Summary

194 annotations on 10 pages by helenkennett

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Zinn's MBSR followed by its embrace by the scientific community. The second part describes the deeper 'contemplative turn' in science, as reflected in the work of the Mind and Life Institute (MLI). The third part reflects on how the acceptance of mindfulness by science has led to its embrace by education. The fourth part analyzes tensions and possibilities inherent in the measurability mindfulness in education as they reflect a postsecular age.

Mindfulness: historical orientation and contemporary review

The term 'mindfulness' was introduced as a translation of the Pali word *sati* by religion scholar T.W. Rhys Davids in 1881. *Sati* is a foundational concept detailed within the *Satipatthana suta*, considered to be the most important text on the 'establishment of mindfulness' (Rahula, 1959). This text has been subject to rich scholarly work with Buddhism scholars still negotiating its meanings and, in the process, failing to reach consensus as to the very meaning of the term *sati* (Gethin, 2011). There is, however, consensus as to the core teachings of this sutra as it applies to the famous four noble truths that are accepted by all Buddhist schools of thought (Rahula, 1959): the truth of suffering (known as *dukkha* and often translated as *dis-ease*), the reason for suffering (within human craving and clinging), the state of the cessation of suffering (*nirvana*), and the path leading to the cessation of suffering (the eightfold path). Mindfulness is a crucial aspect within this eightfold path, which the *Satipatthana* depicts as:

> The one and the only way for the purification (of the minds) of beings, for overcoming sorrow and lamentation, for the cessation of physical and mental pain…and for the realization of *nibbana*. (1986, p. 7)

The polemic in regard to whether Buddhism is a religion, a spiritual path, or neither has been yielding diverse answers; needless to say that there is no *one* Buddhism but rather many different and diverse Buddhisms (Williams, 1989). I have no intention of engaging in such debate. It is rather this very controversy, as I suggest, that underlies my argument in this paper, since this blurriness is exactly what allows enough leeway for a practice such as mindfulness to make its way into mainstream education, despite its rather 'esoteric' origins. This becomes accentuated once we, indeed, hone in on the *practice* of mindfulness. While Buddhologists conduct heated debates as to what *sati* actually means (Shulman, 2010), the public arena has adopted a very certain rendition. As I describe, this rendition is embraced, for it was skillfully introduced as a secular practice geared toward healing, which lead to its acceptance by science. Through these processes, 'religiosity' 'as a spiritual, aesthetic individual commitment to the transcendent, eternal, and divine' (Fisher, Hotam, & Wexler, 2012, p. 262) has been gradually sneaking in through the back door to radically challenge science's ethos of knowledge. As I later suggest: change science as the ruler of contemporary society's conception of knowledge and you change education.

In 1979, a hundred years after the term mindfulness was introduced by Rhys Davids, a young molecular biologist named Jon Kabat-Zinn, well established in Buddhist teachings and the practice of Zen meditation, suggested that mindfulness practice may assist in reducing stress within hospital patients. While the reverberations of the Beat generation may have still been echoing at the time, the proposal that a Buddhist practice could find its way into a prestigious medical institution would be considered bold, to say the least. It required certain rhetoric to allow enough leeway for Kabat-Zinn to open a small clinic at

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health system' (Kabat-Zinn, 2005, p. 131). These were patients with chronic conditions that conventional treatments did not seem to help. Kabat-Zinn (1994) described the practice as simply 'paying attention in a particular way: on purpose, in the present moment and non-judgmentally' (pp. 4–5). He devised an 8-week program in which these patients practiced mindfulness in diverse ways, including watching the breath, scanning bodily sensations, mindful yoga involving simple postures, and other (Kabat-Zinn, 1994, pp. 4–5).

Kabat-Zinn's MBSR rendition cleverly offered a shift toward the secularization of mindfulness practice. As he confesses, in the early days he resolved to introduce MBSR in ways that avoided, as much as possible, the 'risk of it being seen as Buddhist, "New Age", "Eastern Mysticism", or just plain "flakey"' (2011, p. 289). While maintaining the integrity of an original practice taken from the *satipatthana suta*, he reconfigured it in non-Buddhist terms to cater to the heart of a contemporary society struggling for *breath*. Taken as is, the term 'Mindfulness-based stress reduction', along with its compact acronym, MBSR, has nothing 'religious' or 'spiritual' about it. Hardly anyone would be familiar with the Buddhist origins of the term 'mindfulness', yet even more so, the term MBSR itself lures the eyes from the practice of mindfulness *to its outcome*: stress reduction. And what is *STRESS* if not *the* fundamental *dis-ease* (*dukkha*) of a money/achievement-driven agenda characterizing much of contemporary *secularized* life. Kabat-Zinn's rhetoric was thus based on an appeal to a medical problem, not a spiritual one. It was not about Buddhism; it was about healing.

It is this form of secularized rhetoric and the fact that this mindfulness 'treatment' was initially offered to the 'hopeless' – those who were perhaps willing to try anything to stop the pain, even if not within conventional medicine – that perhaps explains how a practice originally rooted in an enlightenment tradition became accepted as an experiment, that at least follows the Hippocratic Oath in not harming any patient.

While intended to mostly comfort these patients, soon after the MBSR clinic was opened, cases of healing chronic pains began to spread out. In 1993, a film by Bill Moyers named *Healing and the Mind* documented laypeople practicing MBSR and describing its outcomes. Kabat-Zinn's (1994) *Wherever You Go There You Are* quickly became a bestseller and interest in MBSR soared (Boyce, 2011). Since 1979, over 19,000 people have completed the 8-week MBSR training and there are now numerous centers all over the world further disseminating this practice.[1] Considering that MBSR was initiated in a small clinic operating almost clandestinely within a hospital basement,

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was initiated in a small clinic operating almost clandestinely within a hospital basement, such numbers are surely impressive. Yet, this is far from depicting the breadth of Kabat-Zinn's work impact. Following the experience and structure of MBSR, a host of offshoots were developed. Most prominently, this includes Segal, Williams, and Teasdale's (2002) MBCT (mindfulness-based cognitive therapy), now well established and incorporated within psychotherapy and taught in prestigious university psychology departments. On top of these, more specifically-designed mindfulness-based programs have been developed for eating disorders, childbirth, cancer treatment, parenting, and other (Kabat-Zinn, 2005). These are only initial contours of this social movement, to which I add breadth as I begin pointing to science's crucial role in its development. As Kabat-Zinn attests:

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> Thirty years ago it was virtually inconceivable that meditation and yoga would find any legitimate role, no less widespread acceptance, in academic medical centers and hospitals. Now it's considered normal. (2005, p. 35)

My main focus here is on the word 'normal', as I appeal to Kuhn's (1962) conception of 'normal science'. Kuhn suggested that episodes of 'normal science' are interrupted by non-linear paradigm shifts that are the product of 'revolutionary science' that presents new ways for tackling unsolved problems. As I now describe, MBSR's ability to heal 'hopeless' patients has spiraled science into what I interpret as the buds of a paradigm shift that is beginning to reflect directly on education.

The success of MBSR could not be ignored by the medical community. Science was challenged to decipher the mechanisms that allowed for such success, to ensure replication of such experimental medicine, and to begin locating this new medical 'intervention' in scientific terms. While there was no talk of enlightenment, more than a hundred years after James' call to treat the *religious experience* seriously, science was now required to turn to a rigorous study of a practice pursued by *monks* and considered as the path to *nirvana*. It was the publication of Davidson, Kabat Zinn et al.'s (2003) study that was perhaps *the* most substantial landmark in this sense. This study demonstrated through a battery of tests that a program of mindfulness practice yields positive effects on the brain and the immune function. It was published in one of the most prestigious scientific journals (*Psychosomatic Medicine*). Not only did Davidson, Kabat Zinn et al.'s study show the relevance and potential of contemplative practice to healing but it also indicated that the scientific community is willing to take contemplative practice seriously and that this rather 'immeasurable domain' may be rendered measurable in valid scientific terms (Simon, 2008). As mindfulness was shown to be an effective intervention, lending itself to become codified as a measurable construct, psychologists, neuroscientists, and educational researchers were quick to join in. A chart documenting the number of peer-reviewed publications involved in the research of mindfulness begins with zero publications in 1980 and escalates exponentially to 477 publications in 2012 (Black, 2012).

Since 2003, research on mindfulness has ventured far beyond stress reduction to a host of other human phenomena, including rumination, attention span, working memory, executive functions, self-regulation, and other (Davidson et al., 2012). Very quickly it was acknowledged that many of these domains apply directly to education. Mindfulness was becoming an auxiliary practice within a number of intersecting discourses related to education including emotional intelligence, positive psychology, SEL (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011), holistic education (Miller, 2007), and others. A formidable number of curricula initiatives involving mindfulness were developed, facilitated by organizations such as the Garrison Institute, Contemplative Mind in Society, and the Collaborative for Academic social-emotional learning (CASEL). Pointing only to few of these programs for reasons of scope begins to reveal at least the scaffolds of this movement. The Hawn Foundation, initiated by actress Goldie Hawn, developed the MINDUP curriculum based on neuroscience and positive psychology and involving mindfulness-based stress-reducing techniques. MINDUP includes age-appropriate modules and is becoming widespread throughout the United States and Canada (Bochun, 2011). In 2007, Richard Burnett and Michael Cullen from Britain cofounded the mindfulness-in-schools project, designing the '.b curriculum'. This nine-lesson curriculum was crafted to make mindfulness appealing to teenagers and has now spread to 12 countries.[2] Contemplative initiatives are also embraced toward teacher education as in the Garrison

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crucial need for developing appropriate methodologies for the study of mindfulness, and for a much clearer understanding of *what is being measured in these studies*. I return below to a critical analysis of this latter point and its impact on science and education. At this point, I add that in 2010 a peer-reviewed journal named *Mindfulness* was established and that currently many prestigious universities across the United States (i.e. Brown, UCLA, Columbia, Stanford) either have established or are establishing mindfulness research centers and initiatives for the study of contemplative practice (Roth, 2006). In addition, mindfulness and other contemplative practices are incorporated as an integral part of numerous academic courses (Ergas, 2013a; Miller, 2007; Zajonc, 2009).

The above begins to manifest how the exponential growth in academic and scientific

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interest in mindfulness becomes 'normal science' and filters to education. However, what I have described so far constitutes the surface manifestation of this process, as a practice grounded in Buddhist soteriology becomes both an object for scientific research and a method of inquiry. A much more profound 'paradigmatic shift' occurs when scientists begin to 'practice what they research' and consider mindfulness not merely as a healing 'intervention' but rather as no less than a valid research methodology. The following section tends to this point.

Mindfulness' role in the enchantment of science

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Mindfulness' role in the enchantment of science

As Wallace (2000) describes, the 'taboo of subjectivity' has prevented science from developing rigorous methodologies geared toward the study of consciousness, such that would measure up to the methodologies of the natural sciences. Introspection, once proposed as providing more insight into this field has not made a substantial impact on the scientific community due to its being deemed unreliably subjective. Yet, beginning in 1987 with the establishment of the MLI by HH the Dalai Lama 14th, Adam Engle and, cognitive scientist, the late Francisco Varela, tides have slowly begun to change. MLI was established in an effort to explore what Buddhist contemplative practices can contribute to science and how science can contribute to the study of Buddhism. Yet, both of these endeavors were nested in a far broader framework concerned with socially engaged Buddhism as promoted by HH the Dalai Lama 14th (2000). Socially engaged Buddhism grounds the path to enlightenment in altruism. One's liberation from suffering is tied with the liberation of all living beings. Thus, the MLI's Buddhism–science dialogue has, from its initiation, been located as destined toward human flourishing.[4] Its main vehicle for realizing such goal has been science as the ruler of the epistemology of the day. As I propose, it is by reconceptualizing epistemology that society is changed, as it embraces a new educational vision as well.

MLI dialogues grew from a 10-member dialogue in 1987 to a full-fledged organization involved in numerous research and socially engaged initiatives. The biannual MLI dialogues have led to a growing consensus as to the need to develop scientific methodologies that interweave first-, second-, and third-person methods of inquiry in order to penetrate into the heart of the study of contemplative practice. While third- and second-person methods have been available for quite some time, it is the first person's lived conscious experience that many have found to be missing in any explanation of human life. How can we even begin to understand contemplative practice which is by all means an introspective undertaking

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within phenomenology condemn our understanding of human consciousness to an inherent latency. Phenomenology can only handle the just past; it cannot tend to the present-moment experience. At the same time neuroscience does not provide us with a clear real-time understanding of the subjective experience of cognition. They thus suggested that mindfulness should be embraced as no less than a research methodology contributing to the puzzle of human cognition, since it overcomes latency and provides the present-moment first-person experience of one's own cognitive processes.

Taken at face value, Varela et al.'s bold suggestion that the subject can gaze on his/her *own* consciousness and offer anything worthy of the term valid knowledge would be considered near blasphemous among a community of natural scientists. Can it get any

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tive practice (e.g. prayer, mantra meditation, nature walking, body scan) became the spearhead of the 'contemplative turn' in science. To attend these issues, we can attend Kabat-Zinn's rendition: 'paying attention in a particular way: on purpose, in the present moment and *non-judgmentally*' (Kabat-Zinn, 1994, pp. 4–5, italics added). What *is* this non-judgmentalism if not an appeal to the subject's internalization of the scientific process? It is an appeal to the subject's quality of mindfulness as the application of an objective stance in the face of his own subjectivity. Varela et al. (1991) and later Wallace (2000) and Roth (2006) offered rigorous accounts describing how this becomes feasible by looking at traditions that have been engaged for two and a half millennia in developing methods of inquiry into the nature of consciousness – the exact domain that Western

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by looking at traditions that have been engaged for two and a half millennia in developing methods of inquiry into the nature of consciousness – the exact domain that Western science has shunned. Yet, this 'subjective turn' would challenge the categories of subject and object as modern science has traditionally conceived of them. The very essence of mindfulness meditation rests on a Buddhist worldview that considers the mind as *a sense*, with its objects as *thoughts*. Just as the ear hears a sound, the mind thinks thoughts. Just as the ear can be conceived as separate from the sound, the mind can be separated from its thoughts (Rahula, 1959). That is, mindfulness rests on the assumption that thoughts are not necessarily expressions of an entity we tend to think of as The Thinker (Epstein, 1995). Thoughts do not define us as subjects as Descartes proposed. One *can* indeed train oneself to observe his thoughts and thus transform what Wallace (2000) conceives as his untrained 'dysfunctional' 'monkey-mind' into a scientific apparatus fit for exploring its

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require training in third- or second-person methodologies in order to justify her claims towards a scientific peer review process, so would one who engages in first-person methods such as mindfulness will need to ground herself in an ongoing training practice. This, I suggest, underpins not only a 'subjective turn' in science but in fact its accentuation within a 'contemplative turn' that we are only now beginning to witness. It is reflected within works such as Austin (1999), a neurologist and Zen practitioner, meticulously depicting his personal meditation-induced states of consciousness in neuroscientific terms. It perhaps culminates with Arthur Zajonc (2009), a Physics professor at Amherst

(1991) call and extending the scope of scientific knowing even further. The suggestion of 'contemplative inquiry' as part of science means not merely exploring what could be conceived as a 'spiritual practice' through conventional second- and third-person inquiry,

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understanding of phenomena. It appeals to the science that Goethe may have had in mind as Zajonc (2009) recurrently suggests: 'one comes to know nothing beyond what one loves' (p. 178). This is a science that does not settle for Kantian reason which is confined to perceive phenomena within time and space. It rather considers a perceptional apparatus that takes us perhaps as farthest from a cold objectivist reason as one can get and conceives of this apparatus as a legitimate and complementary source for knowing. Such science *is a science that in fact leads to an epistemology of love*, as Zajonc suggests.

While a peer-reviewed journal entitled *Contemplative Inquiry* was established in May 2013, contemplative inquiry is still marginal and may remain so for quite some time. However, its inclusion as a *complementary* (not alternative) methodology alongside conventional quantitative and qualitative inquiry methods is no less than a paradigm shift reflecting, as elaborated in the conclusion of this paper, the very blurriness of categories, perhaps even non-dual trajectory, of a postsecular age. Before directly engaging in such meta-analysis, it is time to focus on the historical progression leading to an understanding of education as mirroring the changes in the developments in science.

The scientification of mindfulness: education, 'normal science', and its price

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templation in education. During the 1960s and 1970s, some of the reconceptualists such as William Pinar, Madlene Grumet, Dwayne Huebner, and others have pointed to quite similar directions as they rendered what may be termed a 'subjective turn', appealing to Zen meditation for example as an educational possibility (Pinar & Grumet, 1976, p. 105). As early as 1976, Pinar & Grumet stated that:

> …we have gone just about as far as we can go in understanding the nature of education by focusing on the externals. It is not that the public world – curriculum, instruction, objectives – become unimportant; it is that to further comprehend their roles in the educational process we must take our eyes off them for a time, and begin a lengthy, systematic search of our inner experience. (p. 4)

They added that what is missing within our curriculum is 'the portrayal of the self from the point of view of the self' (p. 17). Why were these calls not heeded? Why did we not see mindfulness or other contemplative practices embraced in education back then, as they are

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these important thinkers were ahead of their time in many senses. They were mostly ahead of neuroscience and psychological research and the 'contemplative turn' that science itself is undergoing. For Pinar and Grumet's calls to penetrate into the heart of public education, it would take more than curriculum theory. Public education and science walk hand in hand, thus substantial educational change follows the paradigmatic changes in science. As Simon writes:

> As a society, we value what we can count. Without qualitative proof that a system or practice offers benefits, it's an uphill battle toward social acceptance. We need scientific evidence of the results of spiritual practice so that experts in such fields as education, healthcare and medicine, psychology and psychiatry, can seriously consider the inclusion and integration of spiritual approaches in their work. (2008, p. 10)

In other words, a 'contemplative turn' within education requires no less than a 'contemplative turn' within science.

As depicted in various accounts (Ergas, 2011, in press; Huebner, 1999; Palmer, 1983), public education in Western industrialized countries has mostly been following modern

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coincidence. The forefathers of North American curriculum such as Franklin Bobbitt (1918) were inspired by the scientific model so as to mold education in its form. They thus set forth a clear rationalistic agenda applied to the curriculum's structure and pedagogy and were followed by the likes of Bloom (1956), Hirst (1974), and others. Despite many critics of such tendency and its underlying premises (Kincheloe & Steinberg, 1993; Kohn, 2000; Pinar & Grumet, 1976), the guiding ethos of public education has focused mostly on turning the subject's gaze outward to absorb the object of 'knowledge' of a 'world' existing outside. It was against the backdrop of this paradigm that Pinar & Grumet, for example, offered the method of 'currere' as an inward looking pedagogy grounded in autobiographical writing. While this important pedagogy found its place within *some* educational settings and was further developed (Doerr, 2004), it would be hard to depict it as making a significant impact on the curriculum, despite its pedagogical potential. I am not suggesting a comparison between 'currere' and mindfulness, but rather pointing to the fact that what we are witnessing as a substantial growth in the incorporation of mindfulness in education is primarily the result of promising scientific findings. These findings send education researchers somewhat anachronistically rereading the important works of Pinar & Grumet, Huebner, and others, as well as the works of those who have been implementing and studying the possibilities of contemplative education (Tremmel, 1993; Miller, in press [1994]) 20 years ago. All in all, the covalent bond between science and education has a hierarchy to it. Substantial paradigmatic shifts in education begin in paradigmatic shifts within science. It takes 'normal science' to make mindfulness acceptable as 'normal medicine' and then 'normal education'.

Yet, the painful question so far avoided lies in what happens to a practice that originates in a spiritual path and is then embraced by science? And how does this process reflect on mindfulness in a standardized, bottom-line-based education? I ask these questions, for when research on mindfulness in education speaks in medical terms such as 'intervention' and 'dosage' (Davidson et al., 2012), we may suspect that there are other processes underscoring this 'contemplative turn'. For, what are such terms if not a reflection of the scientific ethos of *control*? Of reducing perhaps the original numinous 'no-self', as the peak of the Buddhist path that mindfulness traditionally sought to unfold, to the phenomenon of 'self', now equipped with a technology geared toward coping with an achievements-based life? When we explore these questions within education, this ethos of control may point to the darker side of the 'contemplative turn'. Is it a more sophisticated mode of domination? Are we now moderating stress levels of students with 'just the right dosage' to keep them 'on track'? Is mindfulness practice becoming a healthier Ritalin that is so easily prescribed these days (Hruska, 2012) so that students would finally sit down and study? Applying Wexler's (2008) 'information'/'in-formation' distinction, the question this boils down to is: are we 'informing' for the sake of 'in-forming' or 'in-forming' for the purpose of 'informing'? In other words, is the scientific grounding of mindfulness serving a revival of education in 'knowing thyself (or non-self)' more in line with Pinar & Grumet's vision, or is mindfulness, originally intended to 'in-form' (or perhaps de-construct), incorporated as a technology that makes students more receptive to 'information' eventually serving the 'greater cause' of higher achievements and bottom lines? Presented in this critical way, the 'contemplative turn' reflected in the incorporation of mindfulness practice falls back into the all-too-familiar world of standardization in education – that very world that perhaps incited the need to embrace mindfulness-based *stress reduction* in the first place. This would represent a disenchanting fall of non-instrumentalism to the instrumental that is again mirrored by education, as it reflects its big brother science in its pre-contemplative mode.

As Kabat-Zinn (2011) reflects on MBSR, over 30 years after its inception, he states with no ambiguity: 'It has always been about the M. And the M is a very big M' (p. 281).

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MBSR was, and still is, Kabat-Zinn's attempt to render the foundational teachings of Buddhism elaborated earlier in contemporary non-denominational language. He views MBSR as 'a public health intervention' that intends to move 'the bell curve of our society toward greater sanity and wellbeing' (p. 282). There is thus no doubt as to the original intention here. However, the compartmentalization of mindfulness to fit science's ability to measure, accompanied by the thirst of educational policy-makers for standards and achievements, could not but affect the object measured along the way. Both Rosch (2006) and Nelson (2012) point to the reductionism involved in the process of distancing mindfulness from its origins; a process that I suspect Kabat-Zinn's current writings are exposing and warning against. Rosch (2006), well grounded in Buddhism, suggests that none of the scales devised to measure mindfulness have much to do with mindfulness as a state of awareness as conceived in Buddhist authoritative texts. Embedding such research in the origins of mindfulness, she suggests that science has opened a 'Pandora box' it may not yet be equipped to handle. Nelson (2012) locates the problem in stressing the antagonistic agendas of science and religion. Science studies mindfulness as an 'inter-

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edge the benefits of mindfulness as applied to psychology and to education. They are mostly concerned, however, with mindfulness' losing its grounding in its origins to the point of its instrumentalization and its becoming something quite different along the way. In quite a picturesque metaphor, that I use hereafter, Rosch suggests:

> Pull on the tiger's tail of mindfulness and out leaps the tiger of wisdom awareness that may consume assumptions about our science and ourselves. At this point…maybe we should just let the tiger eat us. (p. 264)

Science should thus acknowledge its own limitations that mindfulness is far broader than science can currently capture. The *immeasurable* cannot become *measurable* without a price, perhaps a heavy one, with substantial educational implications.

I suggest that Rosch's claim captures the very postsecular tension of mindfulness in education, its pitfalls, and its potential. On the one hand, the incorporation of mindfulness in education reflects the paradigmatic shift found within the 'contemplative turn' in science. On

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education reflects the paradigmatic shift found within the 'contemplative turn' in science. On the other hand, this turn in science is only in its infancy, for at the same time the hegemonic forms within which mindfulness finds its way into education follow that which can be measured. Mindfulness is thus mostly embraced not as a radical pedagogy of 'self (or non-self)-inquiry', perhaps as Pinar and Grumet, Huebner, and Miller would have liked to see it, but rather toward stress reduction and enhancement of executive functions as its instrumental *outcomes*. Its contemporary embrace thus follows what the methods of 'normal science' currently allow. It may take a few more decades until a more revolutionary 'contemplative inquiry' in science can claim its place as 'normal science' and before education can allow 'the tiger of mindfulness' to eat us. It is this very tension that I see as the makings of education in a

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Broadly speaking, there seem to be two extremes through which mindfulness, as a case representative of contemplative practices in general, enters the curriculum: the first molds mindfulness to fit the shape of an achievements-based curriculum, embracing it within the ethos of *vita activa*. This agenda makes mindfulness subservient to performativity and tries to 'hold the tiger by its tail' in Rosch's terms. In such curriculum, mindfulness would be embraced as a controlled 'intervention'. It would be grounded in state-of-the-art research that may be confining the scope of mindfulness' potential. I believe this is what we are seeing now as mindfulness is being molded through the hegemony of contemporary scientific methodology and embraced by education in this more instrumental scientific form. The other agenda would allow the 'tiger to eat us' in Rosch's terms. In such curriculum, mindfulness would be embraced as 'contemplative inquiry'. This path, taken to extreme, may undermine the very idea of achievement. For, clinging to achievement entangles self in the reification of the temporal and insubstantial as Buddhist teachings suggest (Ergas, 2013b). These two agendas may seem antagonistic, yet in the conclusion of this paper I claim that this need not be the case.

The above analysis can be further nested within Wexler's (2009) rendition of a Weberian sociology of education, which may be reflecting the very essence of a postsecular age. This occurs as the Weberian disenchantment narrative is challenged through the re-enchantment of science and education. This process can be seen as mindfulness, mined from the Buddhist tradition, is embraced by education. Its study through science and its scientifically-based implementation in education reveals a disenchantment of 'religiosity'. Yet at the same time, the beast cannot be tamed. Science is being re-enchanted through scientists engaged in mindfulness practice and through its application as a research methodology. Mindfulness becomes a hub that unifies science, healing, education, and religiosity, depending on its application and social scaffolding. Its non-denominational rendition resists compliance with the benign categories of subject/object, mind/body, religion/science, and enchantment/disenchantment. These dichotomies simply lack the sophistication required for capturing this boundary-crossing phenomenon. The richness of mindfulness as lending itself to a broad domain of interpretations and applications is a unique postsecular phenomenon in this sense. It is exactly this broad interpretative space that undergirds the postsecular age characterized as:

> A meltdown between the religious and the modern, the secular and the theological…a breakdown of the core separation that starkly informed the secular (as much as the religious)

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of a postsecular age. For, they reflect the attempt to capture reality through a modernistically-based consciousness that clings to categories that may not be suitable anymore as we encounter a phenomenon such as mindfulness.

We should also look at the way that this process educates the scientists themselves, audaciously blurring yet another dualism – science/morality. This is exactly where the thread of the story brought in at the beginning of the paper can be picked up again toward closure. Listening to Jon Kabat-Zinn, that April 2013 evening, one unfamiliar with the background of the event or the speaker would not be quite sure where to place this half-science/half-'dharma talk'.[6] In fact Kabat-Zinn, who in his earlier days was quite wary of applying the term dharma (2011, p. 282), used it a number of times throughout his talk as he stressed the urgency of bringing mindfulness to our society. It appears that his experience, his authority, and perhaps a clarified vision polished through years of work

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he stressed the urgency of bringing mindfulness to our society. It appears that his experience, his authority, and perhaps a clarified vision polished through years of work and practice have brought him to the point in which he is re-establishing the practice in its origins, making sure that we do not forget what it is about – a practice prescribed by the Buddha, quite an extraordinary human being who described himself as 'awake', one that never intended to become the founder of what is neither a religion nor a spiritual path but perhaps more than anything an 'educational path' (Ergas, 2013b; Thurman, 2006). This educational path is perhaps educating the scientists themselves to become 'dharma scientists' that are far more socially engaged than their predecessors as they 'practice what they research'.

Conclusion

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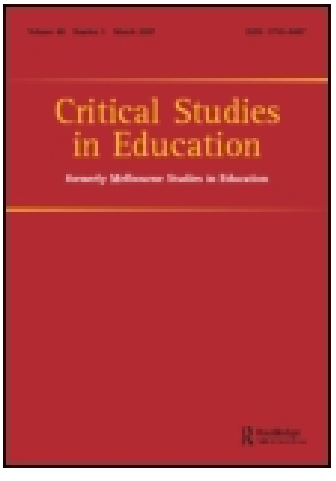

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Mindfulness in education at the intersection of science, religion, and healing

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Mindfulness in education at the intersection of science, religion, and healing

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This paper investigates mindfulness as a case study of a 'subjective turn' in education reflecting a postsecular age. The practice of mindfulness originates in an ancient Buddhist teaching prescribed as part of the path to enlightenment. In spite of its origins, it is becoming widespread within diverse secularly conceived social and educational settings. The paper offers a historical review of this phenomenon and analyzes why and how mindfulness has become the spearhead within a burgeoning 'contemplative turn' in education. The thesis suggested is that 'normal education' follows 'normal science', yet science itself is now being shaken by its own venturing into the 'dangerous' waters of the religious experience. The paper reflects critically on the prices and merits of mindfulness in education as a practice shaped by its becoming measurable. It locates these processes as depicting the postsecular age's blurring of boundaries between religiosity/secularity/education, subject/object, and science/healing/education.

Keywords: healing; mindfulness; postsecular; religion; science; subjective turn

Introduction

On the evening of 30 April 2013, a group of approximately 60 academics (myself included), social activists, therapists, and politicians gathered together in a Tel-Aviv apartment. This rather eclectic group has been sharing an interest. We have all been involved in one way or another with what I shall discuss later as a 'contemplative turn'. We were awaiting the arrival of the guest of honor Professor Emeritus Jon Kabat-Zinn of the University of Massachusetts Medical Center. Kabat-Zinn, presented by the host as 'the father of "secular mindfulness" practice', came to Israel as a conference keynote speaker and mindfulness retreat leader. Upon his arrival three talks were given, one by his host, a neuroscientist from a prestigious higher-education institution, one by a politician who is a new member of the Israeli Knesset, and one by Kabat-Zinn himself. The first speaker discussed neuroscience's recent findings unraveling brain plasticity in mindfulness practitioners. The politician told his personal story discussing the relation between mindfulness and politics. He ended his talk by appealing to the crowd to participate in a lobby concerned with the dissemination of mindfulness to society. Kabat-Zinn concluded with an inspiring talk. He pointed to 1979, the year in which he established his mindfulness-based stress reduction (MBSR) clinic, at the time nearly clandestine, and then spoke of his March 2013 visit to the United Kingdom in which he discussed mindfulness practice at 10 Downing Street toward its dissemination in GB's parliament.

The above description opens this article for two reasons: first, it begins pointing to the pervasiveness of mindfulness practice as a representative case of contemplative practice within contemporary society of Western industrialized countries. Second, it reflects an

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aspect of what Charles Taylor (1991) has termed 'the massive subjective turn of modern culture' (p. 26) – a turn reflected in the subject's shift from an externally guided life to a life that is more attuned to one's inner experience. In this paper, this 'subjective turn' is further located in Taylor's later conception of a 'postsecular age' (Taylor, 2006); an age in which the demarcations between religion, spirituality, and secularity and their relations with education and science become blurred. Mindfulness practice is a unique case that falls right within such blurred boundaries. Very roughly, it could be thought of as a practice that teaches us to 'pay attention' by simply 'paying attention' to our bodies, breath, actions, speech, and every aspect of our lives. It lends itself to a broad enough interpretative space, spanning from its origins within an ancient Buddhist sutra to its effect on stress reduction, brain plasticity, rumination, social–emotional learning (SEL), and higher achievements in education. It takes such blurriness to bring together natural scientists, psychologists, politicians, educational researchers, and social activists to a shared interest in a practice that reflects the 'subjective turn' and perhaps a reshaping of a social–educational ethos.

Mindfulness practice is nested within a far broader framework to which many refer as 'contemplative practice'. For my purposes, I embrace part of Hart's definition claiming that contemplative practices:

> …are designed to quiet and shift the habitual chatter of the mind to cultivate a capacity for deepened awareness, concentration, and insight…they share in common a distinct nonlinear consciousness that invites an inner opening of awareness. (Hart, 2004, p. 28)

Grounded both in Western monotheistic traditions and in East-Asian traditions, contemplative practice is a manifestation of the 'subjective turn'. It is nested within what has been construed traditionally as the rift between *vita activa* and *vita contemplativa* (Zajonc, 2009, p. 14) or in Indian terms between *pravrtti* and *nivrtti* (Bhattacharyya, 2008, p. 221); a life that flows unwittingly with the hurly-burly of day-to-day living, versus a life grounded in quiescence as the vehicle toward deciphering the enigma of existence. In Philip Wexler's terms, this 'subjective turn' is a shift from 'informationalism' to the quest for 'in-formationalism' (2008, p. 185), by which the subject rejects 'objective' informationalism and religious dogmatism and turns to find meaning employing a methodical inner gaze by means of diverse contemplative practices. In this paper, I claim that this social movement toward 'informationalism' is, however, substantially undergirded by 'information', as demonstrated by the case of mindfulness entering education through science. The exponential growth in the scientific study of mindfulness practice within neuroscience, psychology, cognition, and education is shaking the world of science in a profound way. This is reflected in two processes: on its surface, the study of mindfulness' *outcomes* is becoming 'new normal science' (Kuhn, 1962). In its depth, mindfulness practice is revolutionizing the 'taboo of subjectivity' (Wallace, 2000), as it is becoming accepted as a *first-person* research methodology broadly-defined as 'contemplative inquiry' (Zajonc, 2009). Based on a historical review and sociological analysis, I suggest that it is the 'hard' 'information' gained by the research of 'in-formation' that undergirds the first wave of what has been termed the 'mindfulness revolution' (Boyce, 2011) and its dissemination to education. The second wave, further establishing the postsecular age, will perhaps follow the more radical educational agenda reflected in science's embrace of 'contemplative inquiry' in which science/education/religiosity/healing will be further fused.

The article includes four parts. The first part offers a short historical grounding of 'mindfulness' within its Buddhist origins and its 1979 'healing' rendition within Kabat-

Zinn's MBSR followed by its embrace by the scientific community. The second part describes the deeper 'contemplative turn' in science, as reflected in the work of the Mind and Life Institute (MLI). The third part reflects on how the acceptance of mindfulness by science has led to its embrace by education. The fourth part analyzes tensions and possibilities inherent in the measurability mindfulness in education as they reflect a postsecular age.

Mindfulness: historical orientation and contemporary review

The term 'mindfulness' was introduced as a translation of the Pali word *sati* by religion scholar T.W. Rhys Davids in 1881. *Sati* is a foundational concept detailed within the *Satipatthana suta*, considered to be the most important text on the 'establishment of mindfulness' (Rahula, 1959). This text has been subject to rich scholarly work with Buddhism scholars still negotiating its meanings and, in the process, failing to reach consensus as to the very meaning of the term *sati* (Gethin, 2011). There is, however, consensus as to the core teachings of this sutra as it applies to the famous four noble truths that are accepted by all Buddhist schools of thought (Rahula, 1959): the truth of suffering (known as *dukkha* and often translated as *dis-ease*), the reason for suffering (within human craving and clinging), the state of the cessation of suffering (*nirvana*), and the path leading to the cessation of suffering (the eightfold path). Mindfulness is a crucial aspect within this eightfold path, which the *Satipatthana* depicts as:

> The one and the only way for the purification (of the minds) of beings, for overcoming sorrow and lamentation, for the cessation of physical and mental pain…and for the realization of *nibbana*. (1986, p. 7)

The polemic in regard to whether Buddhism is a religion, a spiritual path, or neither has been yielding diverse answers; needless to say that there is no *one* Buddhism but rather many different and diverse Buddhisms (Williams, 1989). I have no intention of engaging in such debate. It is rather this very controversy, as I suggest, that underlies my argument in this paper, since this blurriness is exactly what allows enough leeway for a practice such as mindfulness to make its way into mainstream education, despite its rather 'esoteric' origins. This becomes accentuated once we, indeed, hone in on the *practice* of mindfulness. While Buddhologists conduct heated debates as to what *sati* actually means (Shulman, 2010), the public arena has adopted a very certain rendition. As I describe, this rendition is embraced, for it was skillfully introduced as a secular practice geared toward healing, which lead to its acceptance by science. Through these processes, 'religiosity' 'as a spiritual, aesthetic individual commitment to the transcendent, eternal, and divine' (Fisher, Hotam, & Wexler, 2012, p. 262) has been gradually sneaking in through the back door to radically challenge science's ethos of knowledge. As I later suggest: change science as the ruler of contemporary society's conception of knowledge and you change education.

In 1979, a hundred years after the term mindfulness was introduced by Rhys Davids, a young molecular biologist named Jon Kabat-Zinn, well established in Buddhist teachings and the practice of Zen meditation, suggested that mindfulness practice may assist in reducing stress within hospital patients. While the reverberations of the Beat generation may have still been echoing at the time, the proposal that a Buddhist practice could find its way into a prestigious medical institution would be considered bold, to say the least. It required certain rhetoric to allow enough leeway for Kabat-Zinn to open a small clinic at the University of Massachusetts medical center, embracing mindfulness practice as its

core practice. Thus, he established a program rendered as MBSR (mindfulness-based stress reduction) geared toward those patients who 'were falling between the cracks of the health system' (Kabat-Zinn, 2005, p. 131). These were patients with chronic conditions that conventional treatments did not seem to help. Kabat-Zinn (1994) described the practice as simply 'paying attention in a particular way: on purpose, in the present moment and non-judgmentally' (pp. 4–5). He devised an 8-week program in which these patients practiced mindfulness in diverse ways, including watching the breath, scanning bodily sensations, mindful yoga involving simple postures, and other (Kabat-Zinn, 1994, pp. 4–5).

Kabat-Zinn's MBSR rendition cleverly offered a shift toward the secularization of mindfulness practice. As he confesses, in the early days he resolved to introduce MBSR in ways that avoided, as much as possible, the 'risk of it being seen as Buddhist, "New Age", "Eastern Mysticism", or just plain "flakey"' (2011, p. 289). While maintaining the integrity of an original practice taken from the *satipatthana suta*, he reconfigured it in non-Buddhist terms to cater to the heart of a contemporary society struggling for *breath.* Taken as is, the term 'Mindfulness-based stress reduction', along with its compact acronym, MBSR, has nothing 'religious' or 'spiritual' about it. Hardly anyone would be familiar with the Buddhist origins of the term 'mindfulness', yet even more so, the term MBSR itself lures the eyes from the practice of mindfulness *to its outcome*: stress reduction. And what is *STRESS* if not *the* fundamental *dis-ease* (*dukkha*) of a money/achievement-driven agenda characterizing much of contemporary *secularized* life. Kabat-Zinn's rhetoric was thus based on an appeal to a medical problem, not a spiritual one. It was not about Buddhism; it was about healing.

It is this form of secularized rhetoric and the fact that this mindfulness 'treatment' was initially offered to the 'hopeless' – those who were perhaps willing to try anything to stop the pain, even if not within conventional medicine – that perhaps explains how a practice originally rooted in an enlightenment tradition became accepted as an experiment, that at least follows the Hippocratic Oath in not harming any patient.

While intended to mostly comfort these patients, soon after the MBSR clinic was opened, cases of healing chronic pains began to spread out. In 1993, a film by Bill Moyers named *Healing and the Mind* documented laypeople practicing MBSR and describing its outcomes. Kabat-Zinn's (1994) *Wherever You Go There You Are* quickly became a bestseller and interest in MBSR soared (Boyce, 2011). Since 1979, over 19,000 people have completed the 8-week MBSR training and there are now numerous centers all over the world further disseminating this practice.[1] Considering that MBSR was initiated in a small clinic operating almost clandestinely within a hospital basement, such numbers are surely impressive. Yet, this is far from depicting the breadth of Kabat-Zinn's work impact. Following the experience and structure of MBSR, a host of offshoots were developed. Most prominently, this includes Segal, Williams, and Teasdale's (2002) MBCT (mindfulness-based cognitive therapy), now well established and incorporated within psychotherapy and taught in prestigious university psychology departments. On top of these, more specifically-designed mindfulness-based programs have been developed for eating disorders, childbirth, cancer treatment, parenting, and other (Kabat-Zinn, 2005). These are only initial contours of this social movement, to which I add breadth as I begin pointing to science's crucial role in its development. As Kabat-Zinn attests:

> Thirty years ago it was virtually inconceivable that meditation and yoga would find any legitimate role, no less widespread acceptance, in academic medical centers and hospitals. Now it's considered normal. (2005, p. 35)

My main focus here is on the word 'normal', as I appeal to Kuhn's (1962) conception of 'normal science'. Kuhn suggested that episodes of 'normal science' are interrupted by non-linear paradigm shifts that are the product of 'revolutionary science' that presents new ways for tackling unsolved problems. As I now describe, MBSR's ability to heal 'hopeless' patients has spiraled science into what I interpret as the buds of a paradigm shift that is beginning to reflect directly on education.

The success of MBSR could not be ignored by the medical community. Science was challenged to decipher the mechanisms that allowed for such success, to ensure replication of such experimental medicine, and to begin locating this new medical 'intervention' in scientific terms. While there was no talk of enlightenment, more than a hundred years after James' call to treat the *religious experience* seriously, science was now required to turn to a rigorous study of a practice pursued by *monks* and considered as the path to *nirvana*. It was the publication of Davidson, Kabat Zinn et al.'s (2003) study that was perhaps *the* most substantial landmark in this sense. This study demonstrated through a battery of tests that a program of mindfulness practice yields positive effects on the brain and the immune function. It was published in one of the most prestigious scientific journals (*Psychosomatic Medicine*). Not only did Davidson, Kabat Zinn et al.'s study show the relevance and potential of contemplative practice to healing but it also indicated that the scientific community is willing to take contemplative practice seriously and that this rather 'immeasurable domain' may be rendered measurable in valid scientific terms (Simon, 2008). As mindfulness was shown to be an effective intervention, lending itself to become codified as a measurable construct, psychologists, neuroscientists, and educational researchers were quick to join in. A chart documenting the number of peer-reviewed publications involved in the research of mindfulness begins with zero publications in 1980 and escalates exponentially to 477 publications in 2012 (Black, 2012).

Since 2003, research on mindfulness has ventured far beyond stress reduction to a host of other human phenomena, including rumination, attention span, working memory, executive functions, self-regulation, and other (Davidson et al., 2012). Very quickly it was acknowledged that many of these domains apply directly to education. Mindfulness was becoming an auxiliary practice within a number of intersecting discourses related to education including emotional intelligence, positive psychology, SEL (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011), holistic education (Miller, 2007), and others. A formidable number of curricula initiatives involving mindfulness were developed, facilitated by organizations such as the Garrison Institute, Contemplative Mind in Society, and the Collaborative for Academic social-emotional learning (CASEL). Pointing only to few of these programs for reasons of scope begins to reveal at least the scaffolds of this movement. The Hawn Foundation, initiated by actress Goldie Hawn, developed the MINDUP curriculum based on neuroscience and positive psychology and involving mindfulness-based stress-reducing techniques. MINDUP includes age-appropriate modules and is becoming widespread throughout the United States and Canada (Bochun, 2011). In 2007, Richard Burnett and Michael Cullen from Britain cofounded the mindfulness-in-schools project, designing the '.b curriculum'. This nine-lesson curriculum was crafted to make mindfulness appealing to teenagers and has now spread to 12 countries.[2] Contemplative initiatives are also embraced toward teacher education as in the Garrison Institute's CARE and Parker Palmer's Courage to Teach.[3]

In the past decade, a series of mindfulness-based educational interventions have been studied, as reviewed thoroughly by Meiklejohn et al. (2012) and Davidson et al. (2012). Both reviews point to the educational potential of mindfulness, and concomitantly to the crucial need for developing appropriate methodologies for the study of mindfulness, and for a much clearer understanding of *what is being measured in these studies*. I return below to a critical analysis of this latter point and its impact on science and education. At this point, I add that in 2010 a peer-reviewed journal named *Mindfulness* was established and that currently many prestigious universities across the United States (i.e. Brown, UCLA, Columbia, Stanford) either have established or are establishing mindfulness research centers and initiatives for the study of contemplative practice (Roth, 2006). In addition, mindfulness and other contemplative practices are incorporated as an integral part of numerous academic courses (Ergas, 2013a; Miller, 2007; Zajonc, 2009).

The above begins to manifest how the exponential growth in academic and scientific interest in mindfulness becomes 'normal science' and filters to education. However, what I have described so far constitutes the surface manifestation of this process, as a practice grounded in Buddhist soteriology becomes both an object for scientific research and a method of inquiry. A much more profound 'paradigmatic shift' occurs when scientists begin to 'practice what they research' and consider mindfulness not merely as a healing 'intervention' but rather as no less than a valid research methodology. The following section tends to this point.

Mindfulness' role in the enchantment of science

As Wallace (2000) describes, the 'taboo of subjectivity' has prevented science from developing rigorous methodologies geared toward the study of consciousness, such that would measure up to the methodologies of the natural sciences. Introspection, once proposed as providing more insight into this field has not made a substantial impact on the scientific community due to its being deemed unreliably subjective. Yet, beginning in 1987 with the establishment of the MLI by HH the Dalai Lama 14th, Adam Engle and, cognitive scientist, the late Francisco Varela, tides have slowly begun to change. MLI was established in an effort to explore what Buddhist contemplative practices can contribute to science and how science can contribute to the study of Buddhism. Yet, both of these endeavors were nested in a far broader framework concerned with socially engaged Buddhism as promoted by HH the Dalai Lama 14th (2000). Socially engaged Buddhism grounds the path to enlightenment in altruism. One's liberation from suffering is tied with the liberation of all living beings. Thus, the MLI's Buddhism–science dialogue has, from its initiation, been located as destined toward human flourishing.[4] Its main vehicle for realizing such goal has been science as the ruler of the epistemology of the day. As I propose, it is by reconceptualizing epistemology that society is changed, as it embraces a new educational vision as well.

MLI dialogues grew from a 10-member dialogue in 1987 to a full-fledged organization involved in numerous research and socially engaged initiatives. The biannual MLI dialogues have led to a growing consensus as to the need to develop scientific methodologies that interweave first-, second-, and third-person methods of inquiry in order to penetrate into the heart of the study of contemplative practice. While third- and second-person methods have been available for quite some time, it is the first person's lived conscious experience that many have found to be missing in any explanation of human life. How can we even begin to understand contemplative practice which is by all means an introspective undertaking without getting to the core of the experience within the practitioner's consciousness? In 1991, Varela, Thompson, and Rosch published *The Embodied Mind* as the harbinger of what was to come. In this groundbreaking work, they described cognitive science's state-of-

the-art, reflecting on its limitations. They suggested that the groundings of cognitive science within phenomenology condemn our understanding of human consciousness to an inherent latency. Phenomenology can only handle the just past; it cannot tend to the present-moment experience. At the same time neuroscience does not provide us with a clear real-time understanding of the subjective experience of cognition. They thus suggested that mindfulness should be embraced as no less than a research methodology contributing to the puzzle of human cognition, since it overcomes latency and provides the present-moment first-person experience of one's own cognitive processes.

Taken at face value, Varela et al.'s bold suggestion that the subject can gaze on his/her *own* consciousness and offer anything worthy of the term valid knowledge would be considered near blasphemous among a community of natural scientists. Can it get any more subjective than that? A deeper look will show that such a view is quite naïve. This will also allow us to understand why specifically mindfulness of all forms of contemplative practice (e.g. prayer, mantra meditation, nature walking, body scan) became the spearhead of the 'contemplative turn' in science. To attend these issues, we can attend Kabat-Zinn's rendition: 'paying attention in a particular way: on purpose, in the present moment and *non-judgmentally*' (Kabat-Zinn, 1994, pp. 4–5, italics added). What *is* this non-judgmentalism if not an appeal to the subject's internalization of the scientific process? It is an appeal to the subject's quality of mindfulness as the application of an objective stance in the face of his own subjectivity. Varela et al. (1991) and later Wallace (2000) and Roth (2006) offered rigorous accounts describing how this becomes feasible by looking at traditions that have been engaged for two and a half millennia in developing methods of inquiry into the nature of consciousness – the exact domain that Western science has shunned. Yet, this 'subjective turn' would challenge the categories of subject and object as modern science has traditionally conceived of them. The very essence of mindfulness meditation rests on a Buddhist worldview that considers the mind as *a sense*, with its objects as *thoughts*. Just as the ear hears a sound, the mind thinks thoughts. Just as the ear can be conceived as separate from the sound, the mind can be separated from its thoughts (Rahula, 1959). That is, mindfulness rests on the assumption that thoughts are not necessarily expressions of an entity we tend to think of as The Thinker (Epstein, 1995). Thoughts do not define us as subjects as Descartes proposed. One *can* indeed train oneself to observe his thoughts and thus transform what Wallace (2000) conceives as his untrained 'dysfunctional' 'monkey-mind' into a scientific apparatus fit for exploring its very own nature. However, this can be achieved only by rigorous training. Mindfulness practice is one method of 'mental training'. Just as a biologist or an anthropologist would require training in third- or second-person methodologies in order to justify her claims towards a scientific peer review process, so would one who engages in first-person methods such as mindfulness will need to ground herself in an ongoing training practice. This, I suggest, underpins not only a 'subjective turn' in science but in fact its accentuation within a 'contemplative turn' that we are only now beginning to witness. It is reflected within works such as Austin (1999), a neurologist and Zen practitioner, meticulously depicting his personal meditation-induced states of consciousness in neuroscientific terms. It perhaps culminates with Arthur Zajonc (2009), a Physics professor at Amherst [illegible] book on *Meditation as Contemplative Inquiry*, heeding Varela et al.'s (1991) call and extending the scope of scientific knowing even further. The suggestion of 'contemplative inquiry' as part of science means not merely exploring what could be conceived as a 'spiritual practice' through conventional second- and third-person inquiry, as reflected at the surface level described in the first part of this paper. It rather pushes the boundaries of scientific methodology, for its current methodology delimits our

understanding of phenomena. It appeals to the science that Goethe may have had in mind as Zajonc (2009) recurrently suggests: 'one comes to know nothing beyond what one loves' (p. 178). This is a science that does not settle for Kantian reason which is confined to perceive phenomena within time and space. It rather considers a perceptional apparatus that takes us perhaps as farthest from a cold objectivist reason as one can get and conceives of this apparatus as a legitimate and complementary source for knowing. Such science *is a science that in fact leads to an epistemology of love*, as Zajonc suggests.

While a peer-reviewed journal entitled *Contemplative Inquiry* was established in May 2013, contemplative inquiry is still marginal and may remain so for quite some time. However, its inclusion as a *complementary* (not alternative) methodology alongside conventional quantitative and qualitative inquiry methods is no less than a paradigm shift reflecting, as elaborated in the conclusion of this paper, the very blurriness of categories, perhaps even non-dual trajectory, of a postsecular age. Before directly engaging in such meta-analysis, it is time to focus on the historical progression leading to an understanding of education as mirroring the changes in the developments in science.

The scientification of mindfulness: education, 'normal science', and its price

It must be acknowledged that there is something quite familiar with the idea of contemplation in education. During the 1960s and 1970s, some of the reconceptualists such as William Pinar, Madlene Grumet, Dwayne Huebner, and others have pointed to quite similar directions as they rendered what may be termed a 'subjective turn', appealing to Zen meditation for example as an educational possibility (Pinar & Grumet, 1976, p. 105). As early as 1976, Pinar & Grumet stated that:

> …we have gone just about as far as we can go in understanding the nature of education by focusing on the externals. It is not that the public world – curriculum, instruction, objectives – become unimportant; it is that to further comprehend their roles in the educational process we must take our eyes off them for a time, and begin a lengthy, systematic search of our inner experience. (p. 4)

They added that what is missing within our curriculum is 'the portrayal of the self from the point of view of the self' (p. 17). Why were these calls not heeded? Why did we not see mindfulness or other contemplative practices embraced in education back then, as they are now? The reasons may be more complex than will be suggested here. However, I suspect that these important thinkers were ahead of their time in many senses. They were mostly ahead of neuroscience and psychological research and the 'contemplative turn' that science itself is undergoing. For Pinar and Grumet's calls to penetrate into the heart of public education, it would take more than curriculum theory. Public education and science walk hand in hand, thus substantial educational change follows the paradigmatic changes in science. As Simon writes:

> As a society, we value what we can count. Without qualitative proof that a system or practice offers benefits, it's an uphill battle toward social acceptance. We need scientific evidence of the results of spiritual practice so that experts in such fields as education, healthcare and medicine, psychology and psychiatry, can seriously consider the inclusion and integration of spiritual approaches in their work. (2008, p. 10)

In other words, a 'contemplative turn' within education requires no less than a 'contemplative turn' within science.

As depicted in various accounts (Ergas, 2011, in press; Huebner, 1999; Palmer, 1983), public education in Western industrialized countries has mostly been following modern

science's rather Cartesian ethos of separation between subject and object. This of course is no coincidence. The forefathers of North American curriculum such as Franklin Bobbitt (1918) were inspired by the scientific model so as to mold education in its form. They thus set forth a clear rationalistic agenda applied to the curriculum's structure and pedagogy and were followed by the likes of Bloom (1956), Hirst (1974), and others. Despite many critics of such tendency and its underlying premises (Kincheloe & Steinberg, 1993; Kohn, 2000; Pinar & Grumet, 1976), the guiding ethos of public education has focused mostly on turning the subject's gaze outward to absorb the object of 'knowledge' of a 'world' existing outside. It was against the backdrop of this paradigm that Pinar & Grumet, for example, offered the method of 'currere' as an inward looking pedagogy grounded in autobiographical writing. While this important pedagogy found its place within *some* educational settings and was further developed (Doerr, 2004), it would be hard to depict it as making a significant impact on the curriculum, despite its pedagogical potential. I am not suggesting a comparison between 'currere' and mindfulness, but rather pointing to the fact that what we are witnessing as a substantial growth in the incorporation of mindfulness in education is primarily the result of promising scientific findings. These findings send education researchers somewhat anachronistically rereading the important works of Pinar & Grumet, Huebner, and others, as well as the works of those who have been implementing and studying the possibilities of contemplative education (Tremmel, 1993; Miller, in press [1994]) 20 years ago. All in all, the covalent bond between science and education has a hierarchy to it. Substantial paradigmatic shifts in education begin in paradigmatic shifts within science. It takes 'normal science' to make mindfulness acceptable as 'normal medicine' and then 'normal education'.

Yet, the painful question so far avoided lies in what happens to a practice that originates in a spiritual path and is then embraced by science? And how does this process reflect on mindfulness in a standardized, bottom-line-based education? I ask these questions, for when research on mindfulness in education speaks in medical terms such as 'intervention' and 'dosage' (Davidson et al., 2012), we may suspect that there are other processes underscoring this 'contemplative turn'. For, what are such terms if not a reflection of the scientific ethos of *control*? Of reducing perhaps the original numinous 'no-self', as the peak of the Buddhist path that mindfulness traditionally sought to unfold, to the phenomenon of 'self', now equipped with a technology geared toward coping with an achievements-based life? When we explore these questions within education, this ethos of control may point to the darker side of the 'contemplative turn'. Is it a more sophisticated mode of domination? Are we now moderating stress levels of students with 'just the right dosage' to keep them 'on track'? Is mindfulness practice becoming a healthier Ritalin that is so easily prescribed these days (Hruska, 2012) so that students would finally sit down and study? Applying Wexler's (2008) 'information'/'in-formation' distinction, the question this boils down to is: are we 'informing' for the sake of 'in-forming' or 'in-forming' for the purpose of 'informing'? In other words, is the scientific grounding of mindfulness serving a revival of education in 'knowing thyself (or non-self)' more in line with Pinar & Grumet's vision, or is mindfulness, originally intended to 'in-form' (or perhaps de-construct), incorporated as a technology that makes students more receptive to 'information' eventually serving the 'greater cause' of higher achievements and bottom lines? Presented in this critical way, the 'contemplative turn' reflected in the incorporation of mindfulness practice falls back into the all-too-familiar world of standardization in education – that very world that perhaps incited the need to embrace mindfulness-based *stress reduction* in the first place. This would represent a disenchanting fall of non-instrumentalism to the instrumental that is again mirrored by education, as it reflects its big brother science in its pre-contemplative mode.

As Kabat-Zinn (2011) reflects on MBSR, over 30 years after its inception, he states with no ambiguity: 'It has always been about the M. And the M is a very big M' (p. 281).

MBSR was, and still is, Kabat-Zinn's attempt to render the foundational teachings of Buddhism elaborated earlier in contemporary non-denominational language. He views MBSR as 'a public health intervention' that intends to move 'the bell curve of our society toward greater sanity and wellbeing' (p. 282). There is thus no doubt as to the original intention here. However, the compartmentalization of mindfulness to fit science's ability to measure, accompanied by the thirst of educational policy-makers for standards and achievements, could not but affect the object measured along the way. Both Rosch (2006) and Nelson (2012) point to the reductionism involved in the process of distancing mindfulness from its origins; a process that I suspect Kabat-Zinn's current writings are exposing and warning against. Rosch (2006), well grounded in Buddhism, suggests that none of the scales devised to measure mindfulness have much to do with mindfulness as a state of awareness as conceived in Buddhist authoritative texts. Embedding such research in the origins of mindfulness, she suggests that science has opened a 'Pandora box' it may not yet be equipped to handle. Nelson (2012) locates the problem in stressing the antagonistic agendas of science and religion. Science studies mindfulness as an 'intervention' in order 'to explore and explain changes in behavior and brain functioning' (p. 7). Yet, Buddhism construes mindfulness as 'religious (in some sense)' and as 'part of the path to liberation from suffering' (Nelson, 2012, p. 7). Both Rosch and Nelson acknowledge the benefits of mindfulness as applied to psychology and to education. They are mostly concerned, however, with mindfulness' losing its grounding in its origins to the point of its instrumentalization and its becoming something quite different along the way. In quite a picturesque metaphor, that I use hereafter, Rosch suggests:

> Pull on the tiger's tail of mindfulness and out leaps the tiger of wisdom awareness that may consume assumptions about our science and ourselves. At this point…maybe we should just let the tiger eat us. (p. 264)

Science should thus acknowledge its own limitations that mindfulness is far broader than science can currently capture. The *immeasurable* cannot become *measurable* without a price, perhaps a heavy one, with substantial educational implications.

I suggest that Rosch's claim captures the very postsecular tension of mindfulness in education, its pitfalls, and its potential. On the one hand, the incorporation of mindfulness in education reflects the paradigmatic shift found within the 'contemplative turn' in science. On the other hand, this turn in science is only in its infancy, for at the same time the hegemonic forms within which mindfulness finds its way into education follow that which can be measured. Mindfulness is thus mostly embraced not as a radical pedagogy of 'self (or non-self)-inquiry', perhaps as Pinar and Grumet, Huebner, and Miller would have liked to see it, but rather toward stress reduction and enhancement of executive functions as its instrumental *outcomes*. Its contemporary embrace thus follows what the methods of 'normal science' currently allow. It may take a few more decades until a more revolutionary 'contemplative inquiry' in science can claim its place as 'normal science' and before education can allow 'the tiger of mindfulness' to eat us. It is this very tension that I see as the makings of education in a postsecular age 'whose outcome no one can foresee' (Taylor, 2006, p. 535), as I describe through a socio-educational analysis in the next and final part of the paper.

Mindfulness in education in a postsecular age

In the first part of the paper described earlier I suggested that 'healing' was the trigger for the mindfulness revolution that is making its way to mainstream public education. This

scenario reflects Wexler's (2008) analysis, as he claimed that 'healing' enters education despite education's entrenchment in 'the old skills curriculum [that] seem[s] to resist every wave of school reform' (p. 188). While there is a clear emphasis on 'bottom-lines' and 'performance', there is also a growing acknowledgement of the affective domain as crucial to the 'performer's' well-being (p. 189). The rise of SEL (Durlak et al., 2011) described earlier reflects this very tendency. It is this process that allows issues of health, meaning, and belief to enter school doors, leading education to embrace 'healing' as a core contemporary transformative practice reflecting the turn to 'in-formation' (p. 190). It is a 'healing' based on an understanding that 'information' might merely serve a 'band-aid' education that does not cater to a basic human need for meaning as a remedy for alienation (Epstein, 1995, p. 222). Yet, as Wexler claims, 'This shift will be resisted by both industrial, mechanical medicine and cognitive, performance education' (p. 190). I suggest that this resistance can be seen in the phenomenon of mindfulness in education as the practice itself undergoes the standardization process described earlier.

Broadly speaking, there seem to be two extremes through which mindfulness, as a case representative of contemplative practices in general, enters the curriculum: the first molds mindfulness to fit the shape of an achievements-based curriculum, embracing it within the ethos of *vita activa*. This agenda makes mindfulness subservient to performativity and tries to 'hold the tiger by its tail' in Rosch's terms. In such curriculum, mindfulness would be embraced as a controlled 'intervention'. It would be grounded in state-of-the-art research that may be confining the scope of mindfulness' potential. I believe this is what we are seeing now as mindfulness is being molded through the hegemony of contemporary scientific methodology and embraced by education in this more instrumental scientific form. The other agenda would allow the 'tiger to eat us' in Rosch's terms. In such curriculum, mindfulness would be embraced as 'contemplative inquiry'. This path, taken to extreme, may undermine the very idea of achievement. For, clinging to achievement entangles self in the reification of the temporal and insubstantial as Buddhist teachings suggest (Ergas, 2013b). These two agendas may seem antagonistic, yet in the conclusion of this paper I claim that this need not be the case.

The above analysis can be further nested within Wexler's (2009) rendition of a Weberian sociology of education, which may be reflecting the very essence of a post-secular age. This occurs as the Weberian disenchantment narrative is challenged through the re-enchantment of science and education. This process can be seen as mindfulness, mined from the Buddhist tradition, is embraced by education. Its study through science and its scientifically-based implementation in education reveals a disenchantment of 'religiosity'. Yet at the same time, the beast cannot be tamed. Science is being re-enchanted through scientists engaged in mindfulness practice and through its application as a research methodology. Mindfulness becomes a hub that unifies science, healing, education, and religiosity, depending on its application and social scaffolding. Its non-denominational rendition resists compliance with the benign categories of subject/object, mind/body, religion/science, and enchantment/disenchantment. These dichotomies simply lack the sophistication required for capturing this boundary-crossing phenomenon. The richness of mindfulness as lending itself to a broad domain of interpretations and applications is a unique postsecular phenomenon in this sense. It is exactly this broad interpretative space that undergirds the postsecular age characterized as:

> A meltdown between the religious and the modern, the secular and the theological…a breakdown of the core separation that starkly informed the secular (as much as the religious) master narrative. (Fisher et al., 2012, p. 263)

It is this blurriness that allows mindfulness to become 'normal education', as it is currently embraced mostly for its *outcomes*. At the same time, 'contemplative inquiry' constitutes a paradigmatic shift already underway, perhaps signaling the 'contemplative turn' in education as mindfulness is embraced 'normally' as the ancient educational quest for 'know thyself'.

As Wexler suggests, resistance is certainly there. Reports of parents objecting the incorporation of yoga and mindfulness in schools are not rare. As two recent newspaper articles from the United States show parents in schools incorporating contemplative practice raise diverse concerns.[5] Some fear proselytizing and disregard for the First Amendment. Others are concerned about the loss of valuable *real* 'education' time dedicated to conventional disciplines such as algebra and history. An analysis of these specific cases is beyond the scope of this paper. They are mentioned for I suspect that such phenomena reflect the tension described above in which policy-makers, educators, and others are searching for the proper rhetoric through which to re-enchant education. In many cases, such re-enchantment will go only as far as science will allow. It is clear that parents should know exactly what their children are learning and alert schools and policy-makers at the first signs of what they interpret as proselytizing. At the same time, I suggest that these cases of suspicion, in the face of new interventions, are themselves the makings of a postsecular age. For, they reflect the attempt to capture reality through a modernistically-based consciousness that clings to categories that may not be suitable anymore as we encounter a phenomenon such as mindfulness.

We should also look at the way that this process educates the scientists themselves, audaciously blurring yet another dualism – science/morality. This is exactly where the thread of the story brought in at the beginning of the paper can be picked up again toward closure. Listening to Jon Kabat-Zinn, that April 2013 evening, one unfamiliar with the background of the event or the speaker would not be quite sure where to place this half-science/half-'dharma talk'.[6] In fact Kabat-Zinn, who in his earlier days was quite wary of applying the term dharma (2011, p. 282), used it a number of times throughout his talk as he stressed the urgency of bringing mindfulness to our society. It appears that his experience, his authority, and perhaps a clarified vision polished through years of work and practice have brought him to the point in which he is re-establishing the practice in its origins, making sure that we do not forget what it is about – a practice prescribed by the Buddha, quite an extraordinary human being who described himself as 'awake', one that never intended to become the founder of what is neither a religion nor a spiritual path but perhaps more than anything an 'educational path' (Ergas, 2013b; Thurman, 2006). This educational path is perhaps educating the scientists themselves to become 'dharma scientists' that are far more socially engaged than their predecessors as they 'practice what they research'.

Conclusion

In this paper, I have explored mindfulness in education by describing how mindfulness has entered education through the door of healing and how it was embraced by science. While calls to incorporate a 'subjective turn' in the curriculum were heard in the 1970s, I suggested that only when science embraces such a 'subjective turn' can it become a substantial phenomenon in education. Mindfulness is the current spearhead of this movement. The success of MBSR, combined with attempts to push the envelope of scientific study of consciousness, has spiraled science into the embrace of mindfulness, both as an object of research and as a method of inquiry. In this process, mindfulness, originating in

Buddhism, was somewhat reduced and disenchanted toward its measuring while concomitantly re-enchanting science and scientists. This process challenges the modernistic dualisms of subject/object, religion/science, and science/morality, forming the blurred space of the postsecular age.

Mindfulness practice offers a broad terrain of interpretation toward its becoming a locus of inquiry/healing/science/education/spirituality/morality/life. As this blurry terrain is embraced by science, education quickly follows, beginning with a conventional instrumentalist approach that may be interested more in the *outcomes* of mindfulness than in its original enlightenment search. Yet, behind these lurk the possibilities of 'education in know thyself' reflecting a 'subjective turn' and even a 'contemplative turn' long pointed toward by curriculum theorists such as Pinar & Grumet, Huebner, and Miller. While these seem to be pulling in different directions, the idea of 'dharma scientists' that are committed to rigorous scientific research on the one hand yet socially engaged and grounded in practice on the other may just be where education is going. This ethos reflected in the ethics of contemporary socially engaged Buddhism (Dalai Lama, 2000) and socially engaged scientists (Kabat-Zinn, 2011; Zajonc, 2009) constitutes the blurring of the line between *vita activa* and *vita contemplativa*. This ethos becomes more attuned with the non-dualism characterizing some East-Asian traditions, perhaps elucidating the possibility of an education that becomes less concerned with the boundaries of the known. It is education that asks us to enjoy the educational *outcomes* of mindfulness, yet at the same time courageously take the risk of 'being eaten by the tiger'. Does this 'contemplative turn' only reflect the grip of science over every aspect of our living, even our subjectivity as 'spiritual-seekers'? Is this simply another form of disenchantment only more sophisticated as we ourselves become more sophisticatedly 'informed' rather than 'in-formed'? I do not think so. I believe we are being eaten by the tiger unwittingly and, in a moment of reckless mindfulness, as all we intend would be stress reduction, we may just discover there is no self behind the stress.

Notes

1. Data retrieved from http://www.umassmed.edu/cfm/index.aspx
2. Retrieved form http://mindfulnessinschools.org/about/our-story/
3. Retrieved form http://www.garrisoninstitute.org/contemplation-and-education and http://www.couragerenewal.org/courage-to-teach
4. Refer to mindandlife.org for the institute's vision and other information offered hereafter.
5. Refer to these two recent newspaper articles: http://www.ohio.com/news/plain-township-school-stops-mindfulness-program-after-some-in-community-raise-concerns-1.389761 and http://www.foxnews.com/us/2013/02/21/california-school-district-sued-over-religious-yoga-program/
6. 'Dharma' – 'means variously the teaching of the Buddha, the lawfulness of the universe, and "the way things are"' (Kabat-Zinn, 2005, p. 135).

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