Around the world a quiet revolution is unfolding in teaching and learning through the introduction of contemplative practices in higher education. Several practices are described and their value assessed.

Contemplative Pedagogy: A Quiet Revolution in Higher Education

Arthur Zajonc

During the last 15 years a quiet pedagogical revolution has taken place in colleges, universities and community colleges across the U.S. and increasingly around the world. Often flying under the name “contemplative pedagogy,” it offers to its practitioners a wide range of educational methods that support the development of student attention, emotional balance, empathetic connection, compassion and altruistic behavior, while also providing new pedagogical techniques that support creativity and the learning of course content. This movement is being advanced by thousands of professors, academic administrators, and student life professionals, many of whom are part of the new Association for Contemplative Mind in Higher Education (www.acmhe.edu), which itself is part of the Center for Contemplative Mind in Society (www.contemplativemind.org).

Since 1997 the academic program of the Center for Contemplative Mind in Society has been working with professors and university administrators, developing the field of contemplative pedagogy. Each year through conferences, summer programs, retreats, campus visits, and online resources, the Center has supported faculty in making their curricula and pedagogical methods more reflective and contemplative. In collaboration with the American
Council of Learned Societies, the Center has awarded 158 Contemplative Practice Fellowships to professors in every type of academic institution to support the development of academic courses that incorporate contemplative practices. (Craig, 2011) Founded in 2010, the Association for Contemplative Mind in Higher Education is a professional association that allows colleagues from colleges and universities around the world to interact with each other and share their writings and ideas. The Center also commissioned a review of the research into contemplative pedagogy relevant to higher education (S.L. Shapiro, 2011).

Nearly every area of higher and professional education is now being taught with contemplative exercises from poetry to biology, from medicine to law. Appreciation of secular contemplative exercises for stress reduction (Shapiro, 1998) is growing fast as is the acknowledgement of their value for general capacity building (such as strengthening attention or cultivating emotional balance), as well as for mastery of course material. For example, the contemplative practice of “beholding” in art history and compassion practices for game theoretical experiments in economics are both being taught by professors at Amherst College.

Contemplative pedagogy serves several educational goals. Research shows that contemplative practice, even if performed for short periods, improves attention (Tang, 2007) (Jha, 2007), cognition (Fadel Zeidan, 2010) and cognitive flexibility (Moore, 2009). At Stanford University James Doty has established the Center for Compassion and Altruism Research and Education, whose research shows that compassion can be strengthen (Doty, 2010). In the pages that follow I give a brief overview of the kinds of practices being used as part of classroom instruction. A far more comprehensive treatment is in preparation by Daniel Barbezat and Mirabai Bush (forthcoming by Jossey Bass).
The Practices

Mindfulness

Surely the most widely used classroom contemplative practice is mindfulness. Mindfulness is a Western invention, although based in the contemplative traditions of Asia. It consists of “moment-to-moment, non-judgmental awareness” and is most commonly applied to the breath. One gently rests one’s attention on the breath and maintains attention undistracted on the breath for several minutes. If one’s attention wanders, which it invariable does, then without judgment one sets aside the distracting thought or emotion and returns one’s attention to the breath, again and again. Counting can be an aid to maintaining attention on the breath. With each exhale, one counts up to ten: 1, 2, 3, … 10, 1, 2, 3,…).

If mindfulness is the most commonly used classroom practice, then mindfulness-based stress reduction is the most thoroughly researched. In a recent count of NIH research projects, I found that 150 concerned mindfulness and the funds allocated were over $150 million in 2011 alone. Two studies that are relevant to the classroom context concern stress reduction in pre-medical students and medical students. (Shapiro, 1998) (Rosenzweig, 2003). Both show that MBSR succeeds in reducing stress in students according to various measures used. In my own experience teaching mindfulness to pre-medical students taking physics, about half of the students are already somewhat familiar with mindfulness and they are all quite open to instruction, glad to have a means of dealing with the great stress they feel to perform at the top of the class.

Concentration
A related practice is *concentration* training. Here the object of attention may be the breath or indeed any simple object. I use the paperclip. Attention is placed on the paperclip with much more focus and intent than is characteristic of mindfulness. One carefully examines, for example, the paperclip’s form, color, material composition, stiffness, and texture. All one powers of observation and thought are directed to the paperclip, its function and method of manufacture. As before if a distraction arises, it is released and the attention is redirected swiftly and firmly to the object of attention. This is a more disciplined and directed practice than mindfulness. The founder of scientific psychology, William James, saw in the cultivation of sustained, voluntary attention, the cornerstone of a true education. In his *Principles of Psychology* he would declare, (James, 1890/1950)

>The faculty of voluntarily bringing back a wandering attention, over and over again, is the very root of judgment, character and will. An education which should improve this faculty would be the education *par excellence*. But it is easier to define this ideal than to give practical instructions for bringing it about.

Much of contemplative pedagogy is concerned precisely with giving practical instruction for improving the faculty of attention.

**Open Awareness**

Concentration represents one pole of a pair in attention training. Its partner is called *open monitoring* or *open awareness*. (Lutz, 2008) The research of Lutz, et al. “focuses on the mental processes and the underlying neural circuitry that are critically involved in two styles of
meditation. One style, Focused Attention (FA) meditation, entails the voluntary focusing of attention on a chosen object. The other style, Open Monitoring (OM) meditation, involves non-reactive monitoring of the content of experience from moment to moment.” (Lutz, 2008, p. 163) In my work with students I have found it invaluable to introduce them to both types of practice FA and OM.

Open awareness is often experienced as the space of creativity, in contrast to concentration which is useful for in making specific sense observations or performing extended discursive reasoning. Scholars of creativity and insight distinguish four phases to the creative process (Sternberg & Davidson, 1995). The first is mental preparation, which consists in confronting the paradox or contradiction at the root of the problem in a serious and sustained way (FA). The second phase is incubation, during which time one moves between active struggle with the problem (FA) and disengagement (OM). The third phase is illumination, at which moment a flash of insight appears, one that must then be grounded or held. The final fourth phase is verification. After all, insights can be mistaken and so need to be checked against reality.

In her book Gravity and Grace, Simone Weil writes of the “grace” that is associated with an original insight or moment of creativity, and insists that “grace enters empty spaces,” and “it can only enter where there is a void to receive it.” (Weil, 2002) The familiar pole of study and concentrated mastery of a discipline must be complemented by a spacious open awareness for the full round of creativity to find its home in us. Whether it is William Rowan Hamilton’s discovery of the multiplication law for quaternions while crossing the Broom Bridge in Dublin, or Poincare’s discovery of the transformation laws defining non-Euclidean geometry and
Fuchsian groups while stepping up onto a bus, the pole of concentrated work on a problem must be complemented by that of open awareness.

I routinely use a four-part bell exercise to demonstrate the archetypal movement between focused attention and open awareness (Zajonc, Four-part Bell Exercise). It consists of:

**Focused Attention (FA)**

1. Sound the bell: students concentrate on the sound of the bell.
2. Resounding the bell sound in memory: students concentrate of the sound of the bell in memory.

**Open Awareness or Open Monitoring (OM)**

3. Release or “letting go”: students let go of both the bell sound and any memory of it that they may have, and enter into open non-directed awareness.
4. Receiving or “Letting come”: students remain receptive but without expectation allowing thoughts, feelings, images, etc., to arise in the open space of their awareness.

Such exercises are common to various contemplative traditions. (Zajonc, Meditation as Contemplative Inquiry, 2009, pp. 93-106)

**Sustaining Contradictions**

A particularly demanding but useful exercise for the imagination is what my colleague Joel Upton and I call “sustaining contradiction.” Rather seek to resolve contradiction, it is often better to maintain and even intensify the experience of how two opposites can be true at the same time. Nicolas of Cusa called these “the coincidence of opposites,” (Cusa) the physicist Neils Bohr declared that the opposite of one great truth might very well be another great truth. In
quantum physics, such contradictions appear to abound. No drama can hope to work without an irresolvable dilemma. I use the point-circle exercise, whose description as given to students is found below.

Begin by mentally visualizing a blue circle. This in itself may take some practice. With it vividly before your mind’s eye, reduce the size of the blue circle until it becomes a point, and then expand the point again until it becomes a circle of the original size. Repeat this until the transformation from circle to point and back again is fluid.

Now replace the blue circle with a circle of the opposite color – yellow. Repeat by reducing and increasing the size of the yellow circle until, as for the blue circle, the movement between point and circle is fluid.

We now bring the two elements together and practice “sustaining contradictions” or what Nicolas of Cusa called “the coincidence of opposites.” Visualize a yellow point at the center of a blue circle. Simultaneously expand the yellow point into a large yellow circle and decrease the size of the blue circle until it becomes a blue point. Expand and contract the oppositely colored circles at the same time. Watch especially as they pass through one another. Repeat this exercise, and then describe the experience.

In art, science, and in life, we are often asked to sustain what appear to be impossible polarities. In quantum physics, wave-particle duality is such a case. Much of the drama of life arises through the coincidence of opposites.

These contemplative exercises all have their own merit, but in my case they form a key pedagogical component relating clearly to the content of the course I teach with Upton on “Eros
and Insight.” For instance Upton as art historian is deeply concerned with polarities and tensions in the painting we study, while I am concerned with the paradoxes of modern physics that will not resolve. In both cases the coincidence of opposites is part of the structure of the material being taught. Rather than leave them as distance abstractions, the point-circle exercise helps students live into opposites. In this sense, contemplative pedagogy is a form of experiential learning.

The practices being used by faculty are far more numerous than those given above. The Tree of Contemplative Practices taken from the website of the Center for Contemplative Mind in Society gives an overview of the many practices available for use. Deep listening, lectio divina, contemplative movement (yoga, tai chi…), contemplative writing, loving-kindness and walking meditation are but a few of the more common contemplative exercises that are finding their way into the classroom. Student life professionals and counselors are finding MBSR and related contemplative methods of enormous value in working with distressed students. Further resources can be found on the website for the Center for Contemplative Mind in Society www.contemplativemind.org and also my book Meditation as Contemplative Inquiry. (Zajonc, 2009).

Transformative Education

The theory of education that underlies contemplative pedagogy is one that presumes that the capacities of sustained voluntary attention, emotional balance, as well as for insight and compassion are able to be developed through practice. Through attention to an object or area of research, capacities suited to insight concerning that object or area are formed. Goethe, the German poet, summarizes my view of pedagogical theory when he writes, “Every object, well-contemplated, opens a new organ in us.” Whether the object is a painting or an equation, a
natural phenomenon or an inner city community, the attention we give to it forms in us the capacities that allow us to understand that to which we are attending. The fact of neuroplasticity now gives a neurological foundation to Goethe’s insight. (Begley, 2007) Thus we can see how contemplative pedagogy deepens experience through repeated engagement, and so leads the student to gradually foster those capacities for insight that will aid him or her in the true understanding of the content of their studies and perhaps even assist in the precious moment of discovery.

In these few pages I have only given the barest outline of the practice of contemplative pedagogy. It potential significance as part of an integrative pedagogy in higher education has been more fully developed in *The Heart of Higher Education* written together with my friend Parker Palmer (Palmer & Zajonc, 2010). These views are challenge enough for higher education, but if I am allowed to voice my larger hopes for higher education I may turn to and take my direction from the line often attributed to Plato, “Ignorance, the root and stem of all evil.”

**The Deeper Significance of Knowing**

When she was once asked “What is evil?” the Burmese leader and Nobel Peace Prize laureate Aung San Suu Kyi echoed Plato saying, “I don't think that there is such a thing as evil, but I think there is such a thing as ignorance and the root of all evil is ignorance.” (Interview by PeaceJam’s Ivan Suvangiev, 1995, private communication)

Aung San Suu Kyi was, of course, thinking of the teachings of the Buddha, for example in the Gotama Discourse or Sutta; Sayuttanikāya 2.1.10, we find the Buddha recalling: “Before my awakening, when I was still an aspirant to awakening and not yet a fully awakened person, it occurred to me: How troubled is this world!... And people understand but little about the escape
from unease or suffering. When will an escape from this unease/suffering be understood?”

(Buddha, 2007) Having posed this question to himself, the Buddha then describes how he entered into a state of “complete attentiveness” through which he came to “penetrating insights” and “full comprehension.” In this way, complete attentiveness led the Buddha to a chain of penetrative insights and a full comprehension of the source of all suffering, namely that the root of all human suffering is ignorance. (The second Noble Truth: the source of suffering is craving that in turn is rooted in ignorance.) Thus, the cessation of suffering rests ultimately on the eradication of ignorance.

Education has as its high purpose the eradication of ignorance, which, according to the views of Aung San Suu Kyi, Plato and the Buddha, will affect the eradication of evil and so end suffering. In this way, a true education that addresses the whole human being reaches far beyond the conventional goods of learning, such as an informed citizenry or an intelligent workforce. No, our very suffering is rooted in ignorance concerning ourselves and the true nature of our world. Evil thrives on the delusions that derive from ignorance, and so if we are able to achieve true learning, by the cultivation of complete attentiveness, penetrative insight, and full comprehension, then evil and suffering will cease. Everything else is a half-measure, and a provisional solution. Aung San Suu Kyi had it right when evaluating the true basis for social transformation, when she wrote:

The quintessential revolution is that of the spirit, born of an intellectual conviction of the need for change in those mental attitudes and values which shape the course of a nation’s development. A revolution which aims merely at changing official policies and institutions with a view to an improvement in material conditions has little chance of genuine success. Without a revolution of the spirit, the forces which produced the
iniquities of the old order would continue to be operative, posing a constant threat to the process of reform and regeneration. It is not enough merely to call for freedom, democracy and human rights. There has to be a united determination to persevere in the struggle, to make sacrifices in the name of enduring truths, to resist the corrupting influences of desire, ill will, ignorance and fear (Kyi, 1995, pp. 183-184).

If I speak my heart, the depth of change called for in higher education is comparable to that called for here by Aung San Suu Kyi. The quintessential revolution in higher education will likewise not be one that is concerned with the “improvement of material conditions,” but a “revolution of the spirit” that changes mental attitudes and values.

Look around at America’s greatest universities and colleges; Many offer every material support and benefit for learning. Is the pursuit of improvement in material conditions of faculty and student life sufficient? We cannot rest content with changes in “official policies” or institutional reform, as important as these may be. As she says, unless we find a deeper, more comprehensive basis for change, what she calls, “a revolution of the spirit,” the old order will reassert itself constantly undermining whatever good we do. What then is the revolution in spirit in higher education?

I see the called-for change in higher education as a revolution in what we take to be knowing and knowledge, in our very epistemology, methodology, and concept of comprehension. To echo the view of Parker Palmer, there is today a kind of violence to our conventional form of knowing and precisely here is where the revolution is needed. I have argued for an “epistemology of love” that embodies and practices: respect, gentleness, intimacy, vulnerability, participation, transformation, the formation of new capacities, and the practice of
insight. (Zajonc, Love and Knowledge: Recovering the Heart of Learning Through Contemplation, 2006) In other words, I am advocating for a contemplative as well as a critical intellectual education, one that seeks a comprehensive and deep understanding of self and world. Suffering and evil will only fall away when we have attained such understanding and achieved the cessation of the deep ignorance of which Socrates and the Buddha were speaking.

**The Quiet Contemplative Revolution**

The contemplative pedagogy described above is one that strives for complete attentiveness; it seeks to achieve penetrative insight and the full comprehension that dispels ignorance. And so, when we take up the task of contemplative pedagogy as an essential, indeed as the essential feature of an integrative higher education, we are engaged in a revolutionary enterprise. We are not attempting a simple add-on, or an alternative. Instead, we are declaring that change, growth, and transformation of the human being are the hallmarks of genuine education. I understand the cultivation of “complete attentiveness,” to be the practice of an epistemology of love with all that that entails. Goethe’s reminds us that our every act of real attention shapes us. We attend, the world forms us…and so on cyclically. In this way, attentiveness works back on us as formation.
The wisdom or full comprehension that arises as the fruit of contemplative pedagogy is not a remote, abstract, intellectual knowledge, but a form of beholding (*theoria*) that is fully embodied, which means that it entails aesthetic and moral dimensions as well as cognitive ones. The revolution in higher education asks for nothing less than an integrative form of knowing. In my view, there is no better way of practicing for such beholding-knowing, for such penetrating and comprehensive wisdom, than contemplative pedagogy. It manifests and embodies the epistemology of love in its right practices. Through it we draw into the world, into suffering and unease, into the other, and not distanced from them by objectification, and subsequent control.

Nor is this a sterile form of knowing disconnected from the practical demands of life. No, not at all. The insights attained at the hand of contemplative inquiry are actionable. Education will change, as will medicine, agriculture, our financial institutions, and environmental policies. Every aspect of life can be changed by the light of contemplative insight into who we are really. Indeed, all of the good, the creative dimensions of life already flow from this source, we merely raise it to consciousness, develop the means to practice it more fully, and honor it through our attention.

The “revolution of spirit” I am suggesting is already underway. Those who are already teaching and developing contemplative pedagogy with our students are like Siddhartha before enlightenment (which is to say before freedom) or like Plato before he met Socrates. I imagine them teaching in the sacred groves as well as the marketplace. They are crafting for themselves and their time a pedagogy where love becomes a way of knowing. Have you ever truly know anything that you did not love? In Goethe’s words again, “One comes to know nothing beyond what one love. And the deeper and more complete the knowledge, the stronger, more powerful
and living must be one’s love and fervor.” (Goethe, 1998) The gentleness, intimacy, and transformation of us and those we teach are inconceivable apart from the power of love.

As I see it, the revolution called for in higher education will bring love into teaching and learning, not as a romantic sentiment but as the most profound form of knowing by identification. The object becomes subject, and through the highest and most refined form of love, we are able to identify with and know from the inside that which we have only known from without. Recall Emerson’s essay *The Poet* in which we find the characterization of imagination.

This insight, which expresses itself by what is called Imagination, is a very high sort of seeing, which does not come by study, but by the intellect being where and what it sees, by sharing the path, or circuit of things through forms, and so making them translucid to others. The path of things is silent. Will they suffer a speaker to go with them? A spy they will not suffer; a lover, a poet, is the transcendency of their own nature—him they will suffer. The condition of true naming, on the poet's part, is his resigning himself to the divine aura which breathes through forms, and accompanying that (Emerson).

Our work will take time, so patience as well as persistence is needed. As Aung San Suu Kyi reminds us, “There has to be a united determination to persevere in the struggle, to make sacrifices in the name of enduring truths, to resist the corrupting influences of desire, ill will, ignorance and fear.” So, if the interest in contemplative pedagogy is, perhaps, not yet as great as one would wish for, remember that the class size was initially five for the Buddha and not much more for Socrates, both of whom persevered in the struggle to dispel ignorance until the end. Let us commit to the cessation of ignorance, not through the accumulation of inert facts but by playing the poet’s part, by “being where and what we see,” and thereby practicing true naming,
which I take to be attained by complete attention, penetrative insight and full comprehension
which is to say by an epistemology of love.

The Ethic, Epistemology and Ontology of our Teaching

Our teaching is the expression of an ethic. What is the educational ethic that you wish to embody
in your teaching? How can your deepest pedagogical ethics be more present, more fully a part of
your work with students and colleagues?

As teachers we have committed ourselves to knowledge, but what kind of knowing will dispel
ignorance and end suffering and even evil? Inert ideas, as Alfred North Whitehead calls them,
will not serve, will not dispel ignorance (Whitehead, 1967). Only a “penetrative insight” will do.
Our epistemology, our way of knowing, rests on our ethics. Complete attention does embody our
ethics, which to me should mean our selfless, gentle, loving attention. Only then will penetrating
insight be given.

Full Comprehension means that we understand the world from the inside as well as the outside,
through Emersonian Imagination as well as through reason and observation. Then will the
truncated ontology of contemporary intellectual life be expanded to include the rich,
multidimensional nature of reality, of self, and of the world. Fully comprehended, we will have
taken a step along the path to the cessation of ignorance, real ignorance, and so to the cessation
of suffering and evil.

A more robust and complete ontology investigated by a broad range of methods, and a more
inclusive ethics that gets beyond cost benefit should be the foundation of an integrative form of
higher education. (Palmer & Zajonc, 2010) Contemplative pedagogy is a crucial part of that
larger vision of higher education.
References


Arthur Zajonc Ph.D. (U. Michigan) is President of the Mind & Life Institute. From 1978 to 2012 he was professor of physics at Amherst College. He has been visiting professor and research scientist at the Ecole Normale Superieure in Paris, the Max Planck Institute for Quantum Optics, and a Fulbright professor at the University of Innsbruck in Austria. His research has included studies in electron-atom physics, parity violation in atoms, quantum optics, the experimental foundations of quantum physics, and the relationship between science, the humanities, and the contemplative traditions. He is author or editor of eight books including: Catching the Light (Oxford UP, 1995), *The Quantum Challenge* (Jones & Bartlett, 2nd ed. 2006), *Meditation as Contemplative Inquiry: When Knowing Becomes Love* (Lindisfarne Press, 2009), and with Parker Palmer, *The Heart of Higher Education: A Call to Renewal* (Jossey-Bass, 2010).

In 1997 Professor Zajonc served as scientific coordinator for the Mind and Life dialogue published as *The New Physics and Cosmology: Dialogues with the Dalai Lama* (Oxford UP, 2004). He organized the 2002 dialogue with the Dalai Lama, “The Nature of Matter, the Nature of Life,” and co-organized the 2007 dialogue on “The Universe in a Single Atom.” Zajonc acted as moderator at MIT for the “Investigating the Mind” Mind and Life public dialogue in 2003, and again in 2010 at Stanford’s CCARE public dialogue with the Dalai Lama on research concerning the cultivation of compassion and altruism. The proceedings of the Mind and Life-MIT meeting were published under the title *The Dalai Lama at MIT* (Harvard UP, 2003, 2006) which he co-edited. Zajonc is currently President of the Mind and Life Institute. He directed the Center for Contemplative Mind in Society for two years and its Academic program for six, which supports appropriate inclusion of contemplative methods in higher education. He has also been General Secretary of the Anthroposophical Society, president/chair of the Lindisfarne Association, and was a senior program director at the Fetzer Institute. For more information see www.arthurzajonc.org
The Tree of Contemplative Practices

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