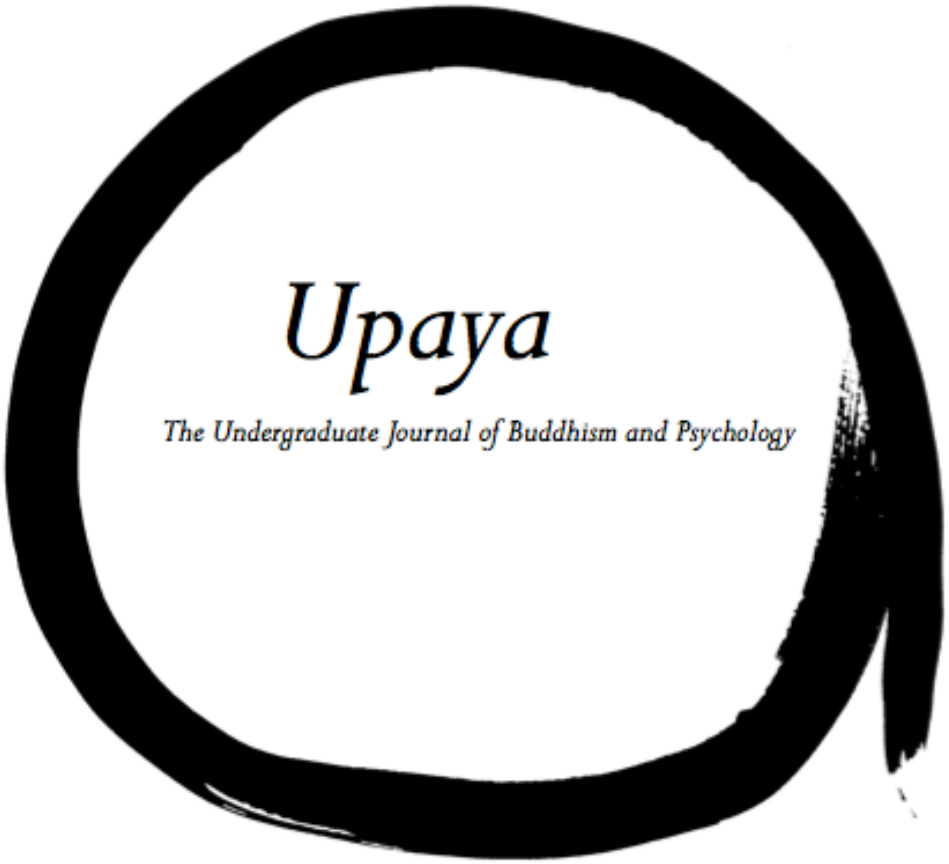
UPAYA

Undergraduate Journal of Buddhism and Psychology



Upaya

The Undergraduate Journal of Buddhism and Psychology

Journal Board

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Letter From The Editor

The production of the Upaya would not be possible without the efforts of all those who were involved. To begin, I am deeply grateful to the Journal Board: Professor Tony Toneatto, Professor Henry Shiu, Professor Ellen Katz, Professor Jennifer Motha, Shennice Knight, and Aadhiya Vasudeva. I would also like to extend gratitude for the host of submissions we received this year. Last but not least, thank you to the contributors who's unique pieces comprise this edition.

With the combined efforts and passion of this years team, we are able to further engage in a discourse between Buddhism and Psychology, the intersection out of which these essays have been birthed. The Upaya is affiliated with the Buddhism, Psychology, and Mental Health program which is enriched by the professors, some of whom are a part of the Journal Board, that have inspired students, myself included, to engage in these topics beyond the classroom.

This year's edition epitomizes this convergence of knowledge and passion. The diversity of topics, ranging from Camus' Absurdism to University of Toronto's Engineering pedagogy, reflects this. While topics such as karma, introspection, and wisdom may seemingly appear to be more congruent with Buddhism compared to topics such as mania, these pieces may make you question this assumption. Ultimately, the theme of this edition is the pervasiveness of the wisdom found within Buddhist principles. Though developed in another era, Buddhism proves itself to be an enriching lens to understand phenomena in our modern world and in general, the human experience.

As the process of creating this journal has taught me a great deal, I hope that the unfoldment of the questions discussed and raised in this year's journal may do the same for you.

Thank you,

Manjiri Deshpande

Editor-in-Chief

Psychological Buddhist Interpretation Of Albert Camus' Absurdism

Michael Gomes

Introduction

In the *The Myth of Sisyphus and Other Essays,* the existential philosopher Albert Camus explores problems of living that he refers to as absurdism. The Buddhist philosophy also explores the problem of living. Both philosophies agree that the problem of living is a conflict that arises within the mind when one interacts with the world. Although both philosophies agree that suffering is inevitable throughout the lifespan, they identify different methods to come to terms with suffering. In this paper, I compare Camus' absurdism and Buddhism to argue that while Camus emphasizes meaning-making and Buddhism emphasizes enlightenment as responses to the alleviation of one's mental suffering, both philosophies arrive at solutions that are similar and compatible. First, I discuss the objectives of both Camus' absurdism and Buddhism. Second, I describe the processes of enlightenment and meaning making described by Camus and Buddhism. Third, I compare both approaches and the challenges that each one view faces. In conclusion, I illustrate Camus' answer for meaning making and its similarities to insight meditation using the myth of Sisyphus.

Objectives of Camus and Buddhism

Camus (1991) addresses what he considers to be the most important philosophical problem, suicide and he discusses suicide through the avenue of suffering. His fundamental concern with suicide is that it calls attention to the suffering of life and that we do not understand it. Camus (1991) articulates that if life is not worth living then we should no longer tolerate life. We arrive at this interpretation of life and suicide through self-reflection (Camus, 1991). Upon deep reflection,

we realize that life is inherently meaningless rendering all of our day to day tasks, thoughts, and emotions empty (Camus, 1991). Relatedly, Camus (1991) further believes that the human being has an "appetite for unity and satisfaction" (17). Camus (1991) argues that when we do not find meaning in our lives, we pursue meaning that rests outside of us and somehow governs us. However, our quest for meaning is often met with the universe's complete indifference to our pursuit (Camus, 1991). Thus, this awareness induces a level of anxiety and causes a separation between a person and their world. Camus (1991) believes everyone has experienced this split between a subject and the activities of their life that he refers to as the feeling of absurdity. For Camus (1991), the problem of living is the absence of meaning when one engages with the world. His objective is to find a way to reconcile this conflict.

On the other hand, Buddhism explores the problem of living differently. The Buddha's story helps to illuminate the objectives of Buddhism. Buddha was the son of a King who showered him in material goods, pleasures, and entertainments. His father protected him from as many bad experiences as possible in order to avoid the facts of existence. However, one day, when the pleasures of the palace were no longer satisfying, Buddha ventured into the outside world and encounters reality. In his encounters with facts of life, including old age, disease, and death, the Buddha experienced anxiety. As a result, Buddha was unable to return to his previous life because it no longer felt natural and so he sought of a way to alleviate human suffering, distress, and dissatisfaction. Buddha recalled that his life in the palace was far too simple and relaxed, and consequently, that he had become complacent and intoxicated. His attachment to such luxuries was merely concealing the facts of reality. After, the Buddha departed from his home to search for an answer where he encountered Yogis and the practice of asceticism. Asceticism involves inflicting pain on the body in an attempt to overcome suffering (Shiu, Toneatto, 2015). However, he found that neither extreme lifestyle, indulgence or body affliction could solve the problem of suffering. In other words, in Buddhist tradition, the problem of living is that life itself is suffering (three sicknesses). Hence, the Buddha's goal was to find the sources of such suffering and ultimately alleviate it (Shiu, Toneatto, 2015).

In comparison, Buddhism and Camus' stances on the problem of living have certain similarities. Both Buddha and Camus (1991) believe that life is suffering insofar as there is a human being and a world with which the human being interacts with. Without one or the other the idea of suffering would not be present (Camus, 1991). In both accounts self-reflection causes

a separation between one-self and the world itself. Upon self-reflection, Camus (1991) sees life is meaningless which consequently creates a split between him and his day-to-day activities in the world. Likewise, when the Buddha engages in self-reflection, he sees that his previous experience in the castle concealed from him the way things really are (Shiu, Toneatto, 2015). For both Camus and Buddha, self-reflection is a tool that can disrupt the way we see things. However, both Buddha and Camus believe that there is a desire for unity and satisfaction. For Camus (1991), it is the idea that we seek meaning in order to be fulfilled and alleviate the anxiety that results from the separation between the subject and world. For Buddha, it is the idea that we seek a solution to suffering in order to cleanse ourselves of mental torment and to reconnect with the world (Shiu, Toneatto, 2015). Camus and Buddha both journey on a quest to find a solution to their philosophical problems. For Camus, that problem is finding meaning in a seemingly meaningless world (Camus, 1991). For Buddha, it is finding a solution to suffering when suffering appears inescapable (Shiu, Toneatto, 2015).

Buddha's Enlightenment and Camus' Meaning-making

When the Buddha realized that neither external attachment to indulgences nor its rejection (attaching instead to self-induced pain in the process) was able to alleviate suffering, he turned to introspection. In the process the Buddha discovered what he called the middle way and he adopted an attitude of equanimity. Equanimity allows the mind to explore its own mental states without attaching to or rejecting them (Shiu, Toneatto, 2015,). In this way, he found that true happiness, the antithesis to suffering, comes from within. The Buddha reached this conclusion when he sat under a tree and meditated (insight meditation). While meditating, he saw many things in his mind none of which he attached to nor rejected, however, the Buddha encountered Mara. Mara is the personification of fear and it attacked the Buddha, but he retained an attitude of equanimity and he let it simply pass him by without attaching himself to the fear or rejecting the fear. After a few months of meditation, the Buddha's personality dissolved and was reconstructed. He had cleansed himself of mental suffering and became enlightened (Shiu, Toneatto, 2015).

Following his enlightenment, the Buddha translated that insight into the three marks of existence to help others alleviate their suffering. The three marks of existence encompass: (1) the notions of no self, (2) the notion of dissatisfaction, and (3) the notion of impermanence. First, we

see ourselves as having an "I" where this "I" is inherently empty. Second, we seek satisfaction only to be dissatisfied because things are impermanent. Third, we see the world and the objects of our experience as having permanence when it is merely based on a series of conditions that do not last forever (Shiu, Toneatto, 2015).

Similarly, Camus (1991) gives an indirect account of the inherent problem of this "I". Camus believes that attempts to understand the self may only lead to feelings of dissatisfaction and attempting to satisfy its demands are met with the universe's indifference to our pursuit. Indeed, when we realize the universe is empty of inherent existence and that any attempt to pursue meaning evades us, we are encouraged to introspect only to find that the self may also be empty of inherent meaning. According to Camus (1991), we project the idea of an inherent meaning in the universe when we realize the possibility of hopelessness in our lives, but this is also the problem. Buddhism would agree that searching for inherent meaning will only lead to dissatisfaction because not only is the universe empty of inherent meaning, but so is the self (Shiu, Toneatto, 2015).

Discussion

However, there are two different notions of the self, the psychological self and the ontological self. Engler claims that the psychological self is the self that is given priority in Western culture (2003). The psychological self is described as an "…autonomous individual with a sense of differentiated selfhood having its own nuclear ambitions, goals, designs, and destiny" (Engler, 2003, 50). In contrast, the ontological self is the self found in Buddhism and it is described as the "feeling or belief that there is an inherent, ontological core at the center of our experience that is separate, substantial, enduring, self-identical" (Engler, 2003, 52). The ontological self and psychological self do not contradict each other; in fact, they can both work synonymously if they are properly understood. Indeed, we can function as independent and autonomous agents with goals without the belief in an essential and enduring self and understanding this can assist in alleviating our suffering (Engler, 2003)

Attachment to the idea that there is inherent meaning in the world can cause significant suffering and the initial realization that life is instead meaningless springs on us the imminence of death and even the "…fear that we may not exist at all" (Engler, 2003, 78). Camus (1991) believes that we want to have rich and fulfilling lives, but the problem of absurdity makes it difficult to do

so. Once we recognize that the universe is empty and fleeting, we may attach ourselves to a way of non-being. The Buddha describes non-being as one extreme response to this problem (Epstein, 1995). We recognize that the universe will not respond to our desire for meaning, but our existential dread becomes the source of much of our suffering. Ultimately, this desire to embody nothingness is related to Camus' (1991) questioning of suicide as an alternative. In my view, suicide may be the desire to move toward state of non-being.

In order to further examine Camus' quest for meaningful living it is helpful to explain what Welwood (n.d) means by relative truth and absolute truth. Welwood (n.d) defines relative truth as working within the framework of our direct experiences. What is relative depends upon "… particular individuals and their particular circumstances" (Welwood, n.d, 3). In contrast, absolute truth is the realm beyond our experiences, and it is a metaphysical entity that may or may not have inherent meaning (Welwood, n.d, 3).

Camus (1991) addresses ways in which philosophers in the past have used the notion of absolute truth to escape the absurd. Camus (1991) refers to these attempts as philosophical suicide because he believes the solutions are unsatisfactory (1991). For instance, the philosopher Kierkegaard describes his account as a leap of faith; one needs to have faith in order to live rich and fulfilling lives because no epistemology can provide us an answer with to the absurd (Camus, 1991). However, both Camus (1991) and Welwood (n.d) agree that this can have implications. We may disregard our day to day experiences if we see the world from an absolute view and by agreeing with Kierkegaard, we reject the absurd and instead project meaning that is beyond our direct experience (Camus, 1991). Instead, Camus proposes that we must face the absurd and embrace it rather than reject or avoid it (1991).

Camus' (1991) assertion for accepting the absurd coincides with Buddhist psychology. Buddhist psychology proposes that a meaning outside our realm of relative experience is something to not be concerned with because it is something metaphysical and cannot be grasped by human beings (Epstein, 1995). Instead, Buddhism values the here and now and this idea compliments Welwood's (3) view of relative truth because by focusing on the present we detach ourselves from extreme states of being and non-being. Likewise, Camus' (1991) believes that by focusing on the present we can dismiss absolute meaning and focus on our everyday experience. To be clear, I am focusing on Buddhist psychology because it places emphasis on relative truth

and does not contain Buddhism's cosmology which instead might place more emphasis on absolute truth.

Conclusion

In general, Buddhism and Camus' absurdism are similar and complimentary. Camus (1991) uses the myth of Sisyphus as an analogy for the way one should think about the activities of life and this way of thinking is like insight meditation found in Buddhism. Sisyphus is a character in Greek mythology, and he was condemned by the Gods to roll a boulder up a hill for all eternity. When Sisyphus would succeed in pushing the boulder to the top, the boulder would roll back down the slope only for Sisyphus to push it once more. Camus (1991) points out that the torture is not what's important, but instead the tension between the task and Sisyphus' choice to engage in it. During the return journey to once again push the boulder, a slight pause presents Sisyphus an opportunity to self-reflect. Upon self-reflection, Sisyphus becomes aware of the tragedy of his experience; he is set up for failure (Camus, 1991).

However, Camus (1991) argues it is also this same awareness that allows him to overcome his circumstances. Camus (1991) argues that although Sisyphus cannot change the circumstances of his own personal fate, he can choose how to interpret his experience. He does this by shifting his frame of reference (Camus, 1991). In this way, the tool that can make his experience torturous is the very same tool that can alleviate his suffering (Camus, 1991).

The myth of Sisyphus is similar to the Buddhists' approach in alleviating mental suffering. Camus (1991) does not mention meditation, but he believed that awareness and perspective allows us to choose how we are formed by our experiences. Sisyphus saw that his circumstances could not be changed and so he developed a level of equanimity towards his situation by remaining in the present moment (Camus, 1991). In my view, Camus' philosophy is like Buddhism insofar as both believe in a middle path. For Camus, non-being is not the correct response because human beings seek out meaning by nature. On the other hand, the meaning we seek is beyond our direct experience. Thus, if there is no inherent meaning in the universe than it provides the opportunity to create our own (Camus, 1991). Camus' (1991) myth of Sisyphus and Buddhism can be seen from the perspective of relative truth. As Camus puts it, "there can be no absurd outside the human mind, thus like everything else the absurd ends with death" (1991, page 30). Likewise, suffering only exists insofar as there is a human mind to perceive it.

Sisyphus is a character that represents each one of us every time we feel dread and are faced with a repetitive cycle that appears aimless (Camus, 1991). If we accept and embrace that at times, we will encounter such circumstances then it becomes a bit easier to be aware of our own happiness (Camus, 1991). In other words, when feelings of dread begin to consume the mind then we can interpret this Mara's or the boulders victory. Mara and the boulder are both obstacles to how we interpret our experience. It does not matter whether there is an inherent meaning in the universe or that death is inevitable, it's the struggle and challenges themselves that can bring contentment, enlightenment and inner peace to our lives (Camus, 1991). By focusing on the here and now we do not concern ourselves with what is yet to come. Both Camus (1991) and Buddhism suggest that it is the journey itself that matters (Shiu, Toneatto, 2015).

In accordance with the tenets of absurdism and Buddhism, we need to realize that who we are is constantly in a state of flux (Shiu, Toneatto, 2015). We can choose how to engage with our experiences and how we can create meaning for ourselves. However, it is only in our interaction with the absurd that we realize this (Camus, 1991). Likewise, it is only through the Buddha's interaction with the three sicknesses that he realizes suffering exists (Shiu, Toneatto, 2015). By understanding the ontological self, we can cultivate meaningful expressions such as love and kindness that allows the psychological self to properly flourish (Engler, 2003). Instead of seeing our lives as absurd and suffering, we find our lives flourishing with meaning, depth and love. Thus, both Camus and Buddhism would agree that suicide and non-being is not the answer. Instead we must be aware of the present, face obstacles, and live within the realm of relative truth. Hence, happiness becomes manifest from within and the foundation for the essence of life is pure awareness.

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Rethinking Mania Towards Synoptic Integration

Tallan Byram

"TRUE! – nervous – very, very dreadfully nervous I had been and am; but why will you say that I am mad? The disease had sharpened my senses – not destroyed – not dulled them. Above all was the sense of hearing acute. I heard all things in the heaven and in the earth. I heard many things in hell. How, then, am I mad? Hearken! and observe how healthily – how calmly I can tell you the whole story."

- Edgar Allan Poe, A Tell Tale Heart

Introduction

Contemporary models of madness in the West tend to be tunnel-visioned, incompatible, and limited in explanatory power. The dopamine hypothesis has as much to do with psychoanalysis as smartphones have to do with 18th Century Italian Opera, and neither includes a hypothesis about why the other is effective. Similarly, cognitivist models do not account for why antipsychotics work, and psychiatry nowadays has little time for psychotherapy, which has been shown to be *immensely* effective (Carr, 2010). And *none* account for the sublime fires of mania; the abject terror of psychosis; the gray, pallid, empty, hungry, and dead throb of depression. None of them say *anything* about the *experience* of madness. As a mad person who has experienced all three of these states, this greatly disturbs me and leaves me utterly dissatisfied. What can account for the wonders and horrors that I have felt, learned from, and been haunted by?

Madness impacts the biological, psychological, social, spiritual, and attentional facets of the afflicted person and is now often thought of as analogous to *illness*. Insanity, lunacy, and madness have fallen into disuse in preference for the term "mental illness." This is a mistake. Madness, though certainly vicious, is a florid, lush, and idiosyncratic constellation of phenomena that is rich with meaning. You can not interpret cancer; nor gain any insight from the flu; nor transform yourself by reflecting upon diabetes. Madness, in contrast, is instructive: one's madness

is one's own yet will fall into archetypal themes expressed across continents, historical times, and sorts of people. Mania is mania is mania, and yet it is *your* mania.

This paper makes two interpenetrating claims. The first is that madness is a response to the meaning crisis, and is more specifically a reaction to a breakdown of meaning in the psyche. The second claim is that Buddhism and cognitive science cohere on a model of madness as not impacting a unified "self" or "I" but rather as impacting self-organizing sub-modular processes which give rise to the emergent impression of a "self." To understand how madness acts, this paper will analyze mania along the five skandhas: form, sensation, perception, conditioned tendencies, and consciousness. These skandhas correspond to the biological, psychological, social, spiritual, and attentional dimensions of experience. At each level of analysis, relevant Western perspectives from within cognitive science will be integrated, and a commentary on how meaning and, more specifically, *relevance realization* impacts each level (Vervaeke, 2013) . Mania is taken to be an exemplary case of madness, but a fuller account would also investigate depression, psychosis, and the blendings of these states. Sadly, this cannot be undertaken here due to time and length constraints. By analysing mania across the five skandhas, the experience of mania becomes the central focus. Mania as a *lived, enacted* experience is privileged above reductionist models which sever truth from relevance. The model here proposed, which I will refer to as the Skandhic Model, is an empowering one: one can help to alleviate the symptoms of mania by addressing one's form, senses, perceptions, conditioned tendencies, and consciousness. The model provides *actionable*, *relevant*, and *coherent* insights about the nature of mania and conceptualizes it as an emergent property of the five skandhas arising and subsiding in a particularly destructive way.

A Magical Orange Grove in A Nightmare

When I am manic the whole world comes alive: the insights and pleasures fly past like shooting stars against an obsidian sky too fast to grasp but sublime in the experience of them. Sleep is forgotten; money is infinite, and the witticisms, jokes, and stories come flooding out in perfect synchronicity. Cocaine pales in comparison to this ceaseless joy, but gradually the anger--like a drop of dye into a cup of water--pollutes the experience and I become furious, hateful, and destructive. Amusement on the faces around me melts into horror, shock, and concern. Memory untangles itself from my awareness and I am left with long stretches of neverness which will later be filled with stories of my behaviour. Then it is back to my senses and back to my pills, but in the quiet moments when no one is

around, when my eyes fix on the spaces between the raindrops, I am visited by glimpses of the time that I danced on Saturn's rings and kissed the face of God.

Mania has been described since antiquity, and the descriptions of the ancients are not far from contemporary accounts (Jamieson, 1995). Grandiosity, reduced need for sleep, racing thoughts, talkativeness, distractibility, risky behaviours, and grand planning are all clustered together in a network of symptoms that is as specific as its presentation is idiosyncratic. No two manias are identical, even among individuals, yet the principles of mania remain the same. This, I claim, is because mania is a specific strategy for addressing a breakdown of meaning in the psyche. Mania, then, like depression and psychosis, can be considered a *secondary* stance. It is a reaction against a deeper, more serious underlying problem. This *primary* issue can be said to be the breakdown of the nomological, normative, and narrative orders within the psyche. The afflicted person loses the ability to align their schemas with a sense of progress or narrative, with a coherent and knowable universe, or with a sense of "good" in any meaningful sense. This primary situation is the same in mania, depression, and psychosis, and mania is but one *reaction* to this predicament. At the level of relevance realization, what can be said is that the *structures* which either limit or enable generative thinking ease off and liberate the processes which they mediate thus producing a torrent of insights, feelings, and perceptions. To understand *how* and *why* this happens, the discussion will now analyze mania along the five skandhas.

Form (The Biological)

There is no current consensus on the underlying biological causes of mania. What seems to be true is that various processes in the brain become *overactive*. In manic people, dopamine floods the brain and various areas can be seen to be active that would typically be dormant. What is clear is that drugs which limit the action of dopamine in key areas of the brain (such as in the dopamine D2 receptor) appear to reduce and even completely eradicate mania (Bourin, 2004). Thus it can be asserted with some certainty that the action of dopamine in the brain is key to any comprehensive account of mania. It is possible that dopamine is an agent for *enabling* various processes in the brain and another neurotransmitter may be involved in *suppression*. This may connect our accounts of relevance realization and the brain as regards mania. Dopamine may be the brain's way of signaling an "opening up" set of microidenties and behavioural repertoires.

Additionally, I posit that this rush of dopamine is analogous to the flood of endorphins that one experiences following pain. Some *thing* must prompt this flood of dopamine: some perceived pain or distress, and that pain and distress is the result of an internal awareness that the nomological, normative, and narrative orders have broken down. The specific physical mechanisms of this are, of course, unknown but can likely be integrated into current work on the bioeconomics of relevance realization. Further, this model of understanding mania as a *secondary* stance would invite researchers to investigate the brain's state *immediately prior* to the onset of mania. What internal conditions must be present for the brain to initiate the "mania" script? By investigating this, one might begin to form a biological account for how the brain copes with meaning crises, both personal and societal.

Sensation / Feeling (**The Psychological**)

Mania gives rise to feelings of omnipotence, boundless joy, and infinite potential. It is not uncommon for manic individuals to believe they are the Messiah, and to speak of divine powers (Stroppa, 2013). This is, I claim, a response to a deeply felt powerlessness in the face of a meaningless universe. By deciding that one is God, one makes up for the fact that God has been lost from the universe, and thus there is a means by which to re-enchant the world. These *feelings* are likely facilitated by the overactivity of dopamine in key areas of the brain. Here it can be seen that the first skandha creates the conditions necessary for the next skandha to arise, but it should be pointed out in no uncertain terms that this skandha does not collapse onto the first. The feelings and sensations that accompany mania are *emergent* from the skandha of form, but they are not components. They are the gestalt, and they are more than the sum of their parts. These sensations and feelings, arising from the interaction of body, mind, and spirit, are preverbal and not yet able to be engaged with linguistically or with either the conscious or unconscious minds[1]. This is an important point. In order for the feelings and sensations to be processed, they must be digested into workable thoughts, perceptions, and ideas. It is for this reason that this skandha corresponds to the *psychological* but not the *social*. One has no ability to communicate pre-symbolized feelings and sensations, but they are certainly experienced. As sensations and

[1]The psychoanalyst Wilfred Bion's work on *reverie,* beta elements, the alpha function, and alpha elements elucidates these processes with a precision and elegance that is unparalleled elsewhere in psychology or cognitive science (Giffney, 2013).

emotions colour what is perceived as relevant and meaningful, it can be seen that relevance realization will be skewed and distorted at this level of emergence.

Perception / Cognition (The Social)

Mania gives rise to racing thoughts and a pressure to talk continuously. Novel connections are made, reams of poetry may be written, and boundless creativity is often observed (Jamieson, 1993). Jokes and other social lubricants are employed with ease and fluency, with diminishing returns as one climbs from hypomania to true and sometimes psychotic mania. Perceptions are felt as acute and sometimes overpowering; thoughts contain timeless insights and absolute truths articulated in cryptic metaphors and syllogisms; and conversation with even the dullest of people becomes riveting. In short, the social impact of mania is profound. Mania impacts not only the individual but everyone in the social network of that individual. Friends and family may be "taken in" by the magnetism and charisma of the hypomanic person, going along for wild spending sprees or foolish business investments--exhibiting a sort of *folie à deux*. The energy and exuberance is often contagious, and it is not until true mania is reached that the spell of persuasiveness may be broken. Here my hypothesis that mania is a *reaction* to a breakdown of meaning can be readily observed. The consistent preoccupation with life-altering truths denotes a felt lack of the same in the unconscious. Why else would the manic person be so obsessed with meaning and truth if not because she felt an absence of them within? Here it should be noted that mania serves a *strategic* purpose: by providing precisely what is lacking in the primary sense, it solves the problem in a secondary sense[2]. This dimension of mania is absent from any Western

[2] Depression and psychosis, too, are solutions to the primary problem of a breakdown in meaning. Depression is the stance that the world is truly meaningless, and that one is completely alienated from it; it is therefore an act of liberation and coping to end one's life. Suicidal ideation, planning, attempts, and completions are common in depression and represent a final, brutal solution to the problems concomitant with a breakdown of meaning. Psychosis is the stance that there *is* meaning, but that meaning is a threatening one (persecutory delusions and hallucinations are exceedingly common.) In psychosis, the person decides that their primary experience of breakdown is a *signal* that something *out there* is terribly wrong. There is a foreignness to the voices--they are not one's own. Melanie Klein, the psychoanalyst, conceptualized this as "splitting", in which parts of the personality are dissociated from others, and thus allowing unconscious contents to present themselves in distorted forms that appear outside oneself. In Buddhist terms, depression could be said be the existential realizations of impermanence and suffering but *not* emptiness, thus rendering the universe an alienating place of concrete and meaningless *things in themselves.* Psychosis, on the other hand, is the existential realization of impermanence and emptiness, but not suffering. One's distress is assigned erroneous causes and rationalizations because the person does not accept that suffering arises out of craving. Rather, it is felt that one's suffering is the result of an evil agency intent on one's destruction or that one is the star of a sadistic reality television show run by malevolent executives.The causes of suffering are felt to be *out there.*

account[3]: namely that the symptoms are attempts to *heal.* Much as inflammation is the body's attempt to heal, so mania is the mind's attempt to recover from a breakdown of meaning in the psyche. Manic individuals are able to generate *more* relevant associations which are *original*, *creative*, and *insightful* than non-manic controls on word-association generation tasks (Jamieson, 1993). What they are able to see as relevant is expanded, which is consistent with research on the impact of positive emotions and moods more generally (Yeh, 2016). This expansiveness soon expands too far, and as one becomes more manic one's thinking becomes more and more disorganized. Thus it can again be said that the issue at work is that the *constraints* typically applied to creative thinking have been loosened to a maladaptive extent.

Conditioned Tendencies (The Spiritual)

However shy, withdrawn, or introverted a person may be when well, when manic a fiery and bombastic personality typically emerges[4] (Jamieson, 1993). One's conditioned tendencies become twisted, distorted, and warped. Situations that would typically invoke fear stir curiosity and amusement, and reactions typical of the well person are absent when they are manic. But as Dr. Nancy J Chodorow points out, "the pathological, by revealing the lines along which the crystal shatters, illuminates the structure of the normal." The action of mania may provide clues about the nature of the impact of positive moods and emotions in well persons, especially as they relate to creativity, relevance realization, and salience regulation. Mania may have much to tell us about normal moods and emotions, and harkens the way to a study of the interactions between mood and temperament and emotion and personality. This skandha is the level at which the loss of "self" is experienced and noted by observers. There is something about our temperaments and personalities, as they interpenetrate with the other levels of emergence, and the grasping after a false sense of unity, that constructs the illusion of a self in the first place. In this way, mania shows how fragile our "self" really is, as it can be dramatically and utterly altered by relatively small changes occurring along the skandhas. This is the level at which spirituality can be engaged with, as the way we engage our faith is determined largely by our conditioned tendencies, environments, and predispositions. Mania frequently deepens and enlarges faith, with

[3] Darian Leader, the psychoanalyst, discusses *psychosis* in this primary and secondary fashion, but his work does not explore mania and depression as similar in this way (Leader, 2017).

[4] An angry, hostile, and destructive personality may also emerge (DSM-5, 2014).

atheists proclaiming relationships with God and supernatural powers (Stroppa, 2013). Perhaps here, too, mania may have something to tell us about the nature of faith and mystical experiences in healthy persons.

Consciousness / Awareness (The Attentive)

Mania effects what is salient, relevant, and meaningful. It directs attention towards disparate contents and makes novel and sometimes strange connections between objects. Loose associations, speaking in obtuse metaphors, and distractibility are common in manic persons (DSM-5, 2014). By altering the very fabric of awareness, mania distorts memory and attention, and provides a constant stream of thoughts experienced as deeply meaningful and life-changing. At this level perhaps mania as a response to a breakdown in meaning becomes most apparent. The ever shifting but intense and relentless thoughts provide a veil behind which lies a poverty of truth. Try as they might, the insights and cognitions cannot piece the nomological, normative, and narrative orders back together again, and professional intervention is almost always required. But mania also shapes and distorts awareness itself: colours are brighter, sounds clearer, tastes more intoxicating and lush. Here, again, what is deemed "relevant" is expanded and enlarged and details, dynamics, and relationships become apparent to the manic person that would never occur to a non-manic person. Thus the tentacular monster of attention becomes frenzied and engorged: taking in, processing, and digesting a wider array of experience than is accessible to the non-mad person. Here again, as I hope has become obvious, the issue is that *too much* is deemed relevant

Conclusion

The Skandhic Model represents a radical integration of Western and Buddhist conceptions of madness. Unfortunately, this paper did not have the space in which to analyze depression and psychosis using the Skandhic Model, but I hope that this analysis of mania has been sufficient to show some of the model's strengths. By analyzing mania across the five skandhas, an integration of the biological, psychological, social, spiritual, and attentive becomes possible. The next step is a synoptic integration of these levels into a cohesive model of mania which puts the *experience* of mania front and center. Such a comprehensive integration cannot be undertaken here again due to limitations of space, but some things may be tentatively asserted in that direction. For starters,

mania is likely a psychoneurobiological situation in which the *constraints* applied by the structures of the brain and mind to the processes which mediate relevance realization are thrust open to the detriment of behaviour globally. I claim that a careful study of mania, along the various levels of its emergence and via synoptic integration of those levels, will reveal much of how mood, emotion, cognition, and creativity interact, interpenetrate, and give rise to one another. Perhaps we will one day understand *why*, as Aristotle noted, "there is no great genius without some touch of madness."

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Introspection: A Method Found In Buddhist Psychology

Ali Raza Hasan Ali

Introduction

When analyzing Structuralism within the domain of psychology, it becomes clear that there exists a level of inconsistency regarding the origin of its ideas (Leahey, 1981). Structuralism, often attributed to Wundt, refers to a school of thought built upon the notions of Associationism, in which one would observe complex psychological processes as being made up of basic elements of consciousness (Asthana, 2015). In particular, its method of study, Introspection, houses a distinct divide with regards to the history of its creation (Danziger, 1980). The term introspection (in the contemporary sense) refers to the psychological method used by both Wundt and Titchener, in which one could observe his/her own mind and consciousness in an experimental setting (Asthana, 2015). Often associated with the creation of this method, Titchener and Wundt are usually seen as identical figures, whereby Titchener's additions to the method follow a logical path from Wundt's introductory work (Leahey, 1981). This, however, is not the case as Titchener's view of introspection differs significantly from Wundt's original methodology (Danziger, 1980). This controversy becomes extremely important as the introspective method played a key role in the progression of experimental psychology, with specific impact on the purpose of psychological investigation. On one hand, Wundt believed that the goal of psychological investigation was the discovery of hidden cognitive processes through the analysis of both physiological and introspective data, whereas Titchener, being a positivist, believed that the investigation of unobservable complex cognitive processes could not be included as an aspect of scientific psychology (Leahey, 1981). This difference in opinion regarding the value of unobservable cognitive processes still holds weight today, with implications on both experimental psychology as well as mental health interventions. As such, current focus is being placed on observable phenomenon such as the neuroscientific etiology of mental illnesses and the psychosocial causes of various psychic issues.

In lieu of this controversy, Danziger, in his essay *The History of Introspection Reconsidered,* notes that the analysis of both Wundt's German and Titchener's British psychology are vital in understanding the origination of Introspection as a method in Western Psychology, and its role in the progression of modern psychological investigation (Danziger, 1980). What is disregarded in Danziger's essay is the formulation of the method of introspection, and its results, in Eastern Psychology. Specifically, the Buddha, who is often seen as an ancient cognitive and behavioral psychologist, presents Vipassana (translated into Insight Meditation) as a means of understanding the mind during the 6th century BCE (Silva, 2005). This Vipassana practice, as described by the Buddha, is a first-person method used to analyze and probe one's stream of consciousness, as well as one's day to day experience (Chavan, 2007). Vipassana, in its method of understanding consciousness and its role in the insubstantial mind, parallels much of both Wundt and Titchener's understandings of Introspection.

As such, this essay will attempt to showcase the parallels between Vipassana and the Western introspective method in making the case that the Eastern Psychological understanding noted by the Buddha precedes both the German and British understandings of said method. This will be done through systematically comparing the introspective methods of both Wundt and Titchener to the Buddha's Vipassana, with emphasis on the definition of introspection, the purpose of introspection, the specific methodological constraints found in introspection, and the resulting data discovered from introspection. In seeing these distinct parallels, it will become clear that the 6th century Buddhist practice sets precedent within Eastern Psychology, and thus should be considered when analyzing the history of introspection and the goals of modern psychology.

Wundt's Introspective Method in Comparison to Vipassana

As noted by Danziger, Wundt's introspective method was originally described in German by the terms Selbstebobachtung and innere Wahrnehmung (Danziger, 1980). The term Selbstebobachtung, when translated into English, refers to self-observation, whereby an individual would observe their private mental processes and consciousness as a form of data collection (Asthana, 2015). In contrast, the term innere Wahrnehmung, translated into English, refers to a similar and yet distinctly different process known as 'internal perception' (Danziger, 1980). Here, it is important to note that the Western notion of the mind is one that is substantial and that the mind is considered to be experiencer of consciousness, the feeler of feelings, doer of

deeds, and thinker of thoughts (Mosig, 2006). Thus, both terms collectively describe the methodology of Wundt's introspection as being a self-investigation into the substantial mind. In contrast, the term Vipassana, translated into English, is defined as 'special-seeing', and references the development of insight into the mind (Chavan, 2007). The mind or self, in the Buddhist context, is not defined as a substantial object, rather it is an illusory view of a set of interdependent processes known as the 5 Skandhas: form, feeling, perception, impulses, and consciousness (Mosig, 2006). Specifically, the Buddha identifies four aspects of the Vipassana practice that target specific elements of the 5 Skandhas as to develop insight into the non-substantial mind (allowing for the alleviation psychic suffering): Awareness of the Body, Awareness of Sensations, Awareness of Feelings, Awareness of the Mind and Consciousness, and Awareness of Mental Contents (Chavan, 2007). In particular, the awareness of the mind/ consciousness process specifies the methodology used in self-observation during Vipassana, whereby the observer notes the mental contents and consciousness that plays out within the mind (Chavan, 2007); this methodology seems to distinctly parallel Selbstebobachtung and innere Wahrnehmung. Furthermore, the Buddha also seemingly uses Vipassana to collect data as during his own practice, he identifies a variety of specific mental contents that arose in his mind (Chavan, 2007). These include: Awareness of Hindrances (anger, restlessness, greed, doubt, sloth, torpor and aversion) and Awareness of Feelings (as senses being identified as having either a positive, negative or neutral valence) (Chavan, 2007). This description of the element of Awareness of the Mind and Consciousness clearly describes a methodology that overlaps significantly with the description of Introspection seen in Selbstebobachtung.

However, the similarities continue well beyond the definitions of said terms; there exists specific elements of the Wundtian introspective method that appear to be identical to that of the Buddhist tradition. Wundt, in his *Outlines of Psychology* (1902), notes a fundamental issue within introspection in psychology:

> "The chief problem of psychology, however, is the exact observation of the rise and progress of subjective processes, and it can be readily seen that under such circumstances the intention to observe either essentially modifies the facts to be observed, or completely suppresses them."

In this statement, he points out that the simple observation of one's mind and consciousness (with intention to observe) disrupts the objective process of observing the mind. Further, in his *Lectures on Human and Animal Psychology*, Wundt (1901) clarifies this notion by stating:

> "If we try to observe our mental activities, the observer and the observed object are one and the same. But the most important condition of a trustworthy observation is always thought to consist of the mutual independence of object and observer."

Here, Wundt states the importance of distinguishing between the observer and the observed when conducting an experiment using the introspective method. He completes this idea by stating (1901):

> "This control is given by experiment. Not only does experiment, here as elsewhere, enable us to produce a phenomenon, and to regulate its conditions, at our pleasure: it possesses in psychology an especial importance, in that it alone renders self-observation possible during the course of a mental process."

Wundt clearly notes the experimental process as being a fundamental element in allowing for the introspective method to accurately analyze the mind. In a similar manner, when describing the Vipassana practice in the *Satipatthana Sutta* (a key text in the description of Vipassana, translated by Soma Thera), the Buddha states (1962):

> "So, too, monks, give up what is not yours! Your giving it up will for a long time bring you welfare and happiness. What is it that is not yours? Corporeality... feeling... perception... mental formations... consciousness are not yours. Give them up!"

Here the Buddha, in his mission to alleviate human suffering, points towards the importance of distinguishing between the observer and the observed within the Vipassana practice. This is done through a pointed approach whereby the practitioner de-possesses their feelings, perceptions, mental formations and consciousness through observing them from afar. In doing so, the Buddha states (1962):

> "Here, bhikkhus, a bhikkhu lives contemplating the body in the body, ardent, clearly comprehending (it) and mindful (of it), having overcome, in this world, covetousness and grief; he lives contemplating the feelings in the feelings, ardent, clearly comprehending (them) and mindful (of them), having overcome, in this world, covetousness and grief; he lives contemplating consciousness in consciousness, ardent, clearly comprehending (it) and mindful (of it), having overcome in this world covetousness and grief; he lives contemplating mental objects in mental objects, ardent, clearly comprehending (them) and mindful (of them), having overcome, in this world, covetousness and grief."

Thus, it becomes clear that both Wundt's introspection and the Vipassana practice place an emphasis on creating distance between the observer and the observed such that the mind can be analyzed in an accurate manner. A final comparison between the Wundtian Introspection and Vipassana can be made in the results derived from both methodologies. Wundt, in his *Outlines of Psychology*, upon completing his description of the introspective practice, begins to outline the resulting phenomena he observes (1902). He describes two elements:

> "As products of psychical analysis, we have *psychical elements of two kinds*, corresponding to the *two* factors contained in immediate experience (1, 2), the objective contents and the experiencing subject. The elements of the objective contents we call *sensational elements*, or simply *sensations* … The subjective elements, on the other hand, are designated as *affective elements, or simple feelings*."

Here, Wundt lists sensations and feelings as being the two key psychical elements that were concretely discovered through the process of introspection. The study of these elements, through introspection, governed a substantial portion of Wundt's work with the method, as seen in the remaining chapters of *Outlines of Psychology* (Wundt, 1902). Paralleling Wundt's discovery of the psychical elements of sensation and feelings, the Buddha in his Vipassana practice, also identifies similar constructs. This is seen in the Awareness of Sensations and Feelings element, whereby distanced contact is made with one's 'sense objects' such as the eyes, ears, tongue, body and nose (Chavan, 2007). Correspondingly, the Buddha also adds the mind to the group of sense objects to allow for the identification of feelings (Chavan, 2007). This parallel is also explicitly stated in the

Satipatthana Sutta, whereby the Buddha dedicates an entire chapter to the contemplation of the body and the contemplation of feeling (Thera, 1962). The Buddha states:

> "Feeling can arise with (certain) things — *forms, sounds, smells and so forth* — as objects. That bhikkhu knows, therefore, that there is a mere experiencing of feeling after the objectifying of a particular pleasurable or painful physical basis or of one of indifference."

Not only does the Buddha identify sensations and feelings, but he goes further than the description of sensations and feelings provided by Wundt by describing a causal connection between the two constructs.

In completing this analysis of the parallels between Wundt's Introspection and the Buddha's Vipassana, it becomes clear that there exists significant overlap between the two methods, despite there being a difference in the understanding of the mind between the two psychologies. In particular, the descriptions of the method, the distinctions made between observer and observed, as well as the results derived from each individual method showcase that the Buddha's 6th century BCE practice should be considered a form of introspection that predates the earliest Wundtian understanding of the method. Thus, the precedent set by the Buddha must be analyzed in attempting to understand the diverse history of the introspective practice and when considering the goals of modern psychology.

Titchener's Introspective Method in Comparison to Vipassana

The second distinct origin of introspection that Danziger analyzes in his essay is the Systematic Introspection of Titchener (Danziger, 1980). He notes, through Titchener's own words (1980):

> "Now twenty years after we have changed all that. The movement towards qualitative analysis has culminated in what is called, with certain redundancy of expression, the method of 'systematic experimental introspection'… A great change has taken place, intensively and extensively, in the conduct of the introspective method." (p. 250)

In the above quote, Titchener states a change that has been made to Wundt's notion of introspection. He describes a shift towards a more systematic approach; specifically, with regards to the types of processes being analyzed. Titchener, in his systematic approach views cognitive experiences and processes as being analyzable such that they could be broken down into their specific conscious elements (Leahey, 1981). These processes included memory, thinking and complex feelings; realms of conscious experience that Wundt had often avoided (Danziger, 1980). Furthermore, Titchener's use of Systematic Introspection involved subjects reporting both the observable experimentally controlled experience (as recommended by Wundt) and a further dissection of these experiences in hopes of discovering fundamental sensation-elements (Leahey, 1981). Titchener goes even further, as he begins to value subjective data found when conducting Systematic Introspection (Danziger, 1980). It is noted by Danziger that the subjective reports were conducted on a regular basis and served as an essential data set during investigation. This can be seen in Boring's *A History of Introspection* whereby Boring quotes Titchener summarizing his understanding of subjective data (Boring, 1953): "the sum-total of human experience considered as dependent on the experiencing person." Lastly, Titchener's Systematic Introspection required a level of substantive training that exceeded Wundt's training of observers of the mind (Danziger, 1980). This was done due to the fact that the naïve mind would not be able to penetrate beyond the basic experiences that one may observe in the introspective practice (Danziger, 1980). As such, Titchener's Systematic Introspection can be summarized as a distinctly different extension of Wundt's methodology, whereby cognitive experiences were broken down into their constituent elements through the analysis of the subjective experiences of each trained participant.

Despite Titchener's methodology being different to Wundt's introspection, the Buddha's Vipassana practice still draws notable parallels with Titchener's work. With regards to the discovery of even more fundamental sensation-elements based on the subjective experience of participants, the Buddha outlines the necessity of understanding the subjectivity of consciousness by describing the various subjective states of consciousness in the Satipatthana Sutta (Thera, 1962). These included Saragam Cittam (Consciousness with Lust), Samoham Cittam (Consciousness with Ignorance), Asamahitam Cittam (State of Consciousness Not Quieted), among many more (Thera, 1962). The Buddha outlines the causality of these subjective states, noting how an individual may impact the arising of certain mental components, in the following (Thera, 1962):

> "The fetter of sensuality arises for him who by way of sensuous enjoyment takes delight in a pleasant sense-object become visible at the eye-door. For him who is annoyed or angry at the sight of an unpleasant object, the fetter of resentment arises, and the fetter of pride arises in him who thinks: No one but me is able to consider the object wisely."

Furthermore, the Buddha also encourages a substantive level of training in order to practice Vipassana correctly; the Buddha advocates for the practice of concentrative meditation prior to the Vipassana practice (Chavan, 2007). This is done as the insights derived from Vipassana could not be conceived without extensive concentrative practice. Here it should be noted that concentrative meditation would act as training, as it allowed for the naïve mind to be able to focus on a specific object (ex: breathing) thus allowing the practitioner to enter a deeper state of concentration, such that the mind may remain still (Kuan, 2012). This would eventually allow the naïve mind (as noted by Titchener) to be able to penetrate the basic sensations during Vipassana and realize the insights noted in Buddhist Psychology in the form of Impermanence (as seen in the fleeting sensations), Non-Substantiality, and Suffering (Kuan, 2012).

In closing this analysis, the parallels between Titchener's Systematic Introspection and the Buddha's Vipassana become clear. The description of the method of Systematic Introspection, in its use of subjective data to analyze cognitive experiences, as well as its need for intense training, overlap significantly with the Buddha's 6th Century BCE description of Vipassana. Here, it is easily seen that the Buddha's method predates Titchener's adjustments to the Introspective method, and thus when discussing the history of Introspection and the goals of modern psychology, the Eastern practice of the Buddha should be considered.

Conclusion

After reviewing the literature regarding the history of introspection, and its two separate points of origin, it can be concluded that the Buddha's notion of Vipassana significantly matches the Western understanding of the method. This occurs despite the distinctly different understandings of the mind seen in Buddhist and Western psychology. Specifically, Vipassana predates Wundt's description of the method, the distinctions made between observer and observed, and many of the results derived from his introspective experiments. Further, the Vipassana practice also predates Titchener's Systematic Introspection, in its focus on subjective

data to dissect cognitive experiences via highly trained participants. It is through these comparisons that one may conclude that the 6th century Buddhist practice should be considered when analyzing the history of introspection. Further, in acknowledging the presence of Vipassana within the history of introspection, one may be able to assess the goals of modern psychology and the role of self-observation in mental health interventions.

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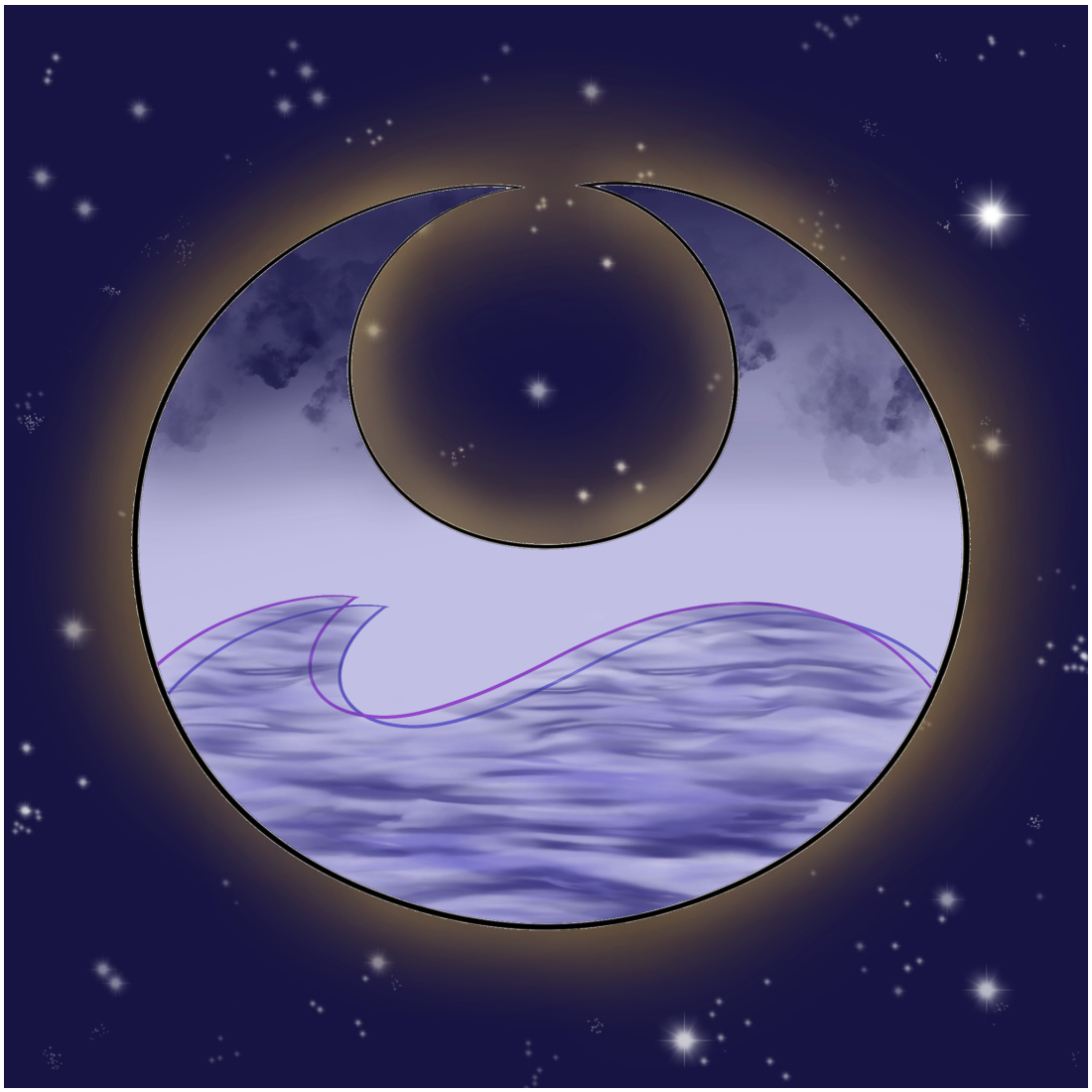
Waves Within

Christeen Salik



Artist Statement

This piece was stitched together during a time of emotional turmoil. Acknowledging the need for a mindful grounding practice, I started with the crescent moon – a symbol nostalgic of my birth home, Pakistan, and also alludes to the many guiding celestial forces in our galaxy today. While creating this piece, I allowed myself to become the waves; calmed by the power of the moon and content in their constantly changing nature. Just as the tides are lovingly held in the earth's basin, watched over by the gravity of the moon, so are we replenished by this shining light in the night sky. This is one moment in my life where I truly appreciated the healing powers of art.

Mindfulness As A Recommendation To Transform Engineering Education

Stephen Joly

Introduction

The Faculty of Applied Science and Engineering at the University of Toronto is regarded as one of the top engineering schools in Canada while also maintaining a respectable presence globally. The faculty produces engineers that meaningfully contribute to society's technological development. Nonetheless, the current pedagogy of the school lacks coverage of an increasingly important topic, education on mental health. Student well-being is a growing concern among post-secondary institutions. With a rise in mental health related incidents and student reported mental unwellness, intervention is inarguably needed. Research suggests that mindfulness can help reduce stress and anxiety, improve concentration and promote happiness (Mikulas, 2010, p. 2-3).

My journey in education has been as lifelong as my hunger for learning. I was a curious child, inquisitive about everything around me, from mundane objects like keys to other foreign objects, as if I was trying to understand the whole world at the age of four. Going into Engineering at the University of Toronto (UofT), I believed it was a place for those who loved to grow and learn but I was disillusioned when I realized that UofT was in the business of producing engineers, not necessarily giving people the opportunity to grow into happy, confident and self-aware people. This speaks to Ergas' work that discusses the dual purpose of education as a tool (motivated by economic benefits) versus as a transformational educational path (Ergas, 2019, p. 340-341).

I am now in my final year of Chemical Engineering (ChemE) at the Faculty of Applied Science and Engineering (the Faculty) at UofT. Upon reflecting on my experience progressing through the four years of my five-year program (including Professional Experience Year [PEY]), I realize that none of my significant personal growth was a direct or indirect result of my engineering education. While I did learn how to solve complicated problems and work well under pressure, as any program in higher education would provide experience in, I did not learn how to solve problems related to my mental wellbeing. In high-stress and performance driven environments like an engineering school, this very kind of wellbeing is constantly threatened and hence, crucial to address.

This past semester I took a course in the Buddhism, Psychology and Mental Health program, NEW337: Mindfulness in Education, which gave me an introduction to mindfulness in a formal educational setting. From the beginning of this term to now, I feel confident saying that I feel transformed – more in control than I have ever felt and comfortable in my sense of self. It is important to understand where I was coming from entering this course. At the end of my second year of ChemE, I was sharing a story with a peer about my grief towards my tendency to worry constantly. In response, they shared their experience of struggling with anxiety, a term foreign to me at the time. As they explained that anxiety is the same rumination on feelings of worry that I have been experiencing, I realized that I had been struggling with anxiety for years. It is also important to note that I only took this course on a recommendation that the 300-level New College courses on Mindfulness were great avenues to explore the topic further, and had I not received this recommendation, I may never have ventured into this discipline.

I enrolled in this course feeling unsure what to expect and quickly became amazed by what I was noticing about my sense of self. During the 12 weeks the course ran, we would have discussions on mindfulness, practice Sitting With Attention Tenderly (SWAT), record any notes from our experience into journals, and have reflected on our experience with the class. Throughout the term, we would study various theories related to mindfulness and explore different intentions to apply in our praxis. Over the course of the semester, I had become aware of myself in more ways than I thought were possible, which gave me confidence in my ability to understand my thoughts if not at least be aware of them. This is one skill that most certainly was not taught in my formal engineering education.

Engineering students are under an immense amount of pressure and engaged in ceaseless competition that fosters an environment degenerative to mental health. This is exacerbated by the ignorance surrounding education on mental health, and strategies to manage stress. Mindful meditative practice may be an effective intervention to help students develop insight that prevents mental unwellness. The Faculty seems to understand this is a priority. The year I entered engineering was the first year a new course called "APS100: Introduction to Engineering" was introduced to help students transition into their first year. The course also touched on ways to manage stress, but the most I learned from that course relating to mental health, was how to take a deep breath and how to manage my time using iCal. In light of the recent rise of mental health-related incidences on the UofT campus, the university has made its efforts with respect to mental health more known through the formation of "task-forces" and communicating resources to students more frequently. Lately, I have become involved in discussions around mental health, the value of mentorship, and the student experience within the faculty; unfortunately, the horizon for mental health reform in the engineering curriculum is bleak. The primary sentiment expressed by faculty from my vantage point is that in order for something to be added, something else must be cut, and the program is lean as is.

Through my experience with NEW337, topics such as phenomenology, hermeneutics, mindfulness, and their role in pedagogy, have been introduced into my formal education. It would be coincidental, to say the least, that any engineering student on campus would be exposed to education on topics like these. I personally only took this course on a suggestion and from my own personal interest in mindfulness. In my experience, the zeitgeist of engineering students is that mindfulness a luxury and that it is tangential to receiving a full education. I believe that the quality of life of engineering students on the UofT campus would be significantly improved as a result of including coursework related to qualitative research, hermeneutics, phenomenology, and mindfulness. Pursuant to the message of *Mindfulness In, As and Of Education* by Oren Ergas, mindfulness is a practice that could both serve educational aims and be a worthwhile activity in and of itself (Ergas, 2019, p. 348). Providing students education on mindfulness may enable independent personal investigation into negative mental afflictions (such as stress, anxiety, and inattention) that supports individual student wellbeing, improve favourable mental behaviours (such as concentration and self-awareness), and encourage mindfulness of education.

Current State of Engineering Pedagogy

As aforementioned, the zeitgeist of engineering students reflects that topics related to mindfulness are tangential to a complete education in engineering. Mindfulness is not seen as valuable or worthwhile. Through my experiences in the engineering ecosystem for the past four years, I have rarely seen any resources or narratives from the Faculty regarding mindfulness. At most, it may have been mentioned behind the closed doors of an academic advisor's office; however, that narrative is starting to shift. Engineering staff have become more proactive about student's mental health and have begun implementing programing focused on improving the student experience. In the engineering pedagogy, an element of "institutionalized dharma" exists, whereby the institution itself reinforces values that cultivate *dukkha* by rewarding those who pursue those values (Loy, 2015, p. 122-123). The most common example of this is the pervasive feature of competition that undergirds the engineering experience, compounded by student's personal ambition to chase the highest grade possible and compare academic performance. Little has been done about this issue in the past until recently with the installment of the new Dean, which brought with it changes that have been long overdue. The introduction of a faculty peer-to-peer mentorship program designed to provide support at the individual level, removal of competition-inducing models such as the class ranking system, allowing a one-time no-note-needed mental-health related academic petition, and increased transparency of the faculty leadership through the "Coffee with Chris" initiative[1] has contributed significantly to this much-needed shift in the engineering attitude around student experience. A more in-depth review is necessary to understand the specific gaps that currently exist in the pedagogical framework; however, there are still opportunities to innovate for a better student experience.

During my third year of ChemE and my PEY term with Deloitte Canada, I felt a significant amount of anxiety was dominating my life. I remember that during those two years, I could not recall what feeling calm was like. Having learned what I know now through my independent research, I believe these concepts may have saved me those two years of misery had I been exposed to mindfulness earlier in my education. Although this material is not formally educated on in the core engineering curriculum, there are avenues by which engineering students may self-educate. There are faculty at the University, mainly part of New College, that are

[1] "Coffee with Chris" is the name of an initiative whereby the Dean of Engineering has committed to making time to have a conversation with every single undergraduate student.

subject matter experts in this field, and there is programming offered to all students. One program run by the university that has supported my experience this year has been Mindful Moments, although this program has been especially valuable to me as a supplement to NEW337. Mindful Moments is an example of a Mindfulness-Based Intervention (MBI), integrated into a large organization to reduce stress, and anxiety to improve performance and productivity. Programs like these have received mainly criticism of misappropriating or commodifying the practice of mindfulness, which has been known for centuries as a profoundly transformative spiritual path (Loy, 2015, p. 36-37) (Ergas, 2019, p. 347). These contemporary programs have been referred to by many as "McMindfulness" because they are a secular form of the Buddhist practice that helps people conform to the "questionable values of modern society" (Loy, 2015, p. 33-37). The differentiating factor between a regular McMindfulness program and Mindful Moments is that the program is run by a combination of students and faculty, which allows students the freedom to inquire about the teachings and concepts of the practice's Buddhist roots. Notwithstanding, Mindful Moments is an MBI widely being presented as a panacea to students (Ergas, 2019, p. 341).

The incorporation of theory combined with practice is what set my experience with SWAT apart and made it so transformative. The praxis element of NEW337 helped me develop a more holistic view to how the practice of mindfulness may be valuable to my life and it allowed me to explore theory related to the topic, unlike MBIs that aim to combine "secular-clinical-therapeutic-economic framings and implications" (Ergas, 2019, p. 344). SWAT provided me a weekly opportunity to practice mindful curiosity, and the observations I was able to make provided me the lived experience necessary to reflect on in order to derive useful insight. I have benefited from SWAT because this mindfulness course has presented mindfulness as an avenue to learn about the self, instead of as an ersatz tool focused on reducing stress. Incorporating this kind of education is an opportunity to transform engineering education and set a precedent for subsequent change around high-education and similar pedagogy.

Value of hermeneutic phenomenology and the narrative

The study of hermeneutics and phenomenology have been critical to my understanding of mindfulness as the transformative practice it is. In Engineering, students are taught there is one world by which we operate − the one governed by the laws of physics. There may be more than

one way of solving a problem or learning a technical concept, but the notion of truth varying by the interpretation is not accepted unless they result in the same understanding of theory. This truth carries some similarities to the phenomenological view of Husserl, who took a Cartesian view that reality is something "out there" to be apprehended (Laverty, 2003, p. 23). Gadamer critiques Husserl by saying, "In a series of many investigations he attempted to throw light on the one-sidedness of the scientific idealization of experience… To me, however, he still seems dominated by the one-sidedness that he criticizes, for he projects the idealized world of exact scientific experience into the original experience of the world…" (Laverty, 2003, p. 27). Laverty is explaining a sentiment that feels quite familiar to me – that as an engineering student, my way of experiencing the world is tied to the scientific idealization of the world that I have become indoctrinated with. Perhaps this indoctrination is the result of my education, and perhaps other engineering students are taking a Cartesian view of their lives as well, blurring the lines between their discipline and their worldview. In this nuanced philosophy of engineering pedagogy, it is important for students to be aware of this unconscious interpretation to be more mindful of this fallacy and be open to the possibility of other doctrines of thought – to allow for curiosity.

Topics, as discussed in courses like NEW337, are seldom covered in engineering curriculums unless mandated by a breadth requirement, and there is a high likelihood that graduates of UofT engineering may live their lives never having heard the term "hermeneutic phenomenology". Studying this topic has provided me with a considerable amount of insight as to what is being investigated with mindfulness and has offered a fresh perspective on how I may view and interpret the experiences I, as a student, live through. For example, in dealing with anxiety or experiencing high amounts of stress, I did not always realize there was a mechanism of action these afflictions take in altering your perception of life. I did not even know the parts of the mind that are affected or that there were different parts of the mind. Mikulas' definitions of mental objects and behaviours became a steppingstone for me to understand the architecture of the mind and how it relates to the self. This insight provided me with knowledge I now know to leverage in order to continue my journey into mindfulness and to freely engage my curiosity. Introducing education on mindfulness into the engineering pedagogy may substantially affect the way students experience their education and would improve the student experience as it relates to mental health (i.e. stress, anxiety, concentration, judgement, and clinging) (Mikulas, 2010, p. 2).

A prominent theme I have noticed in my journey with mindfulness has been the power of the narrative around the practice itself. Mindfulness is an inherently abstract practice that requires repetition and relies on personal insight to justify its value. Perhaps this is why engineering students have such a problem with the practice because it is not grounded in facts or numbers that can provide validation that the correct procedure is being followed. The nature of narratives is constructivist – it focuses on the central premise that "world-making" is the principal function of the mind (Bruner, 2004, p. 691). In the context of the UofT engineering pedagogy, the "world-making" our minds crave is directed towards developing a pointillistic understanding of the world from the realm of math and science, however, this must be supplemented by the teaching of other narratives (i.e. hermeneutic and phenomenological) to balance out the non-holistic one-dimensional notions of a worldview fostered by the inherent nature of Engineering as a discipline.

In my experience, the quality of my meditation has been greatly aided by the guidance of those with a deeper understanding of the practice. For example, the phrase "sit and watch the parade" (Joly, 24/10/19) deeply resonated with me during one of the SWAT sessions. I still refer back to this analogy to this day. The phrase helped me see the connection between thoughts and floats in a parade in the sense that they both come and go, some grabbing your attention more than others. This analogy helped me build confidence in the notion that thoughts are transient and that, without fail, there will always be a next thought. Ultimately, this phrase provided me with insight as to the impermanence of mental phenomena, which I had understood as a concept before, but not exactly how it meaningfully applied to me. Another useful analogy explains that during meditation, it is expected that the mind will wander and that returning the focus to the breath is "like a push-up for the mind". This sentiment implies that mindfulness takes practice and that it is unreasonable to have different expectations of meditation as we would with physical exercise. The phrase changed my understanding of mindfulness and gave me the insight I needed to practice non-judgmentally, whereas before, I would get discouraged and disappointed with myself when my mind would wander.

This touches on an interesting notion of conveying experiential wisdom through words and language. It is fundamentally difficult to communicate pathic experience since this kind of understanding is not cognitive, "it is sensed or felt, rather than thought" (van Manen, 2007, p. 20). Van Manen discusses how the terms empathy and sympathy suggest the understanding of

these terms is not "primarily gnostic, cognitive, intellectual, technical" but that it is pathic in the sense that they are "relational, situational, corporeal, temporal, and actional" (van Manen, 2007, p. 22). If mindfulness is a similar pathic experience, then it needs to be practiced and experienced by the individual. Conveying this kind of pathic wisdom must be done in a way that is relational – in a way that can be easily understood by listeners and related back on the individual level to similar experiences, insights, or feelings they may have had in the past. This is why the narratives used in my personal experience with mindfulness have been so impactful because they are relatable and easily understood as valuable to my contemplative practice. Similar narratives and relational means of teaching should be incorporated into the engineering curriculum to develop students' understanding of the mind, it's objects, and behaviours to drive a working knowledge of how it relates to their lived experience.

Balancing theory and praxis

Reflecting on my praxis with the NEW337 course, I discovered several themes about my sense of self that the contemplative practice had helped me realize. The most pervasive theme in my SWAT journal entries is a deeply rooted sense of self-doubt, or a sense of lack, which can be defined as "the feeling that something is wrong with me, or that something is missing in my life" (Loy, 2015, p. 45). In my phenomenological review of my SWAT experiences, this self-doubt is present in the form of self-comparison. For example, I had incorporated ratings into my journaling format (Joly, 14/10/19) (Joly, 21/10/19) (Joly, 28/10/19) and in the use of vernacular in my narrative such as: "getting really good" (Joly 17/10/19), "getting worse" (Joly, 17/10/19), "why am I am bad at this" (Joly, 03/10/19), "why are you comparing yourself" (Joly, 03/10/19), "big win" (Joly, 26/09/19). Notwithstanding the presence of this self-doubt and the extent to which it has undergirded my contemplative practice, the fact that I am now aware of this aspect of my sense of self is a giant leap for my journey into mindfulness. From having identified this process as existing, it can then be deconstructed and explored to identify the behaviours of the mind that lead to this feeling (Loy, 2015, p.42-43). Had I not taken NEW337, these nuances may have gone unnoticed for much longer, and I would not have the lived experiences necessary to continue meaningfully exploring mindfulness.

Combining theory with praxis is critical to allow for the application of learned theoretical concepts. The distinction between the two can be summarized as "theory 'thinks' the world,

practice 'grasps' the world – it grasps the world pathically" (van Manen, 2007, p. 20). In pedagogy, students may resonate with an idea or concept from theory, but if not practiced, these ideas, experiences or awakenings can fade with time. Eckhart Tolle (1999) touches on this notion with an example: "I realize now that I hadn't truly seen the tree before, just a flat and dead image of it. When I look at the tree now, some of that awareness is still present, but I can feel it slipping away. You see the experience is already receding into the past" (p. 53-54). This passage conveys that insight and awareness is something that must be maintained and practiced. Similarly, the same insight is related to the idea of seeing the essence of an object instead of the lifeless image of an object, as expressed by Mahayana scholar Edward Conze. The process of perception is divided into three stages that aim to understand the process of craving, which drives suffering as per the Four Noble Truths. Breaking down this process by practicing mindfulness can lead to the destruction of the "automatized craving that leads to our automatized responses that lead to dukkha" (Loy, 2015, p. 42-43). To truly grasp these concepts, one must apply them in praxis.

Practicing mindfulness itself can be seen to have great value to engineering students. A standard engineering curriculum is high in class hours and carries substantial workload for students to manage. In these high-intensity environments procrastination and frequent distraction is common in students that are feeling stressed and anxious. From a Buddhist perspective, the aim of mindfulness is to break down the sense of self into its fundamental mental objects, which often requires a significant amount of attention towards the behaviours of the mind. The practice of mindfulness itself, especially in its Buddhist roots, has been known to greatly improve concentration and focus through its repetition by drawing awareness to behaviours such as the mind's tendency to cling to thought (Mikulas, 2010, p. 2).

In my experience, the praxis element of NEW337 was well structured and complemented the discussions on theory. Participating in the weekly SWAT helped me develop a foundation in mindfulness and introduced me to the tools required to further build on my contemplative practice. The course honed my attention to the mysteries of the mind and allowed me to gain insight into the ways in which my sense of curiosity can be targeted to study the self and its composition. As a result, I have become more mindful in all aspects of my life, especially in my education. In the final year of my undergraduate degree, I have felt significantly more in-control of my education compared to previous years. I notice challenges and welcome them as opportunities to practice mindfulness of my sense of self and the teachings of the eightfold path

(i.e. right speech, right action, right effort, and right concentration). This is a sense I do not feel I was equipped with early on in my education. Had I been more aware of my education as the mind-making tool that it is, I may have approached it with a different view and intention (Ergas, 2019, p. 352).

Conclusion

This review shines a light on some of the themes that have been revealed to me through my attention to the processes of my mind and the habits that I have realized make up my sense of self. Ergas explains that "practicing mindfulness of 'something' means invoking the attitude of curiosity and inquisitiveness, [applying] them to the content of experience, while being the one who 'has' the experience" (Ergas, 2019, p. 352). This sentiment captures the mission of mindfulness, that is to learn and draw knowledge from lived experience.

In reflecting on this review of my experience with mindfulness, it is important to note the difference between where I am now and where I was a year ago. A year ago, anxiety was "dominating" my life and I could not remember what feeling calm was like. Now, with respect to the themes I have uncovered about my sense of self, I have expressed my attitude towards them neutrally and proactively in my journal entries. It is clear that praxis through NEW337 has cultivated a newfound sense of self-compassion and kindness in me that I had never allowed myself to feel in the past. Coming from an engineering background, I felt like I was far out of my league and that I did not belong in a course like NEW337. As the classes progressed, I quickly learned that mindfulness can be for anyone, as long as there is a curiosity that drives deeper inquiry. There is tremendous value in exploring the mind and discovering different worldviews. Engineering students study pointillistic topics and form habits to succeed academically such as following procedures literally and ensuring all understandings are grounded in established facts, but that hermeneutic methodology is only appropriate in the context of being an engineering student, not in the context of being present and aware of life, or as Heidegger put it, Dasein (Laverty, 2003, p. 24).

Erring on Loy's message of shifting the narrative from an individualistic view to a more collective one, UofT, as the most prestigious university in Canada, has the responsibility of improving the quality of life of its students and an opportunity to do so lies in strategically incorporating mindfulness into the pedagogy. As discussed in this review, combining theory and

practice is essential to accessing the benefits of mindfulness and developing a foundation for understanding the sense of self. Moreover, incorporating mindfulness as education can lead to a change in the engineering ecosystem, that would significantly improve the student experience. Pursuant to Ergas' sentiment above and the purpose of this review, mindfulness is a valuable concept to become familiar with as it has the potential to transform the way students experience their education in engineering and redefine students' relationship with mental phenomena.

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The Role Of Wisdom In Spiritual Practices: Why Mindfulness Meditation Leads To Psychological Well-Being

Thomas Shakir

Introduction

In recent years, there has been an exponential growth in curiosity about mindfulness meditation's effects on physical disorders and mindfulness based intervention's overall efficacy as they become incorporated into therapeutic programs (Cohen et al., 2017; Holzël et al., 2010). Many studies show clear benefits on overall cognition and physiology that these spiritual practices cultivate. However, there is a lack of exploration on the psychological aspects – namely, the effects mindfulness meditation has on overall well-being and subjective happiness. This paper will propose an interdisciplinary account which will argue that spiritual practices lead to an optimistic and wholesome subjective experience of life due to a cognitive increase in perspective-taking which ultimately increases feelings of belonging. This provides human beings with a deep sense of meaning, progress and interconnectedness that seems to increase people's well-being to a great extent. I will conclude that these cognitive processes are the leading reasons that those who engage in spiritual practices are more content, connected and empathetic towards themselves and others.

What is mindfulness?

The ancient practice of mindfulness has, in the last decade or so, become an extremely popular practice that has been implemented into many institutions – from schools to hospitals. The root word for mindfulness, originally a Pali term, is *sati* which is best translated as an active

awareness or remembering (Davis & Hayes, 2011). Today, the most commonly agreed-upon definition of mindfulness is paying attention to one's experience in the present moment without judgment (Davis & Hayes, 2011). Even though mindfulness as a practice has had its criticism in the scientific literature as a practice that is difficult to measure and operationalize (Van Dam et al., 2017), it is clear that the practice affords a vast array of psychological benefits. More importantly, these effects seem to extend and carry on well after practicing mindfulness meditation (Hölzel et al., 2011). One of those psychological effects that mindfulness has been credited to increasing exponentially is one's compassion towards themselves and others (Davis & Hayes, 2011). Furthermore, Davis and Hayes (2011) argue that the cultivation of self-compassion has a direct relationship between perspective-taking and mindfulness. The cognitive machinery that is able to increase one's perspective-taking ability however, as Walsh (2015) notes, has not been thoroughly studied. I believe one of the methods to explain why mindfulness has been credited to increase subjective happiness and overall well-being is through understanding the association mindfulness has with the acquisition of wisdom.

Mindfulness, Wisdom and Compassion

Many qualities that are commonly attributed to a wise person are the very same qualities that are being cultivated in mindfulness meditation. In other words, there seems to be a link between paying attention to the present moment in a curious and non-judgmental fashion with the ability and/or skill of seeing past our own deception and into the nature and reality of the world as it is. Throughout history, the practice of meditation has been loosely associated with the cultivation of wisdom. This is depicted in Rabbi Nachman's claim in 1970 that wisdom cannot be attained without meditation (Walsh, 2015). As Western society's interests in mindfulness and the scientific study of wisdom continue to grow, the connection between the two becomes clearer. In his book, Hall (2010) shares Montaigne's following quote: "the most manifest signs of wisdom is continual cheerfulness" (p. 14). Mindfulness meditation has been associated with positive emotions and increased quality of life throughout numerous studies (Campos et al., 2016). Long-term meditators commonly report a deep sense of contentment and happiness as well. This interconnected association between the acquisition of wisdom and mindfulness meditation seems to be cultivating the very same machinery that is responsible for subjective well-being. Specifically, I believe the acquisition of perspectival knowing though the cultivation of wisdom,

which is ultimately cultivated alongside mindfulness, is a major contributor to positive affect and psychological well-being.

Recall that mindfulness meditation cultivates a sense of compassion towards oneself and others. The measures of self-reported empathy scores have also consistently been higher in those with a mindfulness meditation background compared to novices (Davis & Hayes, 2011). By nature, when one is feeling compassion and empathy towards others, a decrease in ego-centrality takes place. The individual is not concerned with himself anymore as he extends his mental energy outside of himself to others in the world. This increase in altruism leads to a greater sense of meaning and connectedness towards oneself and the world. This altruistic attitude towards the world is also at work when one is taking another person's perspectives. Compassion towards others, as a naturally altruistic quality, will lead to feeling happier because one is able to connect to more people and metaphorically speaking "put themselves in their shoes." When one deploys these characteristics of compassion and empathy, a change in perspective is cultivated as their occurrence of perspective-taking increases. Empathy and mainly compassion seem to be qualities that contribute to this perspective-taking within human beings. Research conducted by Campos et al. (2016) on the impact of compassion on the mindfulness-happiness relationship, through self-reported questionnaires, found evidence that the cultivation of compassion is a contributor to the meditation-happiness relationship. Essentially, there is definitely a link between the cultivation of compassion through mindfulness with an overall increase in subjective happiness.

One of the major qualities that is attributed to a wise person is the ability to understand and realize multiple perspectives - this is known as perspectival knowing. Vervaeke and Ferraro (2013) define perspectival knowing as the knowledge of understanding the *feeling* or what it is *like* to be in a different position or situation – as if a new identity or role is being embodied. Gluck and Buck (2014) claim that someone who is wise understands that there are constantly numerous perspectives to everything in life and they strive to learn from these people's perspectives. Through mindfulness meditation, it seems that perspective-taking becomes a by-product as the meditator would not always consciously attempt to take a perspective, but it becomes something that is being done to them. Just as an expert meditator does not constantly need to become aware of the present moment, becoming present simply happens to them. Therefore, the increase in perspectival knowing will simultaneously occur as compassion and altruistic behaviour is practiced and cultivated. And as a result of the cultivation of compassion and altruism, the

feeling of connectedness to the world increase thus cultivating great psychological well-being. Furthermore, the connection between wisdom and compassion does not go unnoticed. The acquisition of wisdom always seems to be embedded in a sense of compassion and kindness. Hall (2010) argues that the wisest figures of our history, such as Martin Luther King Jr. or Mahatma Ghandi were figures who exhibited great signs of empathy and compassion. The relationship between wisdom and compassion can be demonstrated in the Hebrew word for wisdom which is *chokhmah* and refers to not only a quality of the mind, but also a quality of the heart. (Hall, 2010, p. 45).

Researchers such as Walsh (2014) take the relationship between wisdom and perspectival knowing a step further by arguing that wisdom is what allows the ability for skillful perspective-taking. Walsh (2014) continues to argue that wisdom is ultimately learning how to adopt perspectives that decrease suffering and increase well-being. This is exactly what is being taught through mindfulness-based interventions such as Mindfulness-Based Stress Reduction (MBSR) and Mindfulness- Based Cognitive Therapy. These interventions use mindfulness practices such as body scans, mindful eating and mindfulness meditation to decrease stress and improve well-being. In fact, individuals with bodily pain or injury report increased pain tolerance after attending MBSR programs (Mohammed, Pappous & Sharma, 2018). An increase in pain tolerance after practicing mindfulness meditation is a consistent phenomenon for individuals with chronic pain or bodily injuries. Interestingly, it is not necessarily the case that these mindfulness-based interventions physically cure the bodily pain, but it seems that pain tolerance is a cognitive tool cultivated upon changing one's *perspective* of the pain. What mindfulness affords is a change in relationship between the individual and their chronic pain or physical injury. This is what Mohammed, Pappous and Sharma (2018) found to be the case on injured athletes as their pain tolerance and awareness increased after one 8-week MBSR program.

Another connection between the cultivation of compassion through wisdom and mindfulness meditation is the religious aspect that underlies both mindfulness and wisdom. Hall (2010) argues that religion promotes qualities such as compassion, altruism and perspective-taking in order to deploy empathy – which can be seen as the dimensions most associated with wisdom. In a similar fashion, mindfulness, as we have seen, also cultivates these very same qualities. Furthermore, the practice of mindfulness was – and in some parts of the world still is – a practice belonging to the religions of Hinduism, Buddhism and as Trammel (2017) argues,

Christianity. Most notably, when prince Siddhartha Gautama achieved *Nirvana* or enlightenment and became the Buddha, mindfulness was one of eight practices that he proposed which could lead to spiritual liberation (Trammel, 2017). Additionally, it is worth noting that achieving enlightenment through the Noble Eightfold Path as proposed by the Buddha, is a form of transcendence. Vervaeke & Ferraro (2013) label the ability to extend a perspective beyond ourselves into other people and situations as a form of transcendence. Even though mindfulness is only one of eight practices that afford this transcendence, it is nonetheless included. The ability for this transcendence to higher perspectives of the world and social interactions through wisdom can also be demonstrated in what Kitcher (2016) describes as synthetic wisdom. Kitcher (2016) describes wisdom as a continuous acquisition of perspectival knowing that continues to grow, adopt and eventually transcend into new experiences far beyond the individual. Again, the notion of perspectival knowing as a form of transcendence is being applied to wisdom as well. I believe exploring how wisdom and mindfulness afford perspectival knowing – which may possibly be a mechanism of transcendence – allows for a further exploration of why spiritual practices such as mindfulness meditation are able to provide us with a deep sense of meaning and belongingness.

Mindfulness, Sense of Meaning, and Belongingness

This affordance of self-transcendence provides individuals who engage in spiritual practices such as mindfulness with a sense of belonging and meaning towards something bigger than themselves – such as their community or the world at large (Birnie, Speca & Carlson, 2010). The ability to self-transcend seems to, in a dramatic way, increase interconnectedness in the world and increase more psychological traits of well-being aside from mere positive affect and subjective happiness. Birnie, Speca and Carlson (2010) credit the ability to self-transcend to self-compassion. The researchers argue that through the cultivation of self-compassion through mindfulness meditation, the individual extends them from their own "self-focused concerns" (Birnie, Speca & Carlson, 2010). It is clear that the distancing of self-focused concerns that the researchers report is a change in perspective – the individual is less concerned with themselves and is more readily adopting to other people's concerns and issues thus taking on others' perspectives. Furthermore, Birnie, Speca and Carlson (2010) argue that this transcendence allows for a greater sense of belonging as they feel a greater connection to all of humanity. I believe compassion towards self and other contributes to subjective happiness and

overall well-being, however, the feeling of belongingness and interconnectedness in the world seems to be realized through this transcendental quality which is ultimately cultivated through perspectival knowing.

Recall that Vervaeke and Ferraro (2013) argue that greater acquisition of wisdom is afforded through perspectival knowing, which creates a feeling of connectedness to the world. The researchers continue to argue that perspectival knowing also creates a feeling of *relevance* to the world. As one diminishes in egocentrism and is able to take on different perspectives apart from their own – through this notion of transcendence – they begin to feel more relevant to the narrative of the world and as a consequence, their sense of belonging to all of humanity increases (Vervaeke & Ferraro, 2013). Wisdom provides belongingness through perspectival knowing, and the *feeling* of what it is like to be a part of something bigger than oneself – as the individual is, in a way, transcending beyond themselves which ultimately affords a cognitive extension and attachment to their community and other people. In a similar fashion, through the necessary cultivation of compassion and empathy-like qualities, this connection and transcendence through perspectival knowing is taking place through spiritual practices such as mindfulness meditation as well.

Kitcher (2016) mentions that once acquired, messages of wisdom are transcended throughout history from generation to generation. This is another reason as to how wisdom is able to afford the feeling of transcendence. There is a decrease in egocentrism when knowledge about all facets of life are being handed down from an elder – whether it is a parent or teacher. With the understanding of wise lessons about the world, a better sense of orientation is cultivated – or as Vervaeke and Ferraro (2013) conveyed it, the individual becomes more relevant and is able to fit better into the landscape of the world. Through learning wise lessons or acquiring the characteristics that afford wisdom, one is able to feel a better sense of attachment to not only themselves, but the world and all of humanity. This can also be demonstrated in Hinduism's notion of *Atman in Brahman.* The Atman can be defined as an individual soul whereas Brahman is the soul of the world or all of eternal life. The Hindu proverb is conveying the sense of belongingness and interconnectedness that an individual begins to feel after engaging in spiritual practices. The individual is fundamentally a part of the whole, and the whole is within the individual. Furthermore, Snyder, Shapiro & Treleaven (2011) make note of Siegel's view on the impact of mindfulness meditation on the ability to relate and connect. Attunement, as defined by

Siegel (2007) in his book *The Mindful Brain,* is the quality of internal and external presence that reinforce each other – this process of attunement also creates a connection with oneself and with others (Snyder, Shapiro & Treleaven (2011). Siegel (2007) further explains that an individual who is engaged in spiritual practices develops a greater understanding of themselves, and as a consequence, this understanding is transferred – or transcended – through compassion and empathy to others' experience and internal worlds. As Snyder, Shapiro & Treleaven (2011) argue, this cultivation in attunement and ability to self-transcend, is one of the reasons one is able to feel a great amount of connection and support towards a parent, teacher or therapist. This is an example of the ability that perspective-taking, through compassion and empathy, on a small-scale affords a cultivation of making others feel a deep sense of belonging and interconnectedness. When this transcendence is extended towards not only another person as the parent, teacher or therapist does, but towards the world and humanity at large, the feelings of relevance and meaning intensify.

In their attempt to understand psychological perspective-taking, Erle and Topolinski (2017) argue that the ability to take others' perspectives is a powerful tool that enhances social cognition and creates increased feelings associated with closeness and sympathy. Wisdom has been attributed, by one of its pioneers Vivian Clayton, as "knowledge that was deeply social" (Hall, 2010, p. 43). Furthermore, Hall (2010) argues that there seems to be an agreement in the scientific literature of wisdom that a great component of its development has to do with one's ability to successfully manage and regulate their emotions. In terms of mindfulness meditation, emotional regulation has been one of the most common affective benefits of the practice (Davis & Hayes, 2011). Interestingly, there is evidence to show that the very same parts of the brain responsible for specific attributes of social cognition – such as perspective-taking – increase as a result of practicing mindfulness meditation. For example, Saxe and Kanwisher (2003) argue that a specific part of the temporoparietal junction (TPJ) – which is the area where the temporal and parietal lobe meet – is involved in taking other people's perspectives and reasoning through the other person's mind. Holzël et al. (2013) reported significant changes in the TPJ after 8 weeks of MBSR training. Furthermore, Holzël et al. (2013) also report that the TPJ plays a role in compassion towards self and others. Therefore, there are neurobiological studies that suggest a characteristic associated with being wise – perspective-taking – is being neuronally increased as a result of increased compassion and the overall practice of mindfulness meditation.

Conclusion

As this paper shows, there are many commonalities between the acquisition of wisdom and the cultivation of the spiritual practice of mindfulness. Firstly, there has always been an association between meditation practices and the cultivation of wisdom – the meditator seems to have insight into the world (Walsh, 2015). Secondly, there seems to be a religious aspect to wisdom as the teachings of compassion and altruism is a common theme in religion (Hall, 2010 ; Trammel, 2017). This is clearly the case with mindfulness as the Buddha proposed it through the Noble Eightfold Path in order for his followers to lead a good life. Thirdly, I proposed that the continual association of subjective well-being between mindfulness and wisdom can be credited to the cultivation of compassion as this quality is present in both acquisitions of mindfulness and wisdom. Specifically, it is through the ability to take others' perspective (which is cultivated through compassion) and ultimately develop perspectival knowing that seems to be a major contributor to cognitive well-being. This ability to take other people's perspectives also carries with it a transcendental aspect as the person is expanding their cognitive resources outwardly towards the world and other people. I suggest that this transcendence through perspectival knowing is a proponent of why mindfulness meditators report having more meaning in life and feelings of great connection to all of humanity. The egocentric machinery radically decreases as their mental energy extends outside of themselves and finds meaning in the world. These feelings are ultimately social as there is an underlying need for belonging and relevance to other people in one's community and the world in general (Vervaeke & Ferraro, 2013). Studies in neurobiology show us that the overlap between perspectival knowing (Saxe & Kanwisher, 2003) and mindfulness based interventions (Holzël et al. 2013) exhibit similar increases in neural activity in the same parts of the brain – specifically, the TPJ. As the study between the cognitive aspects of wisdom and mindfulness advance, I believe cognitive science will be able to interconnect both phenomena to a greater degree and the underlying factors of positive psychological well-being through spiritual practices will become clearer.

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Karma: An Interdisciplinary Cognitive Scientific Account

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Introduction

The philosophies of eastern spirituality have long attracted the cultural appetites of the western world. One popular notion that has been widely spread is that of *karma*; commonly understood as "what goes around, comes around". Karma is the idea that there is an abiding law of the universe directing human action and fate that maintains some sort of justice; where doing good results in good things happening to you, while doing bad naturally results in bad. Think of a villainous bank robber who evades arrest. A shallow understanding of karma would predict that sometime down the line in his life things would go wrong and *karma* would come back and bite him. Maybe he develops an untreatable cancer or loses a limb. Such a view is sentimental, painting an idealized picture of a just world, but may not be a notion that many cynics, skeptics, or realists could entertain. Such an understanding though is quite detached from the traditional Buddhist concept which sees karma merely as a description of cause effect, less focused on external events and more on one's broader psychological life. Moreover, psychological and cognitive science has deepened our understanding of the mind providing many frameworks that seem to supplement the fundamental claims of karma. In this essay the Buddhist description of karma and its relation to modern psychology will be discussed. Then cognitive scientific models of predictive processing will be highlighted in relation to the self and society to show how karma may operate dynamically in the brain, and finally social-psychological and neurobiological findings related to epigenetics, neuroplasticity, and wellbeing will be touched on. Through the integration of the wide array of theoretical frameworks of mind including its relation to others, karma can be understood as an operational law of cognitive agents opposed to a dispensable supernatural claim from a seemingly mystical religious tradition.

Understanding Karma

Karma comes from the Sanskrit word that is roughly translated to mean *action*, with resulting consequences. It is a dynamic process which simply sees present experience as a result of previous action, and future experience as a result of present action (Cho, 2014). In its instantiation, both consequences and our interpretations of these consequences are modified to be consistent with previous events. Good action and intention results in subjective wellbeing and positive outcomes, whereas bad action and intention results in unfavorable consequences. As a central principle in Buddhism, karma is implicated in the cycle of rebirth where bad intention keeps one in samsara, perpetuated by a fundamental spiritual and ontological ignorance (Cho, 2014). Additionally, ethical importance is placed on cultivating wholesome qualities like gratitude, compassion, and generosity to engender greater subjective wellbeing and more positive constructs from which to experience the world. As described most extensively in the Mind-Only school of Buddhism; Yogacara, karma is explained to be entailed in all human perception, involving the processing of stimuli through mentally constructed patterns that develop over time (Huntington, 1995). These patterns are maintained in a storehouse consciousness (*alaya vijnana*) where karmic seeds of action or impressions; good or bad, are stored, conditioning future actions and manifestations (Huntington, 1995). Action in these terms focus on mental action and intention along with behaviour, where consequences are fundamentally linked to their preceding cause, leaving a mental trace making similar actions more likely to occur in the future (Cho, 2014). These traces are modulated by factors associated with any particular action such as whether they were done in strong emotion, with effort, or conducted repeatedly (Allen et al., 2015). Karma furthermore is thought to be accumulated from the actions and intentions of past lives, creating a casual stream of stored continuity. Karma then in some way can be seen as the stored patterns and cognitive constructs through which one perceives and makes meaning of and out of the world. It is an accumulated process where actions and intentions lead to effects on future behavior and perception. With this understanding clarified, scientific frameworks of the mind can be reviewed, most notably including predictive processing, as it can be argued that the fundamentals of karma are modeled dynamically in the brain.

Predictive Processing, Mutual Modelling, and Social Networks

Predictive processing is an emerging framework in computational and cognitive neuroscience which has recently demonstrated great explanatory power in connecting underlying mechanics of the brain to the generation of conscious experience. The basic underlying theory holds that the brain creates perceptual experience through a process of top-down prediction of bottom-up sensory data, where a discrepancy between these values results in prediction error (Friston, 2013). Top-down processes are based in the capacity for pattern recognition and are ultimately generated from upper layers of the neural hierarchy of the brain (frontal-cortices) while bottom up data is transduced by lower level sensory organs (Swanson, 2016). Implied by such models is the notion of free energy minimization where the brain is seen as a self-organizing system that seeks to most efficiently utilize resources while maintaining homeostasis and avoid forces that would throw it into states of chaotic entropy (Holmes & Nolte, 2019). This precarious state of entropy represents a state of disorder where high prediction error forces a redetermination of the model, for example in a surprising circumstance. The brain operates in this manner through a process of gathering information about the environment, self, and the outcomes of behavior from prior experience (Holmes & Nolte, 2019). Top-down probabilities become recalculated in the generative model based on prior experience to accord with and create accurate accounts of the world. In general, conscious reality then becomes the manifestation of what is expected and based on prior experience tying back into the fundamental claims of karma. The brain in this theoretical framework is constrained by the goal of reducing prediction error and therefore rigidly imposes a predictive model of a world through experience or accumulated karmic energy which conditions one's future, perception, action, and outcomes. When someone acts in the world in a wholesome or unwholesome way these patterns of predictive processing generate future ways of acting and perceiving based on previously formed expectation.

The fundamentals of predictive processing then provide one potent avenue in which to see karma as a real principle of the dynamics of consciousness and the brain. Furthermore, tied to predictive processing is the concept of mutual modeling, which delineates how cognitive systems influence and develop through one another (Vervaeke et al., in press). This process is scale invariant (manifested anywhere from a neuron to an individual) where autonomous systems with internal dynamics become structurally coupled and thus model one another's behavior. Each

system will then approximate each other's activation patterns which can be seen as synchrony in neuronal firing pattern; where an increase in firing leads to stronger wiring. (Vervaeke et al., in press). This framework is further supported by the study of mirror neurons in the brain that exclusively activate both when performing an action or observing the same action (Acharya & Shukla, 2012). Mutual modeling is relevant as it primarily speaks to the notion of one's karma changing the world in which one lives; as the world as a whole, becomes a better or worse place based on individual action and intention; as seen on a neurocognitive level. Karma can evidently be expressed from this level of analysis as the world you inhabit truly becomes reflective of who you are; based on the *mutual* cognitive mechanisms other human beings are equipped with to adapt to the world. The karma generated through your action leads to consequences based not only in your own mind but through the way other minds are affected by you, and how they may mirror your actions. The law of cause and effect and the underlying interdependence of all beings as outlined in Buddhist teaching is evidently seen through this perspective. This fundamentally places importance on virtuous action and the spread of good karma. In this way these modern proposals from cognitive science strengthen and ground the fundamental claims of karma in a justificatory way. Predictive processing, and mutual modelling is one contemporary view that provides a valuable framework to understand the reality of karma on multiple levels of analysis, but still more psychological and neurobiological findings further supplement the emerging viewpoint. To further explain how karma is realized as an abiding law of cognition, and thus the world as experienced, evidence from two additional sources will be drawn upon: social-cognitive psychology & the neurobiological study of neuroplasticity and epigenetics.

Karma, Social-Cognitive Psychology and Neurobiology

Fundamental to karma is the notion that the ways in which you engage with the world and others is in turn, how the world will reciprocally manifest to you. Clearly through this process, it is being suggested that the accumulation of karmic energy from good and bad intentioned action forms a pattern of habitual tendencies and thus the overall psychological conditions for those actions to have concordant consequences. If one acts out in unwholesome ways, or adopts unwholesome intentions, consequences in their lives will be undesirable. This is a very real dynamic as seen in the scientific literature of social cognition. One quite powerful concept is construct activation; how self-constructed concepts influence our behaviour and disambiguate

inherently ambiguous stimuli into stored categories with corresponding qualities (Allen et al., 2015). Important to this social-cognitive mechanism is the presupposition that stimuli can be categorized in multiple ways as they are (speaking to the Buddhist notion of emptiness in opposition to essentialism) ambiguous by nature (Allen et al., 2015). The constructs we use (and our accessibility to them) build up over time with experience, influencing perception. Certain constructs become more accessible based on the type and frequency of our actions and intentions which in turn leads us to categorize the world and impute qualities and classes to stimuli (Allen et al., 2015). Additionally, constructs guide our attention and shape our interpretations. The activation and accessibility of such constructs are fundamentally based on our intentional habits of mentalizing and acting in the world, which can easily be understood as karma. A bounty of evidence of these mechanisms comes from studies on certain phenomena such as conceptual priming. It has been shown for example that when participants mentally involve themselves with a certain conceptual intention, holding it in working memory, this affects their behaviour. One older, yet seminal study for example by Srull & Wyer (1979) found that priming participants with the concept of "hostility" (through a sentence construction task) influenced whether they identified a target person as hostile based on a description of ambiguous behaviours they performed (such as asking for his money back at a store). When primed with the concept of hostility, participants were more likely to interpret the behaviour as hostile. In this way, construct activation essentially exemplifies that the way in which we perceive the world is based on our karmic energy, habitual tendencies, and the degree to which we've made certain conceptual constructs accessible, a real psychological mechanism. It should be noted though, a recent replication report by McCarthy et al. (2018) of the original study failed to find a similar effect that was "routinely detectable".

Furthermore, while maintaining this social-cognitive lens, it is additionally worth mentioning how tightly connected positive mental states are to social cohesion, acceptance, and overall good karma, in order to supplement the general argument of karmic energy. It is recognized largely that human connection, relatedness, and compassion is largely responsible for psychological peace, whereas unwholesome states as outlined by Buddhism (such as envy, or greed) inherently revolve around the notion of hostility, negativity, and socially hierarchical, egoic competition. The psychological literature on social reciprocity largely evidences the reality of karma here, where positive or negative social acts typically lead to equal reciprocation, which is

seen anywhere in the behaviour of children on the playground to adults in marriages (Allen et al., 2015). In general terms, social psychological findings show that the karma generated by one's actions lead to related psychological states in oneself and others, where peers mutually adopt our intentions. Its noteworthy too that numerous longitudinal studies have evidenced the beneficial effects of prosocial behaviour. One such by Dunn, Aknin, & Norton (2008) found that generous behaviour (such as volunteer work and donating to charities) correlated to increased self-reported happiness, life satisfaction, self-esteem and even physical health. Overall, the evidence proposed displays how karma functions naturally and socially as volitional actions and intentions predispose us to act and *experience* in similar ways in the future, strengthening our intentions and forming mental habits which can result in psychological wellbeing when acting in prosocial ways.

Finally, bridging into neurobiology, these ideas of karmic habitual tendencies first naturally link to an important finding in neuroplasticity. This is namely Hebb's law; which can be compendiously described as; cells that fire together, wire together (Mateos-Aparicio, 2019). In other words, the law holds that frequently repeated presynaptic stimulation of post synaptic neurons increases synaptic strength in a process of associative learning (Mateos-Aparicio, 2019). In the brain, synaptic communication becomes more efficient between frequently communicative neurons, as neurons increase their electrochemical responses and number of neurotransmitter receptors. This reinforcement fundamentally represents learned patterns of action intention and thought. With the working understanding of karma as a buildup of tendencies of action and intention which lead to concordant consequences; whether this be good or bad, this becomes manifested in the brain as entrenched neural pathways. Repeated experience physically alters the connections between neurons and ultimately the structure of the brain, which alters the efficiency of neural networks, where past patterns of action and behaviour become reinforced and neuronally hardwired. Moreover, unused connections prune and lead to atrophy. Hebbian theory then gives a convergent neurological understanding to why in fact karma is a concrete natural phenomenon. Frequent patterns of action and intention become reinforced neurologically which disposes oneself to experience similar firing patterns at a future time. As experience is underpinned by the activity of the brain, this succinctly evidences the basal claim of karma; that action leads to concordant consequences and similar ways of experiencing. Again, karma is focused largely on the subjective experience of outcomes (based on one's brain state) rather than the objectives outcome in the world itself. One's volitional actions and intentions shape one's

neurological nature which roughly creates conditions for future experience. This understanding from the study of neuroplasticity gives another supplementary evidential account of karma from a neurobiological viewpoint, but one other source is quite potent in the pursuit of naturalizing karma. This is namely epigenetics.

Epigenetics is the study of gene expression; the biological mechanisms that turn genes on and off. To offer some preliminary understanding; within the nucleus of the cells of our bodies lies deoxyribonucleic acid (or DNA) which is itself made up of nucleotide bases that control cellular activity (Williams, 2013). Scaling from DNA, *genes* are specific sequences of these nucleotide bases that regulate the creation of proteins, which through a process of replication overall shapes our physical and health characteristics. While your genetic makeup is determined at birth, a blooming new field; epigenetics, has shown how these genes are in fact modified as cells change DNA on a molecular level as a result of environmental factors, our lifestyles and our actions. Scientists have discovered many molecular mechanisms underlying epigenetic change, most importantly a chemical tagging process where methyl groups modify certain nucleotide bases that make up our genetic code (Williams, 2013). In principle, due to different karmic action, certain genes may be read differently by cells and are turned on and off; modulating whether they will create proteins. The logical connection between the field of epigenetics and karma is quite natural then; on another level of scientific analysis one's actions and impressions lead to the modification, and different expression of one's genome. Bad intention and the way in which one eats, sleeps, behaves, exercises, and even how and who they socialize with changes stress chemistry and the underlying expression of genes. The actions that we perform and the environments we put ourselves in directly affect our genes where positive and negative actions lead to respective positive or negative gene consequences. Furthermore, these genetic impressions are passed down through generations influencing future selves (Williams, 2013). Any given persons DNA is the consequence of the physical continuity of their ancestor's biological makeup which was is in turn affected by *their* karma. In an important way this connects to the unfalsifiable Buddhist claim linked to karma of rebirth, as current action has genetic consequences in future lives.

Just as we are conglomerations of ever changing interdependent constituent parts as Buddhism explains, so too is our specific genetic makeup, changing because of our actions (as fueled by the karmic law of cause and effect). Our genetic makeup then is the biological medium

of karmic causality; the molecular manifestation of perfumed karmic seeds as the result of our action. Overall, both social-cognitive psychology and discovered neurobiological mechanisms evidence how karma is manifested. In one way, construct activation displays the cognitive and conceptual mechanisms of karma; how perception is largely based on our habitual patterns of constructing mental categories through active experience. Social psychological studies also evidence the reality of social reciprocity and the long-term effects of good karma. And from a different perspective, the science of neuroplasticity and epigenetics displays how such karma manifests on a neurobiological level, overall showing how one's karma is causally real, determining future states of experience.

Concluding Remarks & Returning to Buddha Nature

Karma is a widely popularized idea in the west but as an ontological claim about the universe it's arguably quite shallowly understood. With a better understanding of this seemingly supernatural notion one might think it would be more easily relegated to a fictitious sentiment, but here it has been demonstrated that the opposite is true; it's more of a natural psychological reality that one might think. Karma can be seen as a causal psychological dynamic in shaping one's perception of the world. In general, past experience, action, and intentions lead to concordant experiential consequences in which similar actions become more likely to occur in future. This notion is actualized in and explained by empirical neurobiological findings related to neuroplasticity and epigenetics which maps continuity, and the karmic effect of action and intention to the brain, body, and neural change. Additionally, reviewing cognitive theoretical frameworks including predictive processing and construct activation, karma as defined here was shown to be instrumental in top down perceptual modeling and the accessibility of certain attitudinal modes as these underlying neural networks are based on patterns of intention and action.

Academic inquiry aside, navigating the busy world while being dedicatedly mindful of one's karmic effects is difficult, but this investigation in underlying cognitive mechanisms ultimately matters because of this *universal* human goal to achieve psychological wellbeing. Integral to the spiritual path of Buddhism is the return to our Buddha-nature, a state of natural bliss, tranquility and unconditional happiness. It seems that glimpses of Buddha-nature are all around us, even controversially while committing unwholesome actions. This can be during an outburst of hearty

laughter during facetious gossip with a friend; or after witnessing a clumsy mistake by a peer. Buddha-nature *could* be viewed as outward expression of monetary joy in this way, but the extant of laughing gas displays a brief but powerful lesson on the matter.

Nitrous Oxide or laughing gas can be seen characteristically as a molecule of death; a molecular composition standing in opposition in some ways to oxygen; the contingent molecule of life as a living breathing human being. Even as it stands in this self-evident juxtaposition with life, laughing gas is *the* composition of gas that does none other than make us laugh. It brings us into a pseudo-maniacal state of joy, something that could speciously appear at times to resemble Buddha-nature (optically speaking). But paradoxically, as outwardly similar to Buddha-nature it seems to be, the farthest from our true nature it actually is. Just as the laughter of laughing gas seems to make us whole and happy, a life painted by short term pleasure, misconduct, and *bad karma* can in no way bring us closer to wholeness and happiness; only a dreary perception of reality colored by regret, guilt, discord, and both disconnection from and reciprocal hatred towards others, (not to mention compromised physical and mental health).

This nuanced view of karma puts emphasis on careful action and in a way it's mere mentioning implicitly promotes prosocial behavior, making it a useful cultural meme. The world you perceive and continue to act in is intimately related to how you've acted due to biological, psychological, and sociological factors that have been discussed. By showing how karma is a real cognitive dynamic actualized in the brain and shaping our perceptual realities, it enables us to more deeply reflect on our decisions and encourages us to act in more ethical ways so as to lead to better consequences, and experiences of life. Through understanding the scientific integration of the cognitive and neurobiological frameworks, we can further emphasize the importance of cultivating good karma to create a more connected, healthy, and peaceful humanity.

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