that billions of galaxies, with measurably huge masses and energies, could have sprung into existence from absolutely nothing, from no mass, no energy, and no history whatsoever, an idea that makes absolutely no sense to most organic mind-brains.

Likewise, in certain attempts to develop artificial intelligence or synthetic minds, efforts to address ambiguity and contradiction have been embraced by the likes of paraconsistent logics (see e.g., Priest, Tanaka, & Weber, 2013), and by the aptly named *fuzzy logic*, or many-valued logic. Most knowledge is an approximation, and in order for a machine to intelligently use knowledge it must have the ability to approximate (Armstrong, 2014). Additionally, if machines are intended to fully interact with humans, they must be able to empathize and approximate human emotions.

This past hundred years has also injected heightened senses of uncertainty and ambiguity into the arts and humanities, and indeed into daily life. The evidence is in the increased levels of stress, the pining for better days, and themes centered around self and experience in written artifacts such as the memoir. In each case, in both arts and sciences, the prevailing growth of complexity and contradiction presents challenges to linear, dichotomized, and traditional patterns of thought and behavior, which invigorates some to strive while upsetting others to reaction.

Creativity and Imagination

Not surprisingly, any changing interpretation of the world, including the development of ethics or morality, is going to involve creativity and imagination. In his seminal work on hundreds of successful individuals from various professions, Csikszentmihalyi (1996) concluded that dealing with ambiguity, complexity, and contradictions are among the common elements of the eminent creative personality. In addition to the usual traits of flexibility, openness to experience, and risk tolerance, Runco (2014) also considered the creative personality within the specific frame

of its paradoxical nature. For example, characteristics of the creative personality tend toward being disciplined yet playful, realistic yet imaginative, and objective but passionate. In a specific example from history, Grayling (2015) analyzed the eminent work of Michel de Montaigne (1533-1592), one of the most significant philosophers of the French Renaissance and popularly known for turning the essay into a literary genre. According to Grayling, the key to Montaigne's success was his "sympathetic imagination" (p. 203) in tune with a simultaneous skepticism. In a philosophical description, this was Montaigne's ethical choice and position.

In terms of contemporary real-world applications of ethical or moral development, paradox plays a role, too. Several scholars (e.g., Cropley & Cropley, 2012) have argued that if organizations wish to remain innovative, they need to hire and reward paradoxical personalities. An obvious example is an architect or engineer, who must be practical, knowledgeable, and ethical in ensuring every safety specification, yet simultaneously must design innovative and often aesthetically pleasing works. Likewise, in the realm of business, this could mean a manager who is fully dedicated to the company's mission, while outright rejecting its operational protocols. In terms of planning in public schools, which includes curriculum for student development, Beghetto and Kaufman (2010) argued that if education hopes to meet the demands of the future, especially as the push for more standardized testing entrenches a mentality of sameness in both students and teachers, then tolerance, and even encouragement, of paradoxical thought and behavior are necessary in order to foster the correct ethic.

Addressing Problems

The ability to address uncertainty, and to subsequently innovate, involves more than personality characteristics. In the literature on problem finding (Reiter-Palmon, 2011) and problem solving (Ward, 2011), these two tasks correlated with the ability to manage complex thought and ambiguity. In a famous example from science, Charles Darwin faced serious challenges with his theory of evolution (Gabora & Kaufman, 2010). He not only had to make it work with everything that was already known about biology and natural history, but with what could not be known at the time. For instance, Darwin had to work through a paradox, that biological changes and adaptations accumulate in a given species, yet the very traits acquired during the lifetime of an individual organism are destroyed at the death of that organism. Without understanding how DNA or genetic transference worked at the time, he still managed to construct an accurate theory of evolution by natural selection, one that has withstood most of the new data and scientific challenges since its inception.

In addition to the difficulties associated with problem solving, perhaps more challenging is the task of problem finding, also referred to as problem identifying, problem defining, or what J. P. Guilford called, "sensitivity to problems" (Reiter-Palmon, 2011, p. 250). The ability to spot and address complex dilemmas corresponds to the ability to frame a problem beyond usual, simplistic, or polarized constructs, in order to make fuller and more intelligent assessments, both in the short term and over the long run.

In a popular quotation, Albert Einstein once remarked that if he had one hour to address a problem, he would spend 55 minutes defining it, and then five minutes working the solution.

Einstein's tack has been supported in the scholarly literature on problem finding (Reiter-Palmon, 2011). Unlike typical classroom problems, such as those presented in math or science curriculums, where the problems are already set up for the student to merely solve, the task of finding or defining a problem is a fundamental step in most real-world situations, whether in math, science, business, politics, healthcare, or ethics. Hence, students who perform well in high-school math or other forms of problem solving often struggle or even fail when faced with college-level work, where problems in math, analysis, economics, and even cultural or social dilemma must be set up by the student. In this case, the student who is active and metacognitively aware tends to succeed in college (Young & Fry, 2008). For the very same reasons, some students who merely manage their way through college-level work often struggle when faced with dilemmas in the working world.

Emotion and Moral Imagination

What are emotions? As the prevailing literature suggests (e.g., Röttger-Rössler & Markowitsch, 2009), human emotions should be seen as bio-cultural systems, informed by both neurophysiology and language. At a base level, in decades of work in affective neuroscience, Panksepp (1998) showed how emotions function as guides toward adaptive behaviors and judgments, as well as cue individuals into the value and relevance of those behaviors, judgments, and subsequent actions. At the same time, at the higher-order or neocortical level, the way we use language and process information (Hogan, 2011; Kövecses, 2002) is as equally important in human emotion and meaning formation as the underlying neurophysiological feelings (Panksepp & Biven, 2012).

As for morality, according to Gert (2011), the term can be used either descriptively or normatively. The descriptive case concerns how observers might apply it, to explain the beliefs and behaviors of cultural groups or even certain nonhuman animals. However, the normative case is how most people use it, as a code of conduct that, under mutually understood conditions, would be accepted by all rational individuals. An example is the case of murder. As long as society agrees on a definition of the term, then murder is normatively accepted as an immoral act.

As Richardson (2014) discussed in the case of moral reasoning, and Homiak (2015) discussed in the case of moral character, the cases of moral development and morality on whole are no longer situated within the narrow Western traditions of Kantianism and utilitarianism. In other words, the deontological and consequential approaches to morality, neither of which provide much credence to the likes of imagination or even emotion, are no longer the principle standards by which moral action or character are understood or situated. As already suggested, humans rely heavily on emotional experience to think in inclusive and integrative ways, as well as to build social relationships and work creatively (Narvaez & Mrkva, 2014).

In a book chapter reviewing the literature on moral imagination and moral psychology, Narvaez and Mrkva (2014) pointed out that the average individual ponders moral and relational issues on a daily basis. Moral imagination is more than a talking point for philosophers or ethics teachers, but a routine human endeavor informed by emotion, social experience, belief, reasoning, and selection. The term imagination itself is defined as the rehearsal process by which people creatively explore likely outcomes and, thus, moral decisions. Humans are social creatures, and several scholars

(e.g., Johnson, 2014; Narvaez, 2008, 2014) argued that a moral life includes a dialectic involving many individuals and many concerns. It also includes an individual and collective imagination of alternatives.

In an argument against language as determinately biological, Johnson (2014) explained how emotion plays a vital role in the formation of both morals and imagination, and Greenspan and Shanker (2004) showed how this process begins in infancy. From birth, the brain of a human child is only 25 percent formed, most of the remaining 75 percent occurs during the first several years afterward, and under the direction and supervision of caregivers. As noted by Meaney (2010), in this period most of the neuroendocrine and emotion systems form. Not long after, the more-cognitive functions associated with imagination and creativity take shape. As such, poor childrearing practices contribute to alterations in the development of the nervous system, which can lead to a stress-reactive brain (Narvaez, 2014). This, in turn, can lead to all manner of difficulties, including a habitual fear for safety, detached social orientations, excessive rumination, poor emotion regulation, lack of perspective taking, and an imagination divorced from empathy, morals, and ethical behavior (Batson, 2009; Decety & Stevens, 2009; Myers & Hodges, 2009; Narvaez & Mrkva, 2014). Hence, the type of care, and the types of stress, experienced during a child's early years, has the potential to shape a lifetime of affect, reasoning, and imagination, as well as moral and ethical formations and choices.

In terms of the stress-reactive brain, Sapolsky (2004) discovered that whenever a stress response is active, it draws energy away from higher-order thought capacities, and influences how well a person imagines, empathizes, and relates to others. Subsequently, well-rehearsed stress states become traits that impact social and moral mindsets (Narvaez & Mrkva, 2014). Likewise, if attention is captivated by perceived threats, then moral perception narrows to accommodate an excess of self-protection. Self-protective measures, in turn, are partly emotional responses that accumulate as life experiences. Such experiences, both real and imagined, influence human empathy and judgment, and subsequently alter higher-order principles, both in life overall and specifically toward others (Batson, 2009; Pizarro, 2000).

This pattern of self-protection, or protective attachment, figures dramatically in the Triune ethics theory developed by Narvaez (2008). One of the defining characteristics of the moral imagination is its ability to abstract and move beyond present situations. However, the socially self-protective mindset can lead to two negative moral pathways, either the morality of aggression and its vicious imagination, or the morality of withdrawal and appeasement, which leads to detached imagination. In contrast, Narvaez discussed the idea of engagement ethics or relational attunement, in which the imaginative focus is on the communal.

In work on cognitive science and moral imagination, Johnson (2014) discussed how humans are an imaginative moral species, and that morality itself is not a fixed system, but rather an ongoing imaginative exploration of life possibilities. The point relates to the eminent American philosopher and reformer, John Dewey (Fesmire, 2003), who stated that reliance on inflexible and impersonal rules or reasoning leads to the collapse of moral responsibility. Dewey penned most of his work early in the twentieth century, and in the two world wars that followed, apparently few paid attention. As Narvaez (2014) reminded readers in her own work, moral imagination, and

communal imagination, require not only an avoidance of rigid thinking, but also an avoidance of simplistic thinking, the two terms being somewhat synonymous.

The point is supported by a meta-analysis in mood research (Baas, De Dreu, & Nijstad, 2008), which indicated that negative mood activation, paired with an avoidance motivation and preservation focus (i.e., increased fear and anxiety), associated with lower cognitive flexibility and lower creativity. Likewise, research on creativity and political ideologies supports the view that intolerance of ambiguity, and the strong need for closure, associate with less-than-adequate decision-making as well as more-authoritarian brands of conformity (Narvaez & Mrkva, 2014). Conversely, greater tolerance of ambiguity correlates with creative problem solving and communal ethics (Yurtsever, 2000).

Perhaps more importantly, in terms of human ideals, crime and punishment, and war and religion, a tolerance for uncertainty and ambiguity is deeply associated with a problem common among many people within many societies, which is the idealistic view that values should never be in conflict (Narvaez, 2014). In the literature on domestic and cross-cultural conflict management, this idealism relates to what is referred to as *conflict annihilation*. This term represents an extreme yet popular view in politics and business that runs counter to the more-qualified, manageable, and sustainable (realistic) positions of conflict integration, resolution, and even avoidance (Fairchild, in press).

Conclusion

This paper offered an overview on the inseparable relatedness of emotion, culture, moral imagination, and similar concepts. As with many human-system models of late, the biosocial approach instills the need to see constructs of culture and language as elementarily codependent with neurobiological structures. Emotion and thought influence imagination and problem solving, which influence culture and morality, which influence thought and emotion. The connectivity is nonlinear, and a change at one point in the system informs the entire system to varying degrees. Hence, this approach to understanding the entire system should serve as the fabric for understanding each construct independently. As opposed to framing morality or ethics as merely philosophical debates, philosophy becomes one part of a biosocial structure in human development and activity.

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