

# The Case for Awe in Teaching Big History

## by Neal Wolfe

In the 1950s and '60s radio and TV series *Dragnet*, when seeking information to help solve a crime, Sergeant Joe Friday famously admonished the people he was interviewing to stick to “just the facts.”<sup>1</sup> “Just the facts, ma’am.” Inevitably, he succeeded in catching the bad guy, and his no-nonsense, facts-only approach was perfectly suitable for police work, at least of the popular culture variety. The Big History narrative is the ultimate in factual approaches; after millennia of constructing creative, often rather fanciful stories to explain how the world began, and how humans entered the picture, we finally are able to construct a science-based account of the origin and development of the universe, rendered as objectively as possible. It is rife with facts; indeed, for those of us who teach Big History, a rather daunting challenge is to whittle down the number of facts in order for it to not seem to take

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<sup>1</sup> This paper was first delivered with the same title at the inaugural conference of the International Big History Association (IBHA) at Grand Valley State University in Grand Rapids, Michigan, August 2-5, 2012.

13.7 billion years just to tell the story. But Big History involves so much more than “just the facts.” For our students, and we, are human beings, learning about and sharing in not only the telling but the ongoing construction of the narrative, and as human beings we are responsive—the story moves us, shapes us, and at times, awes us.

So, should the teaching of Big History concern itself strictly with the scientific, fact-based account of universal and human development? Or should we also address—and cultivate—our human response to this most extraordinary account? Is it not our subjective experience, about which science can say little, that provides the basis for our shared humanity? The mere fact that we humans, flawed as we are, have reached a point in our evolution where we can comprehend the universe as a whole and are able to construct a reasonable explanation of its workings, is truly profound. Reflecting on this realization alone can evoke a response unbound by the knowledge that fuels it.

I have used the word “awe” to describe the response that often is experienced when we contemplate the astounding features of the universe, such as the Big Bang, the nearly incomprehensibly vast scale, and our relationship to the life cycle of stars. It could also be called amazement, or wonderment. I am more concerned with the *experience* than I am with the terminology used to describe it. The philosopher Martin Buber spoke of the awe-filled experience as the falling away of the distinction between

I and Thou, or one might say between the observer and the observed. Buber used the example of a tree. When we look at a tree we can see just a tree as a distinct object separate from ourselves, as is customary. But sometimes, if we are patient and quiet and open, the distinction between self and tree dissipates, and we are subtly drawn into relational unity with the tree.<sup>2</sup> When this happens as we contemplate, say, the overwhelming magnificence of the night sky, we lose our habitual sense of individuation and are drawn into the experience of being part of that which we contemplate.

The experience of awe to which I refer is not necessarily a religious one—at least so far as religion as an organized set of beliefs goes. Instead, I am addressing an experience of amazement in the face of an overwhelming stimulus—the night sky, our understanding of the immensity of the universe, the realization that if all the strands of DNA in a human body were strung end to end, the resulting thread would stretch to the sun and back as many as seventy times! The response to these stimuli is fueled by knowledge about them—such as that when we gaze upon the starry firmament we are looking back in time millions of years!—but it does not require a religious

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<sup>2</sup> Buber, Martin. *I and Thou*. New York: Scribner's, 1958, 19. Print.

interpretation, even though it may lead to one for many people who bring that conceptual framework to the experience.

A word about the very relevant and sometimes contentious relationship between Big History’s scientific account and religion, and how it relates to the question of awe. Despite their differences in approach, both science and religion seek the same end, and both spring fundamentally from the perceived mystery of existence. What accounts for the existence of the universe? Both science and religion seek to answer this most *problematic* of questions. Ultimately, neither can succeed, in my view. No matter how many layers of mystery are removed by science, whatever remains is still stumped by the simple question, “Why this?” Why is there anything at all, rather than nothing? A religious belief in a creator as the First Cause runs into a similar problem. How did this creator come into being? What is the evidence? In the end, what’s left is the mystery—a wondrous, awe-inspiring mystery at the heart of all that exists. No matter which side of the balance one tends to favor—science or religion—our account of the universe’s origins, development, and marvels leaves us in amazement. The Big History narrative, in addition to its many other significant educational features, provides a perfect opportunity to engage our students in that amazement. And we, as educators, can encourage their amazement by modeling our own.

Scholarly research into awe as an emotional state turns up some interesting observations. Dacher Keltner and Jonathan Haidt assert two fundamental features present in all cases of awe: perceived vastness and accommodation. Vastness applies obviously to such things as the immensity of scale of the universe, a central interest of Big History, but also to anything that appears larger than the self, or the self's ordinary frame of reference. This includes unequal social status, such as awe of royalty and fame, seen today in our cult of celebrity. For the purposes of this discussion, we are concerned primarily with the former, vastness as it applies to physical space and the wonders of the natural world, although the authors have fascinating things to say about the relationship between awe and social status, to which I will return. The second characteristic of awe identified by Keltner and Haidt, accommodation, refers to the necessity of “an inability to assimilate an experience into current mental structures.”<sup>3</sup> When we gaze at the night sky with interest, we are easily dazzled by what we behold; when our gaze is informed with *knowledge about* what we are seeing—how stars are formed, how far away they are, how we are looking millions of years into the past—such as students develop in our Big History classes—our amazement deepens. When we reflect that we owe our very existence to the life cycle of stars—

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<sup>3</sup> Keltner, Dacher, and Jonathan Haidt. “Approaching Awe, a Moral, Spiritual, and Aesthetic Emotion.” *Cognition and Emotion* 17.2 (2003): 297-314. Print.

that we are, in a very real sense, “stardust”—a measure of awe arises quite naturally.

How do we grasp this understanding in any ordinary sense? We are overwhelmed, and must conceptually accommodate something so grand it shakes us from the relative lethargy of our habitual everyday sense of who and what and where we are.

Of particular interest to us as Big Historians, Keltner and Haidt assert that what we call awe is one of the “primordial emotions,” the “hard-wired pre-cultural set of responses that were shaped by evolution and built into the central and peripheral nervous systems of the human species.”<sup>4</sup> This particular emotion, they argue, was developed as a response of submission to powerful individuals, a survival trait also seen in other primates. This trait of submission to perceived power, Keltner and Haidt assert, applied even to the relatively egalitarian hunter-gatherer societies, and can be generalized as the basis for our response of awe to other powerful stimuli to this day. So, they say, we are biologically pre-disposed to the emotional state of awe.<sup>5</sup>

In many cases, perhaps most, we experience awe in response to nature, whether at the ocean, in a forest of towering redwoods, or on a mountain peak. In his mid-nineteenth century essay “Nature,” Ralph Waldo Emerson wrote:

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<sup>4</sup> See note 3, page 306.

<sup>5</sup> See note 3, page 306.

Standing on the bare ground,—my head bathed by the blithe air and uplifted into infinite space,—all mean egotism vanishes. I become a transparent eyeball; I am nothing; I see all; the currents of the Universal Being circulate through me; I am part or parcel of God. ... I am the lover of uncontained and immortal beauty.<sup>6</sup>

But of course not all people experience such a sublime reaction to natural beauty automatically. For many, perhaps all of us in some fashion, such a response requires cultivation. So it is with our students. It is a matter of cultivating perspective.

Perspective is illustrated by the following story about two brick layers who were helping to build a church. “A visitor asked one worker what he was doing and he grumpily replied, ‘I’m laying bricks. What does it look like I’m doing?’ The visitor walked around to another part of the building and asked the second worker the same question. This worker stood, looked toward the heavens, and said, ‘I’m building a cathedral to the glory of God.’”<sup>7</sup> What are we doing when we teach Big History—merely laying bricks or building a cathedral?

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<sup>6</sup> Emerson, Ralph Waldo. *Nature; Addresses and Lectures*. Boston and Cambridge: Munroe, 1849, 8. Print.

<sup>7</sup> Elkins, David N. “Reflections on Mystery and Awe.” *Psychotherapy Patient* 11.3-4 (2001): 163-168. Print.

The renowned psychologist Abraham Maslow had a particular fascination with awe-inducing experiences, which he termed “peak experiences”—experiences of being in complete harmony with one’s surroundings. Maslow felt that education should include what he termed “being cognition,” which places learning in the largest possible scale—for Maslow, eternity, or that which transcends the particular. Maslow observed that a student can be taught to recognize the individual notes of a Beethoven quartet, but how does one teach the student to hear the *beauty* of those sounds? To put this insight more specifically in Big History terms, I am reminded of the observation of Catholic priest and cosmologist Thomas Berry, who so simply and elegantly said: “The universe is the only self-referential reality in the phenomenal world. It is the only text without context. Everything else has to be seen in the context of the universe.”<sup>8</sup>

As teachers of Big History, we are telling the profound evidence-based story of how the universe as we know it began, developed, led to our emergence as a species, culminates in the present moment, and continues unfolding into the future. What ramifications does this suggest for our identity as products of the universe? As the

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<sup>8</sup> See note 7, page 166.

poet Walt Whitman put it so compellingly, “Immense have been the preparations for me...I am an acme of things accomplished, and I an encloser of things to be.”<sup>9</sup>

Just consider, for a moment, that as a species that is still relatively young, and clearly has major flaws, we have achieved the extraordinary ability to take a reasonable, scientifically-based stab at explaining how the universe began, how large it is, and how it works!

As if that isn’t enough, consider that, if we accept the Big Bang as a reasonably accurate theory, then everything that presently exists (or ever will) was, implicitly at least, present in the very beginning. This perspective was advanced in ancient religious literature, such as the Bhagavad Gita, the great two thousand year-old Hindu text, where Lord Krishna admonishes the warrior Arjuna, “Never was there a time when I did not exist, nor you ... nor in the future shall any of us cease to exist hereafter.”<sup>10</sup>

While visionaries such as the author of the Bhagavad Gita and Walt Whitman understood these things conceptually centuries ago, by the late twentieth century science essentially confirmed their assertion of non-individuated permanence of all phenomena. I don’t think any adjective can adequately capture the profundity of such

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<sup>9</sup> Whitman, Walt. *Walt Whitman: Complete Poetry and Selected Prose and Letters*. ed. Holloway, Emory, London: Nonesuch, 1964. Print.

<sup>10</sup> *The Bhagavad Gita: The Original Sanskrit and an English Translation*. Trans. Lars Martin Fosse. Woodstock, New York: YogaVidya.com. 2007. Print.

an achievement. We have placed ourselves at the heart of the universal narrative. Such awareness clearly goes well beyond “Just the facts!” We find that that the universe is not just something “out there” that we may know about intellectually—from a student perspective, enough to answer questions on an exam, at least—but that it is what we are *actually* part and parcel of. One of my students put it so simply in a written response to a star-gazing event we held on campus last fall: “I realized that I am a part of something much bigger than myself, my life, and even my planet.” It is very important, obviously, for our students to learn the facts, but is not such awareness just as important? How many of the individual facts will they remember going forward at semester’s end? Especially when Big History is taught as a General Education course, we need to ask ourselves what we are trying to achieve, and how much factual information we can realistically expect students to retain. If they experience themselves as part of a magnificent mystery, which exists on a scale nearly impossible to grasp, whatever facts they assimilate now and in the future will more likely be understood in a much more expansive context.

So how do we apply this perspective in the classroom? How do we engage our students in amazement, in awe, especially when we are not outside gazing into the vault of the night sky, when the experience is a bit more readily accessible? We need to stop and have conversations with our students about their response to what they are learning, and engage them in reflective writing. But more importantly, we need to

be in amazement ourselves and model it in the classroom. Our students are very influenced by us—our tone of voice, our posture, our energy. We must ourselves be in amazement by the profound story we tell. We need to lay our factual bricks carefully and in proper order, while constructing a narrative cathedral that inspires wonder and awe. After all, we live on a planet orbiting a star in a spectacular luminous spiral galaxy 100 thousand light years across!

I'd like to close by calling upon the poet once again, brother Whitman.

When I heard the learn'd astronomer;  
When the proofs, the figures, were ranged in columns before me;  
When I was shown the charts and diagrams, to add, divide, and  
measure them;  
When I, sitting, heard the astronomer, where he lectured with much  
applause in the lecture-room,  
How soon, unaccountable, I became tired and sick;  
Till rising and gliding out, I wander'd off by myself,  
In the mystical moist night-air, and from time to time,  
Look'd up in perfect silence at the stars.<sup>11</sup>

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<sup>11</sup> See note 9, page 250.

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