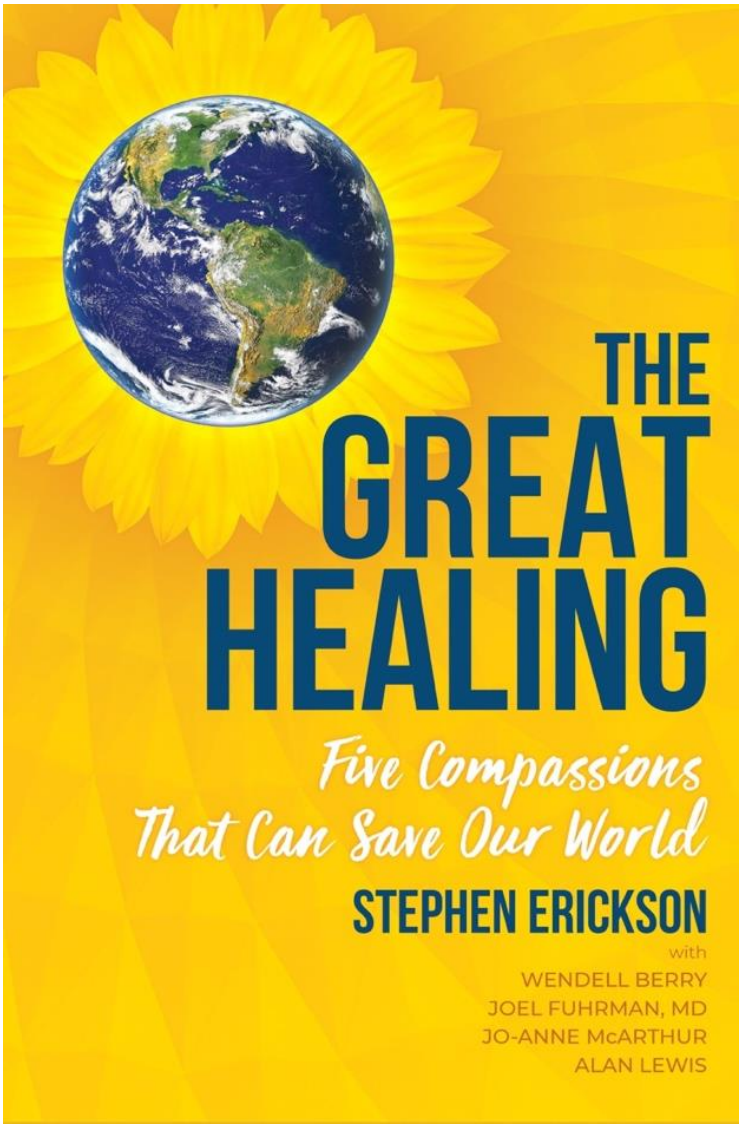
There is an Arch Villain Behind the Climate Crisis — And There is Just One Solution

by Stephen Erickson



Link to Sept. 17, 2019 **national press release**.

In his new book, **The Great Healing – Five Compassions That Can Save Our World,** *Stephen Erickson identifies our Arch Villain, the main cause of the global warming climate crisis which now threatens to bring about the end of our Anthropocene Epoch — of us and virtually every multicellular life form. He also explores our singular solution. Five Compassions are our path to that solution.*

There is an Arch Villain Behind the Climate Crisis — And There is Just One Solution

I

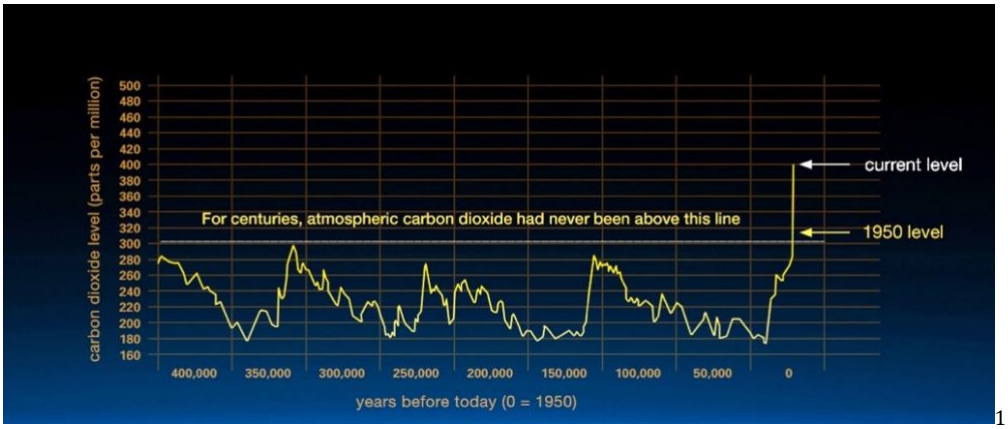
Earth is Suffering a Massive Heart Attack. Right Now. And Her Flatline is Vertical.

If every human alive today regardless of age — your friend's newborn, children, Gen Z, millennials, mom and dad, grandpa, great grammy — can be considered a member of a single generation, our generation is a Special Generation. Each one of us has been born at a time of historical reckoning.

Our task, our challenge, is that we have to make the changes necessary to stop and reverse the global warming climate crisis. Our survival as well as that of virtually every multicellular species and living organism — plant and animal — on Earth depends on it.

The hurdles we face? It's hard to imagine they could be more formidable:

- There is an Arch Villain behind the climate crisis, yet most of us do not realize who or what it is.
- Our singular solution is one very few of us are aware of and fewer still understand.
- We must implement change on a massive scale, which means taking on our Arch Villain – a vastly powerful, resolute, ruthless, steadfastly unapologetic and intractable set of industries which includes of some of the wealthiest most powerful corporations ever created.
- We are in a time crunch. If you look at this NASA chart as if it were an electrocardiogram (EKG) monitoring the planet's heartbeat, our Earth is suffering a massive heart attack. Right now.



[1]

The planet is flatlining – only this cardiac arrest is vertical. The carbon dioxide concentration in our atmosphere is the highest it's been in 15 million years. In the face of catastrophic global warming we are heading in the worst possible direction. CO_2 emissions in the United States rose 3.4% in 2018, the second largest *gain* in over two decades.[2]

The United States Government's *Fourth National Climate Assessment*, compiled by 13 federal agencies and released in November 2018 states, "Global climate is projected to continue to change over this century and beyond. The magnitude of climate change beyond the next few decades will depend primarily on the amount of greenhouse (heat-trapping) gases emitted globally and on the remaining uncertainty in the sensitivity of Earth's climate to those emissions (very high confidence). With significant reductions in the emissions of greenhouse gases, the global annually averaged temperature rise could be limited to 3.6°F (2°C) or less. Without major reductions in these emissions, the increase in annual average global temperatures relative to preindustrial times could reach 9°F (5°C) or more by the end of this century."[3]

What this, our government's *Climate Science Special Report*, doesn't say is what this *means*. A temperature rise of 9 degrees Fahrenheit, as documented in my new book ***The Great Healing***, is a mass-extinction level event. Our civilization will break down as our environment does and the end of our Anthropocene Epoch will soon follow.

- *And* there is one more hurdle: Our time crunch is far more severe than scientists predicted.

Volume 2 of this report is 1515 pages long. A dryly worded assessment continues: "The climate change resulting from human-caused emissions of carbon dioxide will persist for decades to millennia. Self-reinforcing cycles within the climate system have the potential to accelerate human-induced change and even shift Earth's climate system into new states that are very different from those experienced in the recent past. Future changes *outside the range projected by climate models cannot be ruled out*, and due to their systematic tendency to underestimate temperature change during past warm periods, models may be more likely to underestimate than to overestimate long-term future change."[4] (italics mine)

Hold the phone. Full stop. What is *happening* is, as our planet warms, unanticipated biofeedback loops are accelerating global warming — to the point where temperature increases are blowing the lid off existing climate model projections.

Just a year and a half ago, climate research consensus was that even with best efforts at immediately combating climate change, an additional global temperature rise of a minimum of 2.7°F (1.5°C) by 2100 may already be "baked in."[5] More recently, the world's leading scientific group studying global warming, the United Nations Intergovernmental Panel on Climate Change (IPCC), announced, "If emissions continue at their present rate, human-induced warming will exceed 1.5°C by around 2040."[6] This report takes into

consideration 25,000 comments from experts and a wide pool of scientific literature. This is a definitive undebatable conclusion. This IPCC revision shaves 60 to 70 years off estimates made *just a year earlier*.

We only have until 2030 until bad things begin to get very bad and natural disasters become environmental catastrophes.

Over 20,000 scientists from around the world have now signed onto the report published on November 13, 2017, *World Scientists' Warning to Humanity: A Second Notice*, urging world leaders to take action to avoid planetary catastrophe.[7] [8]

The environment our next generation inherits is not going to be a better place.

If you consider planet Earth as our house, a very unwelcome guest, Mr. Heat, has warmed up our front yard and is now at our doorstep. He has two unsavory companions with him: Ms. Misery, Mother Earth's pestilent cousin, who creates a rapidly deteriorating environment wherever she sets foot, unconcerned by the attendant suffering of its living creatures; and Mr. Grim, who is already reaching out and extinguishing — reaping if you will — an increasing number of species.

Ms. Misery is wreaking havoc in every corner of our world. Megafires blazing with such intensity that they create their own weather patterns and are virtually unstoppable[9] [10] are ravaging the earth's warming forests, which are increasingly populated at higher and higher altitudes by dead and beetle stricken trees. Megafires consuming hundreds of thousands of acres each have burned not just throughout the Western United States, but across the colder northern regions, Canada, Alaska, Siberia, as well as the Arctic forests even further north. "500-year storms," "100-year floods," "cyclone bombs," "polar vortexes," tornados, typhoons and hurricanes of record size and force are increasingly common.

Snow and ice surfaces reflect the sun's heat away from the earth. As these melt away, those surface areas become heat-absorbing water and land, warming the oceans and the planet. As ice and permafrost melts away across Alaska, Greenland and Arctic regions, the newly exposed tundra contains large amounts of stored up carbon dioxide and methane that it then releases into the air, further accelerating global warming.[11] [12] More than twice as much carbon is stored in this permafrost than is currently in our atmosphere.[13] A study published in April 2019 revealed that melting permafrost is releasing significantly more methane than previously realized. Methane is nearly 300 times more potent a greenhouse gas than carbon dioxide.[14] [15]

When you think of Mr. Grim, an image might come to mind of a hooded figure with a large scythe, a slow-moving cloaked sack of bones shifting along down the street. Mr. Grim actually moves at lightning speed — he's everywhere it seems — and these days he's increasingly busy. The report released on May 6, 2019 by the United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) confirms that *one million* plant and animal species are now vanishing or threatened with extinction due to human activities.[16]

These unwanted guests will enter our house, the Anthropocene, turn up the furnace

and accelerate its end. This will happen *during our children's lifetimes*.

In a November 2018 article in the Guardian, *Climate-heating Greenhouse Gases at Record Levels, Says UN*, the secretary general of the World Meteorological Organization (WMO), Petteri Tallas stated, "The science is clear. Without rapid cuts in CO_2 and other greenhouse gases, climate change will have increasingly destructive and irreversible impacts on life on Earth. The window of opportunity for action is almost closed."[17] The United Nations estimates that our greenhouse gas emissions must be reduced by 40% over the next 11 years. The IPCC report concluded that to avoid racing past warming of 1.5°C (2.7°F) over preindustrial levels would require a "rapid and far-reaching" transformation of human civilization at a magnitude that has never before happened.

Mr. Heat is now on our front porch and he's reaching to open our door.

What this *is*, is… scary. How rapidly the adverse effects of global warming are reinforcing and accelerating one another. Beyond our awareness and our control. We do not want Mr. Heat in our neighborhood but there he is. We certainly don't want him in our front yard, but we've stood by idly watching as he entered.

If we do not take on our Arch Villain we have no hope of stopping the climate crisis. The planet's Sixth Mass Extinction will occur this century.

II

Our Arch Villain, Our One Solution, and the Slide Plenty of Folks are Talking About

I began this stating that our Arch Villain is one most of us remain unaware of. Before you read the next sentence, ask yourself who you think our Arch Villain is. …

You may think it is the fossil fuel / dirty energy industry. Nope. While the fossil fuel industry's carbon emissions need to be corralled and significantly reduced immediately, as a stand-alone contributor to global warming, it comes in second place — and a distant second by comparison.

Industrial agriculture. And factory farming. These are the behemoth dark twins of Big Agriculture. Big Ag. **This is our Arch-Villain.** Big Ag is, by far, the industry contributing most to global warming. Big Ag is preeminently responsible for hastening the end of our Anthropocene Epoch.

In its 2016 analysis, *How the Industrial Food System Contributes to the Climate Crises*, GRAIN concludes that our Arch Villain contributes as much as *57%* of global greenhouse gas

emissions. By category: Agricultural production (11-15%), land use change and deforestation (15-18%), processing, transport, packing and retail (15-20%) and waste (2-4%).[18] [19] In addition, based on what we've learned about the soil microbiome in the past decade, Robert Goodland and Jeff Anhang's estimate with regard to the photosynthesis foregone on the vast tracts of land worldwide used for grazing animals and for growing animal feed crops *may be low*.

Animal agriculture is the major global source of ongoing deforestation and a leading driver of species extinction. 26% of land worldwide is used for the grazing of livestock. It is the reason so much of the Amazon rain forest is being burned away. In addition, 33% of arable land is used growing animal feed crops.[20] The majority of all agricultural land is allocated directly or indirectly to livestock. Around 70% of the world's freshwater humans utilize is used for agriculture and one third of that is used to grow the grain fed to livestock.[21] Yet meat, dairy and other land-based animal products provide just 17% of the calories and 33% of protein consumed by humans.[22]

Behemoth twin number two, industrial agriculture, is no small-fry. It "is a massive contributor to climate change. It is responsible for 25% of the world's carbon dioxide emissions, 60% of methane gas emissions, and 80% of nitrous oxide, which are all powerful greenhouse gases."[23] While the portion of this behemoth twin's emissions created in the growing of commodity crops for animal feed is already counted on twin number one's ledger, industrial agriculture's remaining footprint is huge.

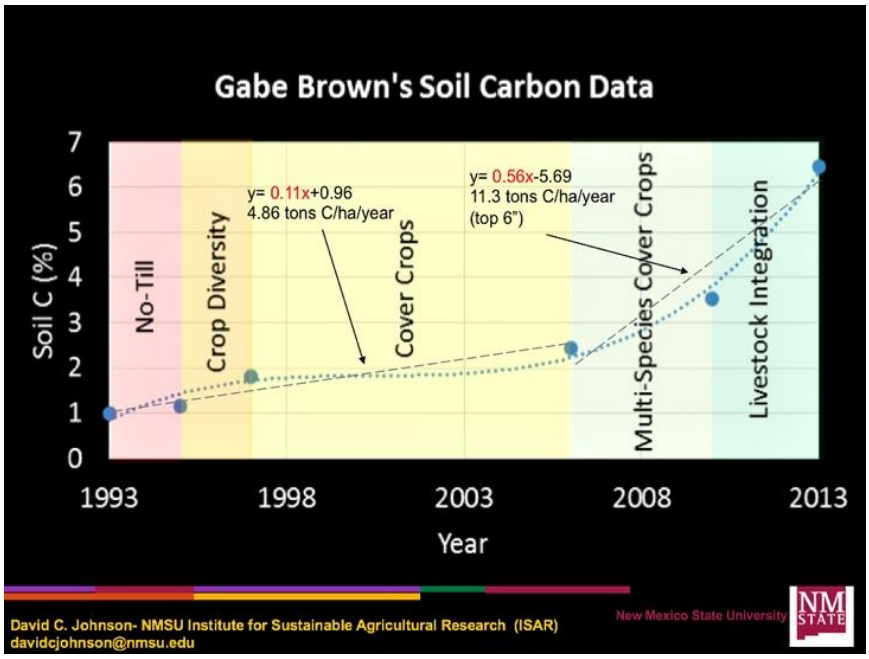
We are developing and implementing technologies to reduce the carbon we are emitting, however **no technology exists** to drawdown carbon from our atmosphere in any significant way. We have only one existing solution. Take a second and ask yourself what that solution is. Do you know? …

Our singular solution to the global warming climate crisis is The Liquid Carbon Pathway, a term coined by renowned Australian soil scientist Dr. Christine Jones: healthy soil's ability to sequester carbon.

In farming, the way to best protect and improve topsoil is **Regenerative Agriculture**. It is based on these principles, which ***The Great Healing*** explores in Chapter 3, *Compassion For The Land*: cover crops, compost, crop rotation, minimal disturbance of the soil, no pesticides, animals, protecting the soil's internet, and Earl "the Worm."

Regenerative farming *maximizes* plant's ability to take carbon out of the atmosphere and creates vibrant rich soil that sequesters carbon for use in the subterranean realm. Good soil sequesters carbon. *Lots* of carbon. Healthy soil rejuvenates our atmosphere. Increasing soil carbon sequestration is our best resource in the fight to slow down and reverse global warming.

This is the slide plenty of folks are talking about:



It charts the improvement in Gabe Brown's soil on his ranch just outside of Bismarck, North Dakota, over a 20-year span. Gabe's regenerative agriculture techniques improved his soil's ability to sequester carbon and his soil carbon increased from 1% to 6.5%. That's huge. Each percent of carbon in the soil amounts to *8.5 tons* of carbon per acre. The chart shows how Gabe discovered and applied regenerative practices one after another, first going no-till in 1993, then diversifying crops, 5 years later adding cover crops, and then 9 years after that discovering the benefits of multi-species cover crops. Once Gabe combined these 4 principals and then added a 5th — livestock integration — his soil carbon skyrocketed from just over 2% to 6.5% *in just six years*.

He told me that based on what he knows now, he could raise his soil carbon from 1% to 6.5% within 5 years and that his soil has even greater potential. He expects to be *over 10%* soon.

In raising his soil carbon level from 1% to 10%, Gabe Brown is sequestering an additional *76.5 tons of carbon per acre*… This is why plenty of producers are talking about this slide.

Carbon sequestration from regenerative agriculture **is our singular solution** to the global warming climate crisis. We need to do this *at scale* — and quickly.

Rattan Lal, Ph.D., recipient of the Nobel Peace Prize and Distinguished University Professor of Soil Science at Ohio State University, believes that 3 billion tons of carbon can be sequestered annually in the world's soils.[24] Molecular biologist and soil scientist David C. Johnson, Ph.D.,[25] based on his results, Gabe Brown's and those of other regenerative farmers and ranchers, believes we can draw down *20 billion tons* a year.

Industrial agriculture's suite of synthetic fertilizers, pesticides and herbicides kills the

life of the soil, its microbiome, destroying healthy soil's ability to sequester carbon — making the Arch Villain a preeminently lethal adversary.

III

The 2021 Farm Bill Will Be Nonpartisan

We must have a plan to set in motion our singular solution — regenerative agriculture — ***at scale*** and quickly. Our plan must be inspiring, widely understood and accepted, because it takes several years to repair dead and damaged soil.

Fortunately…

There is another powerful tool we have in our toolboxes. And we must put it to use to achieve The Great Healing.

It is the essential tool enabling us to take big steps, to fully harness the power of collective action to make change happen quickly. We have this tool because we are citizens in a democracy.

The fifth of the Five Compassions in ***The Great Healing*** is Compassion For Democracy. Realize your power as a citizen in our democracy.

Governmental leadership, in terms of decisive policy and action, is essential. There are historical examples of our government taking decisive action, clearly demonstrating the power we can harness and what that can achieve. Our government enabled another Special Generation, the World War II generation, to do what it was called upon to do. It took the initiative and succeeded in transforming our entire economy into a wartime economy in a matter of months. Government is a very powerful and necessary tool.

It is upon us to best ensure it is governing intelligently, insightfully and when the situation calls for it, boldly. We can accomplish that through our involvement as citizens in our democracy.

The essential starting point is our compassionate activism. *We* have to raise our voices to increase everyone's awareness by petitioning, demonstrating, and revealing our growing numbers to inspire and force change.

The key imperative then becomes presenting a solution and flying its flag.

When our government lacks a plan, it is up to us to provide them one.

We then have to focus our government's attention on this solution. As we approach a new election cycle, this puts every candidate running for public office, from local school board up to President of the United States in the position of having to declare clearly and unambiguously their support or opposition. We will then vote for or against them based on their promise.

Mr. Heat has now opened our front door and is entering our living room. Global warming will continue — and will worsen — there's no way we can stop that. What we can do is take action to slow the increase of greenhouse gases into our atmosphere, over time to stop it, and then draw atmospheric carbon back down.

The Green New Deal is one part of the solution. Another essential companion, no less important, will be a **New Farm Bill** *to be enacted in 2021*.

We have to embrace regenerative agriculture at scale — our singular solution — and shift away from Big Ag's behemoth dark twins, industrial agriculture and factory farming. This means we have to get our government to replace and fundamentally repurpose its most important piece of legislation: The 2018 Farm Bill.

The 2018 Farm Bill is *the* most important piece of legislation this country has *ever* produced. This is why: The Farm Bill effectively determines how American agriculture is done. Lobbied for, subsidized and even drafted in large part by Big Ag, this Farm Bill is a gift to our Arch Villain, a blanket endorsement of industrial agriculture and factory farming. The Farm Bill increases global warming more than any other bill. The Farm Bill enables the continued killing of the soil microbiome on 231 million American crop acres, eliminating that soil's life and its ability to sequester atmospheric carbon, our singular solution to global warming.

If this is allowed to continue as business as usual for the next five years, the United States will be unable to dial back its collective greenhouse gas emissions to meet the reduction thresholds of the Paris agreement. Even more dire for our planet and our future is that this action may prove America is unable to limit global warming to a 2°C increase by 2035.

This is why the 2018 Farm Bill may be the most important piece of legislation our federal government will *ever* produce. In its current form, it prevents the *world* from collectively succeeding in making the necessary progress on slowing the increase in global warming.

The 2018 Farm Bill unlocked our front door just as Mr. Heat's hand was reaching for the doorknob and the way in.

This is a path to disaster.

We cannot let the 2018 Farm Bill stand for five years or anywhere close. It is crippling our ability to slow global warming. This Farm Bill must be jettisoned and replaced with a New Food and Farm Bill that will in turn become *the* most important piece of legislation our federal government will produce.

And…

The solution is nonpartisan.

Wait. Time out… Given the level of divisiveness in American politics, how can *any* issue, let

alone one that involves the entirety of agriculture and massive corporate interests, one that is going to be decided by our elected officials — our politicians — possibly be nonpartisan? The debate leading up to the 2018 Farm Bill was fervid, rancorous, and insanely partisan. How could a replacement Farm Bill not be?

Because there is such a pervasive, fundamental lack of understanding about the immediacy and the severity — the *catastrophic* environmental consequences of global warming in store for us — among members of both dominant political parties, it is nonpartisan.

Because there is such an incomplete understanding of the human *cause* of global warming, and the magnitude of Big Ag's role as our Arch Villain — the industry responsible for creating the lion's share of greenhouse gas emissions — it is nonpartisan.

Because American farmers and rural communities, the blighted economies of our shires, have as much or even more to gain economically as any other region of the country, it is nonpartisan.

Because it will lead to the New Economy which will create 65 million new low-carbon jobs and add $26 *trillion* to the global economy *between now and 2030*[26] — and economic growth and prosperity is a goal of both parties, it is nonpartisan.

Because reclaiming our country's standing as a global leader, innovator, as well as a paragon of a moral and ethical Democracy is a goal of patriots from both parties, it is nonpartisan.

Because the values residing at the core of our democracy and abiding in the hearts of Americans — our compassion, our decency, our love for our environment and this planet, *our very humanity* — are aligned with the imperative that this dire problem must be remedied, it is nonpartisan.

Because global warming is destroying our environment — our biome — and will soon be jeopardizing our very survival, this is nonpartisan. There will no longer be elections when society breaks down let alone when there is no-one left to run for office or to vote.

Our essential singular solution is regenerative agriculture implemented rapidly onto the vast majority of American cropland, combined with the end of factory farming and the return of pastured livestock. Once this plan of action is advocated and fought for, manifest and put in practice across the land, and its benefits realized, agriculture will become one of the key sectors transitioning — *and growing* — our economy into a robust, sustainable, thriving New Economy. That, as well as healing our planet, and *saving* us on it. ***The Great Healing – Five Compassions That Can save Our World*** outlines this transition.

In *World as Lover, World as Self*, philosopher Joanna Macy writes about our Special Generation, "We are now at a point unlike any other in our story. Perhaps we have, in some way, chosen to be here at this culminating chapter or turning point. We have opted to be alive when the stakes are high to test everything we have ever learned about

interconnectedness and courage — to test it now when it could be the end of conscious life on this beautiful water planet hanging like a jewel in space.

"In primal societies rites of passage are held for adolescents, because it is then that the fact of personal death or mortality is integrated into the personality. The individual goes through the prescribed ordeal of the initiation rite in order to integrate that knowledge, so that he or she can assume the rights and responsibilities of adulthood. That is what we are doing right now on the collective level in this planet-time. We are confronting and integrating into our awareness our mortality as a species. We must do that so that we can wake up and assume the rights and responsibilities of planetary adulthood."[27]

In *How to Thrive in the Next Economy*, John Thackara writes, "A variety of changes, interventions, and disruptions accumulate across time until the system reaches a tipping point: then, at a moment that cannot be predicted, a small release of energy triggers a much larger release or phase shift, and the system as a whole transforms."[28] This is the same tipping point that Malcolm Gladwell writes about.

French philosopher Edgar Morin, in *Homeland Earth: A Manifesto for the New Millennium – Advances in Systems Theory, Complexity and the Human Sciences*, echoes Nelson Mandela: "All great transformations have been unthinkable until they actually came to pass."[29]

This is the coming evolution, the necessary change at a critical time. To avoid the earth's sixth global extinction, this is the path forward — what the future MUST look like.

Mr. Heat is standing in our living room and the sofa is starting to smolder. Ms. Misery is pleased with herself. And Mr. Grim is looking at you.

The fight is on. Everything you purchase, everything you consume, every action you take is a choice. Live well, make the healthy choices, the right choices, compassionate choices. Inform others, enable them. Rise up and be heard. From this day forward.

We are a Special Generation. Humanity will perish or prevail based on what we can achieve over just the next few years. Find your voice, use it. Important challenges are upon us.

If we can prevail, if we turn Mr. Heat and his accomplices out of our house, we can set an example and America can be a beacon to the world once again.

Today if you walk across the grass of a D-Day cemetery in France, or a veteran's cemetery stateside, you feel it — how not too long ago, another Special Generation protected and provided for us the society we enjoy today, by winning World War II and the fight against fascism. Forty years from today, if your children are alive to walk across a lawn, any lawn, they will feel the very same emotion — for us, for our Special Generation, the one that rallied just in the nick of time and took decisive action to corral and beat back global warming, the Special Generation that saved their lives as well as the life of almost every multicellular organism on Earth, even the grass under their footsteps.

Adapted from The Great Healing – Five Compassions That Can Save Our World *by Stephen Erickson. Copyright © 2019 by Stephen Erickson. Chapter 3:* Compassion For The Land *& Chapter 5:* Compassion For Democracy. *Published by TGH Press, September 18, 2019. All rights reserved. Visit* thegreathealing.org

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