

PERSON/PLANET POLITICS: CONTEMPLATIVE PEDAGOGIES FOR TURBULENT TIMES¹

KAREN T. LITFIN
LITFIN@UW.EDU

Stand still. The trees ahead and the bushes beside you
Are not lost. Wherever you are is called Here,
And you must treat it as a powerful stranger,
Must ask permission to know it and be known.
~from David Waggoner, "Lost"

Any student who completes an environmental studies course can recite a litany of crises that together comprise an unfolding global mega-crisis: deforestation, collapsing fisheries, freshwater scarcity, the mass extinction of species, climate change, etc. But what deeper messages—the ones they will remember long after the final exam is over—are they internalizing about how to live in the Anthropocene? Does our teaching encourage a sense of vision and agency, or does it elicit fatalism and paralysis? Over the years, I have come to the conclusion that a purely cognitive pedagogical approach tends to engender the latter. Observing my students' faces go blank or glum during my lectures, I realized that I needed to somehow bring the material home for them. Otherwise global problems and international treaties run the risk of seeming too abstract and remote, rendering effective responses seemingly impossible. I also saw that "bringing the material home" required making my 100-300 student lectures feel more intimate, encouraging them to experience the unfolding planetary mega-crisis as something happening not just "out there," but also "in here"—because subjectively and intersubjectively, it is.

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Witnessing my students struggle with fear, anger, grief, despair and guilt (and, I should add, wrestling with the same dark emotions internally), my first step was to acknowledge their inner lives. In a lecture hall, this might mean simply asking each student to offer a one-word response to the day's material. "Taking the classroom pulse" came to mean a cascade of heartfelt words switchbacking their way down from the top corner to the bottom corner of the room. In three minutes, we could hear two hundred words running the gamut from 'overwhelmed' and 'hopeless' to 'amazed' and 'grateful.' Invariably this torrent of words would end with a pregnant pause, a moment of focus far more potent than anything my Powerpoint slides could evoke.

These initial forays into contemplative practice led me to develop a plethora of approaches oriented toward the student as a whole person, not simply a disembodied mind. The core question of these exercises is: "Who am I in relation to this?" In some cases, this means having students keep a journal; in others, it means offering guided meditations about course material; in others, it means articulating personal responses to lectures or reading. Some of these experiments were spectacular successes and some were awkward failures, but over time I saw the value of this approach and began calling it "person/planet politics." I have even come to suspect that a significant cause of the unfolding planetary mega-crisis is the human mind disconnected from the full-hearted, full-bodied life.

My confidence got a big boost in 2009, when faculty from around the Puget Sound convened under the auspices of Curriculum for the Bioregion to study contemplative approaches to sustainability education. Although we hailed from disciplines ranging from poetry to the information sciences, we were united in our commitment to holistic education. We found common ground in our sense of the profound value of this work

alongside experiencing ourselves as iconoclasts in our professions. Our core group of about twenty scholars grew into a dynamic learning community that has shared its work in an online collection of classroom practices (<http://serc.carleton.edu/bioregion/index.html>) and a recently published volume of essays (Eaton, Hughes and MacGregor 2016). I have benefited tremendously from the originality and collegiality of our work together.

This essay draws upon my nearly twenty years of teaching person/planet politics. This paper has three aims. First, I draw upon recent insights from neuroscience to offer a rationale for incorporating a deliberate pause in our harried and distracted culture. In particular, I make the case for integrating any “dark emotions,” such as fear, anger, grief, despair, and guilt, that might be triggered by learning about challenging issues. The triggers that make for hot topics can themselves become objects of study, thereby enriching content-based learning. Second, I extend and elaborate upon this rationale specifically for environmental politics. This section examines not only the affective dimension of socio-ecological learning but also somatic experience as a gateway to a genuinely creative response to living on a new Earth. As literally being of the Earth, our bodies offer a window into the self-awareness, creativity, and the sense of sufficiency that may well be the cornerstone of a sustainability culture. Each of these domains of contemplative pedagogy—“the pause,” the emotions and the body—can be deployed in service to the students’ long-term personal resilience and social agency. In this context, the intersubjective space of a learning community can serve as an important counter-balance to the inwardness of contemplative inquiry, which otherwise runs the risk of fostering a tendency towards self-absorption and disempowerment. Interwoven throughout the second and third sections, I include some concrete examples of practices I have used. Third, I discuss the importance of

assessment and offer several and examine some of my own data on their impact. Fourth, I offer suggestions for integrating contemplative practices into the classroom.

The developmental challenge for young people coming of age at the dawn of the Anthropocene is beyond what most of their instructors have had to face. As a consequence, those of us who teach environmental politics are now called upon to step beyond our traditional role as instructors into a more profound quality of mentorship. For this, we must come to see that sustainability is, as much as anything, an inside job.

The Deliberate Pause: Insights from Neuroscience for Teaching Hot Topics

Although politics is inherently contentious, our pedagogy is generally no different from that of other academic disciplines: in the language of neuroscience, we orient ourselves to the student's prefrontal cortex (associated with problem solving) and left hemisphere (associated with logic, categorizing, and sequencing). Yet there is a strong consensus that learning entails the whole brain: it is simultaneously a sensory, emotional, social, and cognitive process—and, we should note, generally in that order and largely unconscious. We therefore find ourselves in a teachable moment. Political polarization, the erosion of civil discourse, the rise of hate speech, even the “post-truth era:” all of these invite us to expand our repertoire and engage our students more holistically via contemplative pedagogical practices. The triggers that make for challenging topics can themselves become objects of study, thereby enriching content-based learning.

The mind's capacity to adopt a meta-position relative to its own contents, thereby integrating somatic, emotional, and mental experience, has profound implications for

learning. Neuroplasticity, the creation of new neurons and pathways, is the physiological counterpart of learning; when learning penetrates deeply enough, states become traits.

Like any new skill, sustaining this integrative meta-position requires focus and practice.

While this depth of practice is usually beyond the scope of the classroom, contentious issues provide an opportunity to whet students' appetites for self-inquiry.

Evolutionary science tells us that the human brain developed from the bottom up, as it were, beginning with the basic survival functions (in popular parlance, “the reptilian brain”) followed by the paleo-mammalian limbic system around 350 million years ago, the neo-mammalian cortex perhaps 2.5 million years ago, and the human neo-cortex roughly 200,000 years ago (Robson 2011). Mounting evidence supports the social brain hypothesis that the neocortex expanded in order to enable primates to navigate the complexities of living together in groups (Shultz and Dunbar 2014)—for instance, bonding, social status, dishonesty, fairness, and impulse control.

The two basic brain imperatives are to *seek survival* and, because the three-pound human brain can claim over 20% of caloric intake, *save energy*, which it does by reinforcing frequently used neural pathways (Taylor and Marienau 2016). Some of these default patterns shape our individual personalities. Most, however, are the cognitive biases we share—although neither universally nor uniformly, as the emerging field of cultural neuroscience demonstrates (Choudhury and Slaby 2012). For instance, because our brains arrive at a negative appraisal several times faster than a positive one, we share a negativity bias. Political scientists and teachers alike frequently encounter the confirmation bias, the tendency to believe what supports our opinions, and the disconfirmation bias, the tendency to ignore confounding evidence. Not surprisingly, our dopamine-based pleasure circuit

rewards conformity and winning, qualities that can be both pedagogically and politically toxic (Shenkman 2016). The brain's pleasure circuit also makes learning a kind of tug-of-war between its innate attraction to novelty (which can be abruptly interrupted if the epinephrine-based alarm circuit takes over) and its craving for certainty. From the perspective of teaching, there are two overarching implications of cognitive biases. First, they evolved not for the pursuit of truth, but rather for survival in paleolithic times. Second, while "debiasing" does not automatically occur with self-awareness, this is a crucial starting point (Larrick 2008)—accessed most reliably in a safe environment.

Leaving aside the question of classroom safety for the moment, we must acknowledge that the academy rarely embraces the fundamentally embodied, emotional, social, and experiential character of learning. The brain did not evolve to collect abstract knowledge; rather, it mediates between sense perception and action to discern what is happening and how to respond. This is an embodied process. Sensory perception is the gateway to the first question, and key processes like evaluating, planning, and predicting are directed by the motor cortex (Kahneman 2011). The limbic system is active at every stage of cognition, infusing perception, analysis and decision making with emotions, which are registered somatically, reinforcing cognition's embodied character (Taylor and Marienau, 53-57). Learning is also social; beginning with infancy, neural pathways are shaped by relationships and expressed in language and other culturally mediated modalities (Siegel 2011). Mirror neurons enable us to infer unexpressed emotions and intentions, particularly through facial expressions (Edkins 2015). Moreover, because learning occurs on the basis of existing pathways, it is associative and metaphorical. All of this means that learning occurs through experience and is largely unconscious.

James Zull, a biologist and learning specialist, correlates the experiential learning cycle with these processes in the cerebral cortex. He traces cognition from concrete experience (registered in the sensory cortex), to reflective observation in the temporal integrative cortex (which makes meaning by integrating emotions with facts), to the prefrontal cortex (which analyzes and decides) to the motor cortex (which acts accordingly). Action therefore completes the cycle and becomes the basis for new learning. In most academic settings, the embodied, emotional and social dimensions of learning are truncated. Sensory input might be a lecture or article, and action an exam or a paper. While the brain did not evolve to develop abstract theories, we might say that it did evolve to construct (in a rough sort of way) empirically-grounded applied theory in a largely social field.

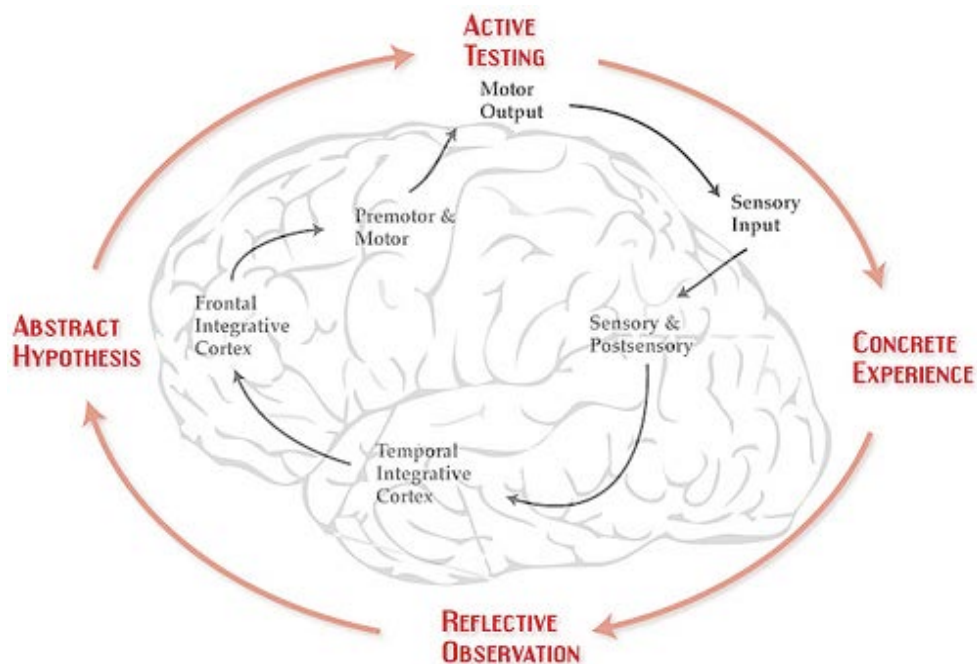


Figure 1: Neurological correlates of experiential learning (Adapted from Zull 2002, 18)

While instructive, this remarkably tame model of cerebral learning leaves out the all-important limbic system, the brain's alarm system and the gateway to emotion. In particular, the amygdala (two small lobes associated with the brain's hemispheres) immediately sends a distress signal to the hypothalamus, which triggers the sympathetic nervous system; it also signals areas of the cortex to pay attention.² Under low-to-moderate stress, the neocortex (the convergence zone for affect and cognition) can calm the amygdala. High stress, however, can virtually shut down the neocortex, inducing "amygdala hijack" (Siegel 2011). The cortex has the advantage of complex processing, whereas the amygdala has the advantage of speed. In an encounter with a grizzly bear, fight-or-flight is more adaptive than calculating the odds of death.

Today, we rarely face such evolutionary dangers, yet these same systems can be recruited when our ideas or our appearance is criticized. Consequently, though our classrooms are free of man-eating predators but it might not always feel that way. Even under ordinary conditions, the classroom is the site of simmering anxieties: the uncertainties intrinsic to learning, the looming prospect of grades, the risk of peer or parental disapproval, etc. With hot topics, unleashed emotions can raise the simmer to a boil and repressed emotions can turn the classroom into a pressure cooker. Fortunately, though, if educators can shift from purely content-driven learning to multi-layered learning, such moments become supremely teachable moments. A well-orchestrated pause

² The amygdala, popularized as the brain's "fear center," is more of a reactive scanning device in search of goal-relevant information. Scientists have found wide variation in the degree of people's fear reactions; for some, greater amygdala activation is associated with positive stimuli (Herbert 2012). This finding could have important implications for cultural neuroscience.

can enable students to become conscious of their largely unconscious learning process—including their somatic and emotional experience, as well as their tacit assumptions.

With respect to self-inquiry, the body itself can be our students' most profound teacher. Breath, heart rate, posture, internal tensions: all of these make the body an excellent barometer of internal states, but this requires harnessing the outwardly-focused attention. The simple act of attending to sensation tends to strengthen the brain's alpha rhythm, fostering a state of calm and focused wakefulness (Kerr 2012). This in turn assists the prefrontal cortex in its critical role of integrating thought and emotion. Beyond pausing for somatic perception, instructors might more intentionally structure the pause. For instance, in a heated discussion, the popular injunction to "take a deep breath" can slow things down by shifting the attention, but it might not enhance self-awareness. As an alternative, one might invite the students to breathe through their noses for a minute, being sure to make the exhalation longer than the inhalation. Nasal breathing synchronizes electrical activity in the amygdala and hippocampus and longer exhalations activate the parasympathetic nervous system (Zelano et al. 2016).

The second arena for integration is emotional. When the amygdala is activated, the psychological adage, "Name it to tame it," applies. Engaging the brain's left frontal lobe to identify our emotions brings a calming effect, with potentially surprising consequences.³ For instance, I have encountered students who, sitting in the potentially polarizing heat of anger, discovered deeper levels of less polarizing emotions like fear and sadness. Even if

³ We should be wary of the popular conflation of emotional self-awareness with tranquility. Emotions evolved for a purpose: to *move* us. True awareness functions not as a pacifier but as a discernment. Anxiety can be appropriate because "it's like acid. It eats through the rusting metal of our preconceptions" (Shenkman 132).

this naming is not done publicly, it enhances social learning by fostering the capacity to perceive and empathize with the subjective states of others (Siegel 2011).

“Naming and taming” also engages a third arena of integration: hemispheric. When the An activated limbic system tends to activate the brain’s right hemisphere, which specializes in context and meaning making. Powerful emotions make for compelling (but potentially mistaken) meaning-making. When the left hemisphere steps in with its expertise in language, specificity and analysis, the mind literally becomes more balanced (Siegel 2011). Because most classroom learning privileges fast-paced disembodied language, however, the deliberate pause can also enable the right hemisphere to catch up and consciously bridge tacit and explicit knowing (McGilchrist 2010).

Neuroplasticity and the deliberate pause take on special meaning in the college classroom. Neurologically, adolescence (particularly for males) extends into the mid-twenties, when the neocortex is fully formed. Because adolescents’ neural connections are weaker, particularly between the amygdala and neocortex, they are more likely to act impetuously, misread facial expressions, and succumb to peer pressure (Siegel 2011). Neurological and hormonal upheaval can lend a quality of self-obsession to young adulthood, a tendency that can usefully facilitate introspection. The integrative potential of the pause may therefore be particularly potent.

One silver lining of hot topics is that they heighten students’ curiosity—not only about content but about the emotional and social dynamics they spark. Instructors can tap the potentially synergistic relationship between these two domains of curiosity by inviting students to integrate their subjective experience into content-driven learning. A well-structured pause helps students to consider, for instance: why they think as they do; what

they want to be true; what this reveals about their values; how their bodies respond when others disagree with them or when they articulate their own opinions; what (if anything) persuades them; what they are inferring from facial expressions, etc. In a nutshell, the pause literally helps students' brains to self-integrate. In the presence of strong emotions, studying "hotness" itself can foster a paradoxical sense of trust: no one owns the patent for amygdala hijack or cognitive bias.

All of this has powerful implications for social learning, civil discourse, and collaborative action. Reframing disconcerting views as puzzles to be solved rather than enemies to be defeated engages the prefrontal cortex, thereby bringing the unconscious aspects of learning into the light of consciousness. As Zull (2002, 64) observes, when we become genuinely curious about viewpoints contrary to our own, we become less judgmental; as others perceive this, their sense of threat tends to decrease.

Even the most maddening positions can be approached in this manner. For instance, we might study "alternative facts" to find their moments of truth, along with the very real narratives and emotions behind them. This does not entail believing them but it might mean understanding them more deeply. Nor does does wider perspective foster inaction. Quite the contrary: pausing is an excellent antidote to the flailing impulse to act reflexively.

"Don't just do something, sit there."

The mounting socio-ecological multi-crisis looms as the problem of all problems. Consequently our courses tend to focus on the many tentacles of the crisis, lightly seasoned with a few success stories like the ozone treaties. The overarching message is often one of urgency and alarm, although this message is increasingly tempered by solutions-oriented

research and hands-on learning experiences. This makes sense: we certainly want our students to be good problem-solvers and, given what they are learning, they are hungry for solutions. Yet, reflecting the larger culture, they gravitate toward individualized solutions. The “solutions” abound: Go vegan! Shorter showers! Or, for the technophiles: Electric vehicles! Algae biofuels! Geoengineering! Or, for the few with a stronger political bent: Cap and trade! Carbon tax! Reform the WTO! When faced with a problem, the strong propensity of the human mind is to generate solutions—all the more so under great urgency. Yet the problem (sic.) with acting upon the “fix-it” impulse to the “wicked problems” of the Anthropocene is that many “solutions” are too partial or end up generating more problems. Inadequate solutions follow inexorably when we fail to truly understand the deeper nature of a problem and/or the unintended consequences of our actions.

Nonetheless, every good teacher wants to help their students learn to approach problems in general, including global environmental problems, with self-awareness, focus, patience, discernment, empathy, integrative thinking, and imagination—none of which is likely to be enhanced by a “fix-it” mentality. Indeed, the rush to “solve” a problem may well be a defense against the discomfort of “not-knowing” inherent in taking the time to see deeply its genesis and character. Problem-solving generally begins with a period of open-ended receptivity in which one simply takes stock of the problem. Seen from this light, contemplation takes on a more practical hue: the more complex the problem, the greater the need for stepping back and taking stock.

In many ways, the Anthropocene presents us with the problem of all problems for the following reasons:

- It was a colossal accident.
- It is a consequence of the everyday life choices of over seven billion people.
- These choices are strongly driven by an amalgamation of psychological and institutional forces with deep historical and even biological roots.
- The everyday actions of a few of us are far greater drivers than those of most us, but our lower-impact members are quickly adopting the habits of the affluent.

Taken alone, each of these factors presents a conundrum; taken together, they cry out for deep inquiry into the peculiar place of the *anthros* in the scheme of things. The dawning of the Anthropocene seems to compel us to ask ourselves not only, “What on Earth are we doing?” but even more fundamentally, “What on Earth *are* we?” If nothing else, the new geological era highlights our species’ paradoxical relationship to the rest of creation. While these questions can be illuminated by the social sciences and humanities, so too can we investigate them through personal and interpersonal introspection. For our complicity in the Anthropocene implies that each of us must answer the question, “Who am I in relation to this?” Whether or not we as college instructors are sensitive to this implication, we can be sure that if our students are not asking this question of themselves then they are, along with much of the culture, engaging in some fancy footwork to evade it. The very magnitude of the problem and its undeniable biophysical dimensions tend to transfix our gaze outwardly, yet coming to understand the *anthros* must surely also entail looking within.

Many environmental studies courses introduce students to a big-picture formulation of “the problem” by means of “I=PAT,” where environmental impact is measured as human population, their level of affluence, and the kinds of technology

deployed. When students come to see that the average American consumes as much as fifty sub-Saharan Africans and that the acquisition of more energy-efficient technologies typically leads to higher levels of consumption, they soon recognize that the 'A' factor is the crucial variable in the equation. This is not to say that curtailing our numbers and utilizing more environmentally friendly technologies are unimportant; it is only to say that any gains from these measures are likely to be—and currently *are* being—swamped by the apparently insatiable 'A' factor. If globalized, a process that is well under way, the American (Canadian or Australian) lifestyle would require six Earths.

We might therefore conclude that consumption is the primary problem, but this begs the larger questions of consumption's deeper political, social, economic, and psychological roots. Many courses, no doubt, delve into these larger questions but they tend to approach 'I=PAT' as if the variables and their product were occurring solely "out there" in the material world or in abstract intersubjective cultural or institutional arenas. As important as these arenas are, they leave out the inner dimension of the myriad everyday choices that permeate consumer society. Most crucially from a pedagogical perspective, they leave out the vitality and intimacy of our students' lived experience, who are on the cusp of becoming full-fledged members of consumer society. Indeed, a primary function of a college degree is to improve their prospects on the job market. Our environmental studies courses therefore place our students in a highly awkward relationship with their own lives. In the context of the Anthropocene, the not-so-subtle message is that our students themselves—along with the rest of us in the affluent world—are the problem. The natural response is guilt or, for those with a low tolerance for guilt, evasion. This dead-end of a conclusion—that we are the problem—is certainly one way of

“bringing the material home,” but not one that most of us would actively choose. Yet if we are not sensitive to our students’ lived experience, this is precisely where our courses land.

There is a powerful truth to the recognition that we are the problem, one that need not end with guilt and evasion, for this recognition is simply an awareness that our soft-skinned brainy species has unwittingly begun to unravel its own life-support systems. For those of us in the affluent world, this comes with an awareness of being most privileged, most culpable, and most reliant upon the ceaseless work of unseen others. Seen from this vantage point, we can view ourselves not so much as cancerous scourge but as an intriguing puzzle, a riddle whose solution must emerge from a place beyond business as usual. Surely a puzzle of this depth is antithetical to a quick fix; surely it is worthy of earnest contemplation. And surely, since we are (despite our varying levels of privilege and culpability) in the same boat, our reflections should have an intersubjective dimension—all the more so because the truly effective responses will be matters of collective action. As Michael Maniates argues in the next chapter, the challenges of living on “a new earth” must be addressed politically and structurally. Contemplative inquiry is therefore the yin to the yang of collective action.

Given these parameters, our classrooms offer an ideal field of practice. If we have the courage to enter into the space of not knowing and the patience to accompany our students as they take stock of the problems, which includes facing the riddle of ourselves, then their “solutions” will be far less likely to be the veiled evasions that spring from a “fix-it” mindset. As our students grapple with “who am I in relation to this?” they need not lose their capacities for objectivity, analytical thinking, or pragmatic action; they simply add to

these an enlivened capacity for introspection and integrative thinking. In so doing, they learn to bring their whole selves to the world's pressing problems.

Who Am I in a Changing Climate?

This exercise aims to develop students' capacities for self-awareness and integrative learning. I generally offer this fifteen-minute exercise at the end of an 80-minute class period. This gives students who do not wish to participate the opportunity to leave. Over the years, I have found that a few leave but nearly all choose to participate. If there is time at the end, I like to bring the exercise into the intersubjective space either by "taking the collective pulse" or inviting students to share something they learned with a neighbor.

Sit in a comfortable yet alert position. You may wish to close your eyes. If you leave them open, please have them downcast so as not to make others feel uncomfortable. Feel yourself in your chair and take a couple of deep breaths as you settle.

We have spent the last two weeks studying climate change and learned that there is a strong scientific consensus that our Earth's climate system is being destabilized by human activity. Take a moment to let this information sink in. Notice what happens in your body as you sit with this information. Simply observe.

We also learned that people in developing countries, people who are already living on the edge but whose greenhouse gas emissions are minimal, will bear the brunt of the impacts. Again, notice your sensations and emotions as you sit with this information. Just notice. If your mind wants to run in another direction, just notice and breathe.

We've also learned that some people's lifestyles are responsible for emitting far more greenhouse gases than others. As Americans, we emit (on average) about four times the global average. Again, sit and watch whatever arises.

Now breathe into your belly and simply relax. There's nothing you need to do, nowhere to go. This is your time to simply be. [Pause] Into this empty space, allow yourself to return to these big issues around climate change, and introduce the question very gently but with a clear focus: Who am I in relation to all of this? Introduce the question into the silence: Who am I in relation to global climate change? And simply observe what arises, and take note. [Repeat this a few times]

Consider that the world you are entering as a young adult is very different from the world of any previous generation. Our species has embarked upon a planetary experiment and you will be living in the results of that experiment. Who are you as you enter this world? [Pause] Just welcome whatever comes as a guest: images, emotions, ideas, sensations. Simply be an open field of perception, asking yourself who you are in a changing climate. [Silence]

As you prepare to bring your focus back to the classroom, take note of what has transpired. [Pause] Now take a breath and open your eyes slowly. Take a few minutes to gather the harvest by writing some notes to yourself.

How do students respond to such an unconventional use of class time? Because most of my teaching is in large lectures, I have little opportunity to interact with students on a one-to-one basis. I therefore do anonymous electronic polling to get their feedback. The following responses are typical:

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| 1) This exercise was not a good use of my time. | 4% |
| 2) I feel neutral about the exercise. | 2% |
| 3) I was grateful for the respite from my harried life. | 60% |
| 4) I gained significant insights into myself in a changing climate. | 34% |

Even more gratifying are the personal responses. One student who had never spoken in class told me after “Who Am I in a Changing Climate?” that he now knew that his calling was to teach environmental science to children in the primary grades. Another told me that he recalled early childhood memories of living in a Mexican village before his family moved to the U.S., and that he now knew that something in him knows how to live sustainably. Perhaps the most predictable result of these practices is that I am always surprised.

Becoming Human in the Anthropocene

A good communicator must take into account the context of her audience, a requirement no less necessary for college instructors than other public speakers. Our students have grown up during the warmest two decades in recorded history, a time that represents the hinge-point when our home planet left behind the 10,000-year “sweet spot” in which human civilization emerged and eventually became a geophysical force. For our students, who literally inhabit a different planet from the one on which we came of age, the question of who they are in a changing climate is a vital one—even if the dominant culture would have

them ignore it. Yet when teaching about topics like climate disruption or species extinction, our scholarly proclivity is to present abstract data about ominous trends without acknowledging the existential challenges they present. Indeed most graduate training prepares us for little else, potentially rendering us technically competent in the classroom but emotionally inept. If we fail to accompany our students as they walk through the anguish that arises in the face of an honest assessment of the facts, we do our students and ourselves a disservice. We are therefore called upon to balance cognitive learning with more open-ended modes of inquiry that foster emotional intelligence and self-awareness. In my experience, the personal rewards of responding to this call are tremendous—not least of which is a sense of coming home to our own basic humanity.

Having watched my students struggle with fear, anger, grief, guilt, and despair—and having personally grappled with them for decades—I have learned to value these dark emotions as potentially powerful catalysts. Without turning the classroom into a group therapy session, I like to end my lectures with a few minutes of personal reflection and sharing. The overwhelmingly positive response from the students confirms what most of us already know: in the absence of emotional engagement, cognition alone can be a dry and disempowering exercise. According to public opinion polls, most people *know* that the climate is changing, but do we allow ourselves to truly *feel* it? Or do we tend to distract ourselves, much as we avert our attention from our own mortality? If we truly *felt* the magnitude of the facts, would we continue with business as usual? Even putting aside our responsibility to the external world, what of our inner life? What does our psychic numbing desecrate within ourselves? In repressing our anguish which, after all, is rooted in our care for the world, we simultaneously undermine our capacity for effective action and deaden

our own hearts. While *apathy* is typically taken to mean a failure to act, the term actually denotes a *failure to feel*. Given that a crucial role of emotions is to generate motion, a failure to act may follow as a natural consequence the failure to feel.

As we all know, though, action impelled solely by emotion tends to be reactive and counterproductive; nor do our cognitive capacities alone necessarily supply the missing ingredients. Appropriate action does not follow from simply adding a dollop—or even a generous helping—of reasoning, critique and analysis to feeling. Rather, effective action in the face of thorny problems requires a willingness to “just sit there” with uncomfortable facts and emotions rather than cogitating upon a solution or rushing into action. In our extroverted and action-addicted culture, this pause may seem like a waste of valuable class time. As instructors, our information-laden minds may have to fight the impulse to fill up the space. Yet our willingness to allow the students to “just sit there” and observe their emotional reactions to the course material sends a host of subtle but powerful messages.

First, by acknowledging our students’ subjective reactions to our course material, we convey a sense of empathy and an attitude of respect for their wholeness, thereby fostering these qualities within and among themselves. Since we cannot base their grades on their emotional authenticity or capacity for inner silence, we send a discreet message that we value something about our students beyond their academic performance. In my experience, as students tend to engage more wholeheartedly with the material as they release their obsession with grades. Without ever saying as much, we are communicating in a visceral way that something far more important than their GPA is at stake. For those of us whose training was solely cognitive, bringing our empathic and intuitive qualities more directly into our teaching can also contribute to our own sense of wholeness.

Second, as our students learn to acknowledge and bear their own anxiety, sadness, fear and confusion, they operate with greater ease and confidence in the world. Paradoxically, sitting with uncomfortable facts and emotions tends to generate insight, resolve and empowerment. Or perhaps this outcome is not so paradoxical, for any psychologist worth his salt will tell us that the dark emotions are most harmful when they are ignored (Greenspan 2004). Is it any wonder, then, that in a culture dedicated to “the pursuit of happiness” (very often through consumption) we have an epidemic of depression? Most of us are—and quite literally so in a car culture—driven to distraction. Yet, if we peel away the veneer of so many of our pursuits of happiness and observe ourselves carefully, we see that most of us are perpetually running from the present moment. Turning a blind eye to the existential questions that arise in response to global environmental problems is just one strand in this vast machinery of evasion and complicity. The denial of our feelings about our perilous entry into the Anthropocene may be just as problematic as the “climate denial” movement. Is not the majority who passively accepts the reality of climate change and goes about its business as disconcerting as the minority who actively denies it? Or perhaps these two seemingly antithetical positions are rooted in a common aversion to painful emotions—in one case through denying their factual basis and in the other through approaching the facts through cognition alone. In this context, to “just sit there” and steep in self-awareness in the face of world-awareness becomes a radical act. When we reconnect with life by willingly enduring our pain for it, the mind regains its clarity and generates new possibilities for relational living and creative action. As Michael Maniates argues in the following chapter, exiting the place of hopelessness is not difficult once we know we are in it. I would add that when we

encourage our students to not only know that they are in a state of despair, fear, anger, or guilt but to actually experience and name these emotions in the classroom, we erode some of the psychological and cultural structures that foster hopelessness.

Third, we send a subtle but powerful message by having the courage to step outside our expert personas and enter into the spaciousness of the pause. We thereby model a willingness to not know. From the standpoint of our professional training and our students' grades, this state of not-knowing might appear as dangerous or absurd. Yet if we are honest with ourselves, we must agree that this state is likely to become increasingly relevant—for better or for worse—as we move more deeply into the *terra incognita* of the Anthropocene. As valuable as our climate models, UN forecasts and other predictive tools are, the stark reality is that we live in a mind-bogglingly complex world that defies prediction. We know the climate is changing, but the specifics (which are, after all, where life is lived) are unknowable. We know that “climate surprises” are inevitable, but surprises are by definition unpredictable. We may know that much of the web of life will be extinct in a few decades, but we don't what this will mean for our lived experience. Nor do we know what it means to live in the Anthropocene: will humans take charge of the planet or is this a hubristic fantasy? In the face of all of this, one of our primary jobs is to model ‘not knowing’ not merely as a vacuous respite from the hard facts but as an earnest dive into self-awareness and focus. As Aldo Leopold observed decades ago, “One of the penalties of an ecological education is that one lives alone in a world of wounds.” The wounds have only deepened since. The future is dark—both as unknown and perhaps undesirable. We cannot retrieve what has been lost, but we can bring our whole selves to what is here.

Mindful Mall-Walking

Given consumer culture's deep reach into our psyches, a ready channel for person/planet politics involves working with the impulse towards acquisition. In this out-of-class exercise, I ask students to take a solitary thirty-minute stroll through a shopping mall while attending to their emotional and somatic experience, followed by twenty minutes of journaling. Below is a rough sketch of the assignment.

Please block out an hour (not including travel time) for this exercise. Go to a shopping mall alone with no intention of buying anything. Bring a timekeeping device and set it for thirty minutes. Then simply walk slowly enough to be able to attend to both whatever draws your attention and your own reactions. If you find yourself walking slowly and aimlessly, you're probably getting it right: the point is to have no agenda beyond observation. The following prompts can serve as anchor points:

- Notice not only sights but also smells and sounds.
- Notice what you like and what you don't like, including your perceptions and judgments about the people around you.
- Notice which shops draw you in, which items attract your attention, and whether it is difficult to shift your attention elsewhere. What happens in your body?
- Notice your breath: is it shallow or deep? Notice your body: are you comfortable or uncomfortable?
- Notice when your mind wanders beyond your immediate experience. Where does it go?

At the end of thirty minutes, find a place to sit down and write. Write spontaneously about your immediate experience and any insights about yourself and/or the world. This writing will not be graded; it is for yourself.

The students later share their experiences in small-group discussions and, depending upon the course, draw upon those experiences in a short paper on the politics of consumption. Students report a range of reactions to this combination of acute visceral experience and the sharing of these experiences in peer groups: insight, embarrassment, empathy, frustration, guilt, gratitude, etc. All of them report learning something important about themselves and/or the world. From the intensity of their papers and conversations, I can see that the exercise helps them to come alive.

Coming to Our Senses

The human animal is a splendid oddity: the species with the capacity of separating itself from whole—at least in our own minds. The very term *environment* assumes that separation. In just a blink of geological time, industrialized societies have enacted a story of separation, altered the face of the Earth, and brought the Cenozoic Age (from the Greek, the age of “new life”) to an abrupt close. Barring a drastic change of course, the Anthropocene looms as an age of the impoverishment of life. Ironically, however, the story of separation carries within itself the seeds of its own demise, for the message of collapsing ice shelves and the unraveling web of life is that we are decidedly not separate. Oddly enough, this is also the message of modern science: that we are the astonishing result of nearly fifteen billion years of cosmological evolution and five billion years of terrestrial evolution. The so-called autonomous individual is inextricably reliant on a vast web of external ecosystems and internal microbial networks. Yet, as much as we might *know* this, for most of us our everyday lives are radically out of harmony with the community of life. If our lives are out of sync with reality, then practices that allow us to step outside of our habitual grooves become all the more important.

Fortunately, we have available at every moment a window into present-moment awareness: our own sensory perception. “Mindfulness” practices like observing the breath enable us to shift from “doing” mode to “being” mode and, in so doing, to potentially witness our mind’s compulsive activity rather than being swept up in it (Sega et al, 2012). When my students walk mindfully through a shopping mall, for instance, their sensory awareness serves as an anchor that enables them to become aware of their impulses without acting upon them. Their internal experience often becomes more compelling than

the consumer goods. As they walk through the mall, the students frequently report a surprising sense of calm. This confirms psychologists' finding that "mindful attention prevents mindless impulses" (Sega et al. 2012). Physiologically, mindfulness practices enhance the responsiveness of the parasympathetic and sympathetic nervous systems, thereby generating a simultaneous sense of calm and heightened attention. This state is proving to be of great value in reducing stress and healing a range of psychological problems, including addiction, trauma and depression (Sega et al. 2012). This state of relaxed attentiveness also turns out to facilitate learning—including in college classrooms. The Association for the Contemplative Mind in Higher Education has assembled a rich collection of practices in disciplines from architecture to astrophysics—including environmental politics. Paul Wapner's webinar, "Contemplative Environmental Studies: Pedagogy for Self and Planet," offers a straightforward rationale for integrating contemplative practices into classroom (2016).

Sustainability education is particularly amenable to contemplative inquiry. Its implicit critique of the growth imperative invites both a stepping back from impulsive consumption and a deep inquiry into the *anthros*. The special role of somatic experience in contemplative inquiry points to another connection: as organs of perception, our bodies (being literally *of the earth*) mediate between Earth and mind. While science tells us this, few of us deeply consider it, much less translate it into lived experience.

The breath, for instance, can be a gateway to a profound experience of interdependence. At the end of a three-week study of global atmospheric politics, for instance, I lead a guided meditation called "Living in *Eairth*." As David Abram notes, we do

not so much live *on* Earth as *within* its atmospheric membrane. With each breath, we inhale molecules that have been breathed by countless creatures, and with each exhalation, we emit a minute quantity of carbon dioxide to be taken up by plants and minerals. The simple act of conscious breathing invites one into a visceral experience of living in the circle of life. As important as it is to understand the *logic* of sufficiency, having the flesh-and-blood *experience* of sufficiency is of a different order.

Food offers another such opportunity. Integrative thinking is a key learning objective in my upper-level lecture course, “Political Ecology of the World Food System.” Much of the course is designed to “reveal the hidden” in the world food system: hidden costs, hidden ecological impacts, hidden relations of power and authority, and hidden surprises. Contemplative practices help the students to step back from the facts and analysis into a more spacious and connective approach to the material, and the visceral experience of food facilitates this experience. Students are far less likely to forget the commodity chain of cocoa or corn, for instance, if they are holding a piece of chocolate or popcorn in their hands as they learn. Equally important, the experience of eating food mindfully is inherently valuable. Students have told me that they had never really tasted a raisin or a strawberry before.

The Hidden Life of a Strawberry

This exercise illustrates some key concepts from my world food politics course— food justice, food webs, complexity, and unintended consequences. I ask the students to refrain from eating the freshly picked organic strawberries my TAs distribute as I show a few photographs. “El cortito,” the infamous short-handled hoe now outlawed in California, highlights food justice. A gray, fuzzy strawberry shows the fruit’s vulnerability to fungus. A graph of global use of methyl bromide, a powerful ozone-depleting anti-fumigant used by the strawberry industry, reveals a huge unintended consequence of conventional strawberry production. If soil fungus is the problem, then perhaps farmers should put plastic bubble-wrap over their soil and install powerful electric fans to circulate air between the plants. Sounds far-fetched but a photo of a high-tech wind tunnel demonstrates the practice. Ingenious technological fix, I note, but what about the hidden energy costs? One last photo: the local organic farm where I purchased the berries that morning.

By now, the students are primed for a contemplative experience. I invite them to perceive its color, its shape, its texture, to get curious about their berry, to wonder how it was grown, by whom, with what consequences. I then invite them to eat the berry, noticing whatever arises. After a couple of very quiet minutes, I raise the lights and take the collective pulse. The single-word responses come flowing down the room: overwhelmed, delicious, guilty, amazed, confused, connected, disconnected, grateful.

In one class that met just before the lunch hour, the final one-word response, “hungry,” made the room erupt in laughter. In such a moment, I had to make a quick choice: to let the energy dissipate or bring it back into focus. I opted for the latter by asking who heard their own experience in someone else’s words. As always, nearly every hand went up. I then invited them to take two deep breaths to help digest the experience, restoring the sense of calm focus before the end of class.

Time spent in contemplative inquiry makes for shorter lectures, which means there are important tradeoffs to consider. Were the twelve minutes exploring the hidden life of a strawberry an effective use of classroom time? Were I primarily interested in conveying information, probably not. From a conventional pedagogical perspective, jumping from farmworker justice to soil fungus to the stratosphere is a confusing and scattered approach to world food politics. But I was more concerned with my students' capacities to think systemically and sit with uncomfortable emotions—not the least of which was the temptation to eat the strawberry—than their ability to memorize facts and concepts. I was betting that the visceral experience of the strawberry along with sharing one well-chosen word would enhance these capacities.

Making a Creative Response

When asked how to meet the mounting global environmental crisis without succumbing to despair, cultural historian Thomas Berry reputedly replied, “Make a creative response.” A truly creative response to the Anthropocene would be one that moves beyond our habitual patterns of thought and action—beyond clichés, short-term remedies and technological fixes. Neuroscientists and cognitive psychologists increasingly point to “the pause” as an essential ingredient in the creative, imaginative process. Perhaps the most obvious example from everyday life is the regenerative value of sleep, a prerequisite to our sanity and our survival. In a sense, contemplative practices offer a form of conscious rest. By disengaging the mind from its habitual grooves through attending closely to the present, contemplative inquiry reorients the mind to the freshness of the moment, thereby

opening the imagination to that which has not yet been imagined. By fostering personally relevant understandings of how everyday experience is rooted in global ecological and human systems, instructors can literally bring the curriculum home and open up new possibilities for introspection and moral responsibility.

The inwardness of contemplative inquiry, however, is most likely to generate a truly creative response when it is carefully balanced with a return to the intersubjective space of dialogue with others. Otherwise, the subjective pedagogical turn runs the risk of reinforcing a highly problematic tendency toward the individualization of environmental responsibility (Maniates 2004). In the example above, for instance, the strawberry in hand helps to turn the students' attention back to their own experience. Yet the challenges raised (How are most berries grown for market? What about the use of methyl bromide and bubble-wrap wind-tunnels?) cannot be resolved at the level of individual action and lifestyle choices. Each of these systemic questions must ultimately be answered in the polis, the inter-human arena of collective action, and not merely at the check-out counter or in the household. It is therefore crucial that classroom practices transcend individual subjective experience; otherwise, they run the risk of reinforcing the solipsistic proclivity of an individualistic culture. Meeting the challenges of the Anthropocene will very likely require new modalities of both individual and collective wisdom.

A first step in making a creative response, whether for the individual and the collective, is to envision new possibilities. If we cannot imagine a viable future, then we are unlikely to create one. As the economist Kenneth Boulding said:

The image of the future...is the key to all choice-oriented behavior. The general character and quality of the images of the future which prevail in a society is therefore the most important clue to its overall dynamics. The

individual's image of the future is likewise the most significant determinant of...personal behavior (1973, quoted in Eaton et al. 2016).

Contemplative inquiry opens up the space for envisioning new possibilities—not by rushing to fix the problem or projecting one's conditioned thinking into the future, but rather by being fully present to the fecundity of not knowing and thereby opening oneself to fresh perceptions and insights.

The following exercise, "Self as Seed," is designed to help students in my food politics course develop the sustained attention and basic confidence that make for a genuinely creative response. This inquiry serves much the same function that "Who Am I in a Changing Climate?" serves in my global environmental politics course: to encourage my students to contemplate their entry into full adulthood in a complex world. Although I never say so explicitly because I want them to trust their own experience over my interpretations, this particular somatic exercise can also elicit a visceral sense of being "of the Earth" and therefore being capable of accessing one's innate earthly intelligence.

Self as Seed

Towards the end of my world food politics course, I guide the students through a number of contemplative exercises around food as metaphor. At the end of my lecture on the global politics of seeds, I guide them through a somatic experience of themselves as seeds.

I first point out that in some languages, the word for 'seed' is the same as the word for 'intention.' This being an upper-level course at the end of spring quarter, I then ask who will graduate either this year or next. Nearly every hand goes up. I ask them to keep their hands up if what they will do after graduation is on their minds. Nearly every hand stays up. I offer them Frederick Buechner's words to the effect that one's calling is the place where one's deep joy meets the world's great hunger, a place we might consider as our core intention that we plant in the world's soil. I then darken the room and ask the students to stand with their eyes closed or downcast in order to attend to their inner experience.

"Consciously plant your feet on the ground. Feeling your weight evenly distributed across the balls of your feet and heels, observe the effect of gravity on your body. Feel the weight of your tailbone and your center of gravity somewhere in your lower abdomen. Notice what happens if you imagine yourself as sending your roots downwards. Standing with relaxed yet alert attention, notice the sensations.

"Now imagine the top of your head lifting subtly towards the sun. Relax your breath. Notice the simultaneous downward pull of gravity and the upward attraction to light, much like a germinating seed. Enjoy the simplicity of consciously planting yourself on the Earth.

"Without losing your focus, take your seat. As you plant your butt on the seat, notice the sense of relaxation downward. Again, imagine your roots reaching down from your feet and tailbone. Consider that the Earth's gravitational field determines your roots' directionality. Astronauts report that a seed germinated in outer space sends its roots out in all directions. So from the moment of your birth until the moment of your death, gravity orients you. And by telling you which way is down, gravity also tells you which way is up. With relaxed yet alert attention, notice the feelings in your body.

"Now, once again imagine the top of your head lifting subtly towards the sun. Relax the breath. Notice the downward pull of gravity & upward attraction to light. Enjoy the simplicity of the sensations. Into the silence, ask the question: "What is my intention? What am I seeding? Where am I planting myself? Observe what arises without judgment and without getting lost in any stories that might come up: simply listen and feel.

"Now slowly open your eyes and take a few minutes to gather the harvest by reflecting quietly or writing." A natural way of reestablishing the cohesiveness of the group is to "take the classroom pulse."

Rules of Thumb

The deliberate pause is not a magic potion; rather, it is an adventure. Like any journey into the unknown, it comes with risks. Teaching is a social act, which means that our performance anxiety can be heightened when we invite students to engage in unconventional classroom behavior like closing their eyes or attending to their emotional and somatic experience. On the basis of practice, I offer the following guidelines:

- Formulate a clear intention for student learning.
- Be sure to leave adequate time, which might mean less time for content.
- Lower anxiety by acknowledging that the pause will not be graded.
- Consider turning the lights off; at a minimum, request that students not look at one another.
- After the pause, engage the intersubjective space while respecting privacy.
- Get students' anonymous feedback electronically outside of class.
- Be creative and open to surprise.

Most importantly, we need to model the kind of self-awareness we wish to foster. Changing our teaching therefore requires building our own new neural networks.

Conclusion

According to developmental leadership researcher Sharon Parks (2016), the threshold of adulthood is marked by the cultivation of critical thought and a corresponding recasting of one's relationships, including one's relationship to authority. This entails an intellectual

and emotional journey from dependence upon assumed authorities, which in turn entails relentless inquiry and discernment: What is true and worthy of trust? Who am I really? What matters? In what and with whom can I invest my life? By what narratives do we live and die? In taking responsibility for her own thinking, an emerging adult ripens to the task of composing “a worthy dream” for her life. For Parks, emerging adulthood is a “stem-cell moment in human becoming.” At this critical juncture between conventional knowing and critical-connective thought, a strong mentor can serve as a “developmental lure.”

But what does it mean to come of age when prevailing institutions, practices and values are unraveling the tapestry of life? And what does it mean to serve as a mentor under these conditions? No doubt, we as instructors have a responsibility to teach the relevant facts, concepts and theories, but in our capacity as mentors we are also called upon to attending to their larger experience at the threshold of adulthood. In the arena of contemplative inquiry, the point is not so much to have the right answers but to have the courage to *not know*, the skillfulness to help guide our students into the depths of their own experience, and the compassion to abide with them there as their native wisdom unfolds.

Faced with mounting socio-ecological instabilities, humanity may well be on a collision course between our ancient habits and our economic and technological success—a trajectory perhaps most visible in the political domain. Fortunately, our ancient habits can be changed. Our students’ capacity for integrative thinking, holding multiple perspectives, tolerating uncertainty and ambiguity, and working with difficult emotions will be essential to answering the vital issues of the 21st century.

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