"Species of Awe"
By John Soderberg (delivered 12/13/2016)

Like many of the good things in life, this essay began on a complacent Sunday afternoon. Paging through the *New York Times*, I came across an article titled "Why do we experience awe?"[1] The premise seemed dubious. Words related to awe seem to be all over the place in terms of meaning. Most commonly, I would use the word to capture the experience of excessively boiled Brussel sprouts: awful. Thanks in part to Sean Penn's character in the 1982 film *Fast Times at Ridgemont High*, my high school and college years filled with "totally awesome" as a reaction to any vaguely notable event. Adjectives such as "great" or "impressive" would have fit just as well. But, Jeff Spicoli's rebel without a clue ethos gave "awesome" a cheerfully ironic sheen. Only pedantic teachers like his Mr. Hand would worry about the contradiction with what we said about Brussel sprouts. I don't remember if any of my teachers made that point, but I certainly remember English classes about Romantic poetry and Art History classes about the Hudson River School pushing forward yet another meaning of awe, another species of awe. This one had much to do with a sense of wonder at something more than beautiful, something sublime. To be honest though, in these classes I never felt literary enough, aristocratic enough, cultivated enough…

During my initial Sunday afternoon reverie, I imagined an essay trying to sort out these contradictions. Is there a progression of meanings over time? Are the different types of awe echoes of some old geographic variation: something akin to the reason that in different places sugary carbonated beverages are sodas, pops, or tonics?

But, then I read the essay. It summarized new cognitive psychology research about the experiences people associate with awe. While they do work from a particular definition of awe, they were more interested in the effects of feeling awe in everyday life than in highly cultivated moments. Instead of awe being just a rare luxury emotion, they argue that it is crucial for a well-functioning society. So, my essay does not pursue the idea that there are species of awe. It pursues the idea that *we* are a species of awe and that we do ourselves damage when we lose touch with the experience, when we enter "awe deficit."

I enjoy etymology too much to leave it behind entirely. Plus, it is also part of the way that psychologists develop their concept of an essential experience of awe. According to the Oxford English Dictionary, the species of awe I chose for my Brussel sprouts dates back to the 19th

[1] *The New York Times* 05/24/2015, Sunday Review section: http://www.nytimes.com/2015/05/24/opinion/sunday/why-do-we-experience-awe.html?_r=0

century as a synonym for frightful or monstrous or disagreeable.[2] Though Jeff Spicoli himself has not made it into the OED, his sense of awe is credited to another 1980s classic: The Preppy Handbook, where it is merely a synonym for terrific or great.[3] The OED judges this usage a "trivial" descendant of "weakened" usage which dates to the 1960s to describe something overwhelming or prodigious: a tennis player winning a least one major title each year for 13 years.[4] The core meaning of awe runs back to the roots of English itself. It sprang from an Old English word meaning "immediate and active fear" (c855).[5] Nearly as early (c950), the word is also used to describe reference for a divine presence. A gloss in the Lindisfarne Gospels uses awe in the context of the boat trip when Jesus asks his disciples why they are so afraid of a storm. As Jesus calms the waters, they respond *Mið ege* (with awe).[6]

By the 19th century, awe became used to describe the influence of a person, object, or place that inspires reverence and wonder. It is this species of awe that Teddy Roosevelt felt upon seeing the Grand Canyon: "The only word I can use for it is awful…awe such as I have never before known." What intrigues psychologists today is how transformational such experiences can be. Shortly afterward, he gave a famous speech credited with preserving the Grand Canyon from development: "Leave it as it is…as one of the great sights which every American, if he can travel at all, should see…We have gotten past the stage, my fellow citizens, when we are to be pardoned if we simply treat any part of our country as something to be skinned for two or three years of use of the present generation."[7]

Reading of this transformational experience, I am embarrassed to have deployed awe on overcooked Brussel sprouts. I'd like to be outraged at the OED's judgement of my age as fostering weak and trivial versions of what Roosevelt felt, but it does not seem inaccurate. Part of what has kept me from an appreciation of Rooseveltian awe is the gap between the emotional rush we all know and the rather bloodless intellectual phenomenon of the sublime. What grips me in new awe research is the ability of cognitive psychology to bring the two back together. The authors of the study that motivated the essay—Paul Piff, Dacher Keltner, and colleagues—define awe as "an emotional response to perceptually vast stimuli that defy one's accustomed frame of reference" and associate it with the feeling of being "in the presence of something greater than

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[2] *Oxford English Dictionary*, entry for *awful*, definition 4a.

[3] *Oxford English Dictionary*, entry for *awsome*, definition 3b.

[4] *Oxford English Dictionary*, entry for *awesome*, definition 3a.

[5] *Oxford English Dictionary*, entry for awe, noun 1, definition I1a.

[6] *Oxford English Dictionary*, entry for awe, noun 1, definition I2a.

[7] As quoted in Stephen Fried, *Appetite for America*, Bantam Books, 2010, page 190.

the self."[8] They then set out to determine how ordinary people experience such feelings and what are the consequences.

While "perceptually vast stimuli" might still seem bloodless, basically what they are talking about is something that gives you goosebumps. Evolutionarily, our goosebumps descend from a common animal response to being cold and to being afraid or startled: hair/feathers stand on end to appear larger. For humans, that basic fear response has morphed into awe: a sensation of being in the presence of something bigger than you and wondering how you are connected.[9] Studies of the physiology of awe show that it reduces our filtering of information about surroundings and sharpens perceptions of what is happening.[10]

What puzzled Piff and colleagues is that people often associate feelings of awe with the desire to help others, to be altruistic or prosocial. A substantial body of research has shown that awe is associated with an altered sense of self, creating what the researchers call the small self (integrated self), as opposed to the inflated self. For example, studies show that people who feel lots of awe (but not pride) are less likely to define themselves as "special" or "one-of-a-kind" (Shiota et al 2007). One experiment found that people who stood next to a T. rex skeleton gained an expanded self-definition as part of universal social categories. Another found that watching a nature video led participants to feel more connected to others (as measured by something called the "Inclusion of the Other in the Self Scale").

Piff and colleagues propose that our capacity for awe has developed to facilitate the complex social groups in which we and our ancestors have lived. Awe fosters "a diminished emphasis on the self and its interests and a shift to attending to the larger entities one is a part of (e.g., small groups, social collectives, and humanity." They continue: "We test the overarching hypothesis that awe should enhance prosociality by causing people to be more willing to forego self-interest in favor of others' welfare."[11]

For me, one of the great appeals of psychology is that researchers can test such hypotheses on groups of ordinary people. Piff and colleagues surveyed 1500 individuals from around the United States on a series of questions about how much awe they felt. Subjects were given—supposedly

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[8] Piff, Paul K., Pia Dietze, Matthew Feinberg, Daniel M. Stancato, and Dacher Keltner. "Awe, the small self, and prosocial behavior." *Journal of personality and social psychology* 108, no. 6 (2015): 883.

[9] For an accessible summary of this theory, see https://www.scientificamerican.com/article/why-do-humans-get-goosebu/

[10] E.g. Shiota, Michelle N., Dacher Keltner, and Amanda Mossman. "The nature of awe: Elicitors, appraisals, and effects on self-concept." *Cognition and emotion* 21, no. 5 (2007): 944-963. She provides a summary of her work in a talk available on Youtube: https://www.youtube.com/watch?v=uW8h3JIMmVQ.

[11] Piff, Paul K., Pia Dietze, Matthew Feinberg, Daniel M. Stancato, and Dacher Keltner. "Awe, the small self, and prosocial behavior." *Journal of personality and social psychology* 108, no. 6 (2015): 883 and 884-5.

as a participation gift—ten lottery tickets. But, the experimenters mentioned that another participant had not gotten any and the subject could share their tickets if they wanted to. Those reporting frequent experiences of awe gave away 40% more tickets than those who felt it infrequently. Even more interestingly, a tiny moment of awe seems to have an effect. The researchers brought participants into a grove of 200 foot tall Eucalyptus trees on the UC, Berkeley campus. They randomly assigned half of the group to look up into the trees for one minute. The other looked at a nearby tall building. Then, an experimenter who was handing out a survey 'accidentally' spilled a box of pens. Those who had looked up into the trees picked up significantly more pens, scored significantly lower on scores of entitlement, and higher on indexes of ethical behavior.

Another set of experiments leads to my final point: the destructive effects of losing touch with awe, of awe-deficit. How many of you feel you don't have time to accomplish basic daily tasks? A 2008 survey found nearly half of those polled felt they did not.[12] Melanie Rudd and other business school researchers investigated what they called "time famine" with a series of experiments to determine if awe alters one's sense of time. They found that participants who felt awe perceived more time available and were more patient.[13]

More frightening than a time famine, we are also experiencing surging rates of depression and anxiety among adolescents. In a 2016 study, Ramin Mojtabai reports that the rate of major depressive episodes among adolescents has grown by 37% over the last decade.[14] Last year, one in six girls reported one. Jean Twenge sees rates of adolescent depression today as five times higher than those in the 1930s and 40s.[15] Personally, I had never even heard of people cutting themselves until a decade or so ago. I now know it is shockingly common. Teen crisis prevention programs around Columbus are always full.

What makes us feel so harried? What makes our children feel so anxious and depressed?

I don't want to push the awe research too far. Such trends always have a host of causes, and excessive focus on one is dangerous. The research on awe I have talked about is also too

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[12] As quoted in http://www.bostonglobe.com/ideas/2012/09/08/how-make-time-expand/26nkSfyQPEetCXXoFeZEZM/story.html

[13] Rudd, Melanie, Kathleen D. Vohs, and Jennifer Aaker. "Awe expands people's perception of time, alters decision making, and enhances well-being." *Psychological science* 23, no. 10 (2012): 1130-1136.

[14] Mojtabai, Ramin, Mark Olfson, and Beth Han. "National trends in the prevalence and treatment of depression in adolescents and young adults." *Pediatrics* (2016): e20161878. For a summary of related research see: https://www.sciencedaily.com/releases/2016/11/161115094549.htm.

[15] Twenge, Jean M., Brittany Gentile, C. Nathan DeWall, Debbie Ma, Katharine Lacefield, and David R. Schurtz. "Birth cohort increases in psychopathology among young Americans, 1938–2007: A cross-temporal meta-analysis of the MMPI." *Clinical psychology review* 30, no. 2 (2010): 145-154.

preliminary to offer any conclusive explanations. I have not yet tracked down studies connecting depression and awe. But, one warning sign therapists watch for is feeling isolated and disconnected from groups/institutions. And, I did find one recent study establishing a correlation between awe and reduced markers of inflammation and other markers of good physical and mental health.[16]

So, working through the material for this essay leaves me wondering about connections between some of our current malaise and awe-deficit. Is my failure to distinguish between poorly cooked Brussel sprouts and the Grand Canyon part of a larger trend? Have segments of our society lost touch with awe and its benefits?

Probably the most awe inspiring event of my growing years was the space program. Andrew Chaikin's assessment of the social effects of the moon landing provides a compelling tale of how its impact dwindled.[17] In 1968, the poet Archibald McLeish proclaimed: "To see the earth as it truly is, small blue and beautiful in that eternal silence where it floats, is to see ourselves as riders on the earth together."[18] Chaikin identifies the dimming of awe at the Apollo program with a turning inward during the 1970s, for which he adopts Tom Wolfe's assessment as "the Me decade" with its focus on self-awareness (might I say self-awesomeness) and realization of one's own potential. In 1976, a self-published book—We Never Went to the Moon—appeared. In 1980, the conspiracy theory got a boost from the Flat Earth Society which proffered that the moon landing was a hoax pulled off by NASA in cahoots with Walt Disney, Arthur C. Clarke, and Stanley Kubrick. I never felt the pull of such foolishness, but I did watch MTV introduce itself in 1981 with promos causally referencing astronauts on the Moon as little more than 1960s nostalgia. Just one year later, Jeff Spicoli gave us the catch phrase, "Totally awesome!"

While these trends are disturbing, two things keep me from falling into pessimism. First, I don't think the trajectory I just described is anything new. Consider one image from my first slide: a sculpture from the Romaneque cathedral in Autun, France. This figure presents a paradigm for failing to appreciate awe. The dejected figure is Joseph, alone and isolated around the corner from the Adoration of the Magi. I imagine him muttering: "first this whole immaculate conception thing, and then these three wise guys show up with gifts" He sits insensible to what is right next to him. Second, I take heart in how easily change occurs. A minute of trees yields a measurable difference. It just depends on where you look.

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[16] Stellar, Jennifer E., Neha John-Henderson, Craig L. Anderson, Amie M. Gordon, Galen D. McNeil, and Dacher Keltner. "Positive affect and markers of inflammation: Discrete positive emotions predict lower levels of inflammatory cytokines." *Emotion* 15, no. 2 (2015): 129.

[17] Chaikin, Andrew, "Live from the moon: the societal impact of Apollo" in Steven J. Dick and Roger D. Launius (eds), *Societal Impact of Spaceflight*, NASA Office of External Relations, History Division, 2007, pages 53-56.

[18] *New York Times*, 12/25/1968, A1

So, I recently bought myself a set of commemorative Apollo glassware and am learning to cook Brussel sprouts well.