



"It would go a long way to caution and direct in their use of the world, that they were better studied and knowing in the Creation of it. For how could (they) find the confidence to abuse it, while they should see the great Creator stare them in the face, in all and every part of it?" William Penn, 1693

"As Quakers, we are called to work for the peaceable Kingdom of God on the whole Earth, in right sharing with all peoples. We recognize a moral duty to cherish Creation for future generations.

We call on our leaders to make the radical decisions needed to create a fair, sufficient and effective international climate change agreement.

As Quakers, we understand anthropogenic climate change (climate change due to human activities) to be a symptom of a greater challenge: how to live sustainably and justly on this earth.

We recognize that the current rise of greenhouse gas emissions is leading to an unprecedented rate of increase in global average surface temperature of extreme detriment to the Earth's ecosystems and species, including human beings.

We recognize that catastrophic global climate change is not inevitable if we choose to act urgently.

We recognize a personal and collective responsibility to ensure that the poorest and most vulnerable peoples now, and all our future generations, do not suffer as a consequence of our actions. We see this as a call to conscience.

We recognize the connections between climate change and global economic injustice on a planet with limited economic resources.

We recognize the connections between climate change and global economic injustice as well as unprecedented levels of consumption, and question assumptions of unlimited material



FACING THE CHALLENGES OF CLIMATE CHANGE

A SHARED STATEMENT BY QUAKER GROUPS: "SOME WISDOM FOR THE AGES"

as well as growth on a finite planet.

We recognize that most greenhouse gas emissions are created by fossil fuel combustion. We recognize that our increasing population continues to pursue fossil fuel-dependent growth. We recognize that the Earth holds more fossil fuel reserves than are safe to burn, and that the vast majority of fossil fuel reserves must remain in the ground if we are to prevent the catastrophic consequences of climate change. We therefore question profoundly the continued investment in, and subsidizing of, fossil fuel extraction.

We seek to nurture a global human society that prioritizes the well being of people over profit, and lives in right relationship with the earth; a peaceful world with meaningful employment, clean air and water, renewable energy and healthy thriving communities and ecosystems.

As members of this beautiful human family, we seek meaningful commitments from our leaders and ourselves to address climate change for our shared future, the Earth and all species, and the generations to come. We see this Earth as a stunning gift that supports life. It is our only home. Let us care for it together."

THE FUTURE OF AMERICAN DEMOCRACY

by Meg LeFevre

When it comes to the future of American democracy, Millennials are it. There's no waiting for the "grown ups" to fix the mess of mediocrity we were born into.

Our generation has witnessed more gun violence, police brutality, and mass incarceration than any other. The "war on drugs" was born a decade before us—just enough time for "public enemy number one" to infiltrate our neighborhoods, schools, and homes, leaving more of us to be raised by alcohol and drug-addicted parents than any other generation in history.

Millennials who have fought to make it through un-affected and un-addicted ourselves have crippling student loan debt in a tough job market with poor retirement plans and an uncertain social security system to rely on in our golden years. And while we weren't forced into a military draft like our grandparents (among men, only 3% of millennials are veterans), we've been exposed to violence, war, and terrorism virtually our entire lives through 24-hour access to TV and Internet sources.

We are now the largest generation in our country's history, the largest segment of the U.S. workforce, and we have potentially the largest voice at the polls on Election Day, yet according to International Business Times, millennial voters were only 19 percent of the total vote in the 2012 presidential election. An October 8, 2014 NPR story asked, "Why don't more Millennials vote?" Only 50 percent of the generation could say with certainty that they were even registered to vote— this in a time when Millennials are more engaged and inspired to change, with greater access to and knowledge of the issues and the candidates than ever before. So what's the deal?

Some say it's the "one vote doesn't matter" idea that holds Millennials back from exercising our right to vote, or that our "BS" detectors are so on point that establishment politics turn us off, or that our schedules are so hectic we can't find the time to register and let our voice be heard. Whatever the

case, this has to change. The future of American democracy is in our hands.

Since 1990, Rock the Vote has been leading this important cause, helping to create a culture of voting through pop culture and technology. Its efforts have pioneered new ways to simplify and demystify the voter registration and election process, registering over six million new voters. "Millennials are a huge voting bloc that can and does swing elections. The youth vote is a huge force for social change. We are the most diverse generation yet. We are passionate about the issues, and we give our time to causes we care about and issues that inspire us.

We cannot afford to have young people sit out the political process when so much is at stake for our future."

QUICK FACTS (from rockthevote.com)

- More than 84 million Millennials will be over 18 in 2016.
- 12,000 Americans turn 18 every day.
- The Millennial generation is the largest in our country's history - bigger than even the Baby Boomers.
- The Millennial generation is also the most diverse
- 43 percent are people of color.
- 66,000 American Latinos turn 18 every month.
- 90 percent of American youth are online, with over 60 percent connected to the Internet while away from home.
- 90 percent of American Latinos under 29 consume information in English.
- Millennials have the potential to be the largest voting bloc in our country but are voting at a fraction of their size, with an estimated 30 million young people staying home in 2012.

How to register to VOTE in New York State

- To register you must:
- be a United States citizen
 - be 18 years old by December 31 of the year in

which you file this form

(note: you must be 18 years old by the date of the general, primary or other election in which you want to vote)

- live at your present address at least 30 days before an election
- not be in prison or on parole for a felony conviction
- not be adjudged mentally incompetent by a court, and
- not claim the right to vote elsewhere

Where to register:

- You can register to vote online at www.rockthevote.com
- You can register in person at your county board of elections or at any New York State Agency-Based voter registration center
- You can enter your name directly into the New York State Board of Elections mailing list database to have a New York State Voter Registration Form mailed to you. (The same form can be downloaded at <http://www.elections.ny.gov/VotingRegister.html>)
- You can also call the 1-800-FOR-VOTE hotline to request a voter application

Registration deadlines:

- In order to vote in this year's Nov. 3 general election, applications must be postmarked no later than October 9 and received by a board of elections no later than October 14.
 - In order to vote in the 2016 presidential primary (Tuesday April 19, 2016), you must register by Friday Oct. 9, 2015 (THIS YEAR!)
 - Find absentee ballot deadlines at <http://www.elections.ny.gov/VotingDeadlines.html>
- Check your current voter registration status at <https://voterlookup.elections.state.ny.us/votersearch.aspx>

Editor's Note: Millennials (also known as Generation Y) are the demographic cohort following Generation X, with birth years ranging from the early 1980s to the early 2000s.

“REEXAMINING THE NORTH COUNTRY PRISON INDUSTRY AFTER MATT AND SWEAT”

by Clarence Jefferson Hall Jr., Ph.D.

Friday, June 26, 2015, was an extraordinary day in American life. That morning, the Supreme Court affirmed the legality of same-sex marriage, labeling gay people's exclusion from that time-honored social institution a violation of the Fourteenth Amendment. Early in the afternoon, President Obama eulogized South Carolina A.M.E. pastor and State Senator Clementa Pinckney, remembering the slain minister as a man devoted to the same principles that had guided the Supreme Court's action that morning. Late in the day, bulletins from northern New York relayed news of the killing of fugitive Richard Matt after twenty-one days on the run. The following morning, in an extraordinary act of courage, civil rights activist Bree Newsome scaled the thirty-foot high flagpole on the State House grounds in Columbia, South Carolina, and removed the Confederate flag from its perch. That these remarkable events occurred within the same twenty-four span is clearly coincidental, but the strands of history linking them together could not be stronger or more clear.

Since we live in the North Country, the question for us to consider is how this nation's contemporary social and political currents can help us better understand the broader implications of the June escape from Clinton Correctional. Further, it is also important for us to untangle the connections between this region's prison past, the events of this past June, and how we might learn from both past and present in moving toward a future in northern New York more devoted to the principles enshrined in the Supreme Court's decision and the life of Reverend Pinckney.

The first question we should think about concerns the growth of correctional services as this region's dominant industry. This development was neither accidental nor uncontested. The historical record is unambiguous: the state's desire to discipline and punish those convicted of violating its laws inside prisons has never been an end in and of itself. Rather, in northern New York, it is quite literally true that state officials have always considered corrections to be an industry in every traditional sense of that word. Herein lay the root of some of our problems.

The story of each North Country prison followed a similar trajectory from the 1840s through the 1990s. First came the realization that the state's existing prisons were overcrowded. In 1840, New York operated only two penitentiaries: Auburn and Sing Sing, both of which were bursting at the seams. Each prison

had also developed notorious reputations for brutality. Simultaneously, lawmakers in Albany were seeking ways to exploit the untapped riches of the undeveloped and sparsely populated Adirondack region. The fusion of New York's correctional and economic development imperatives produced a plan in 1842 to build a new penitentiary in northern New York where inmates working in recently discovered iron mines would both keep the prison financially solvent and spur private enterprise in the region. In addition, Albany pledged Clinton State Prison would operate according to humanitarian principles in guiding the rehabilitation and re-entry of its inmates back into society. Finally, correctional leaders and the reformist Prison Association of New York hoped urban prisoners' exposure to the Adirondacks' clean air and pastoral expanses would facilitate the new penitentiary's lofty and progressive objectives.

Unbeknownst to correctional officials in 1845, a pattern had been established for future penal expansion in the North Country. By 1975, New York found itself in very similar circumstances to those of 1845: an overcrowded prison system, a depressed North Country economy in need of a jolt, a post-Attica desire to operate correctional institutions in safe and humane ways, and a still popular belief in the inherently restorative powers of exposure to Adirondack nature. Beginning with Camp Adirondack (today's Adirondack Correctional Facility) in Ray Brook in 1976, the North Country experienced a rapid proliferation of penal institutions for nearly a quarter century: Ray Brook Federal Correctional Institution in 1980, Gabriels in 1982, Altona and Lyon Mountain in 1983, Moriah in 1989, three prisons in Malone (opened in 1984, 1986, and 1999), Chateaugay in 1990, numerous facilities scattered across the region's periphery, and unbuilt prisons tentatively planned at various times for Keeseville, Champlain, Ellenburg, and famously, Tupper Lake.

At its peak, nearly 20,000 inmates resided in northern New York prisons that employed thousands of officers, administrators, and civilian staff. The continual flow of criminally convicted men from the state's urban areas to its rural hinterlands ensured a middle class quality of life heretofore unknown in a region notorious for its chronically high unemployment and poverty rates.

In each of the foregoing cases, elected officials and Correctional bureaucrats promised not only well-

paying, secure jobs, but also that unobtrusive, humanely operated prisons shielded from public view would help resuscitate the area's moribund economy. Without an ounce of shame or irony, state leaders also pledged cash-strapped counties and communities the free use of inmate labor on a slew of public infrastructure and conservation projects. Finally, Albany assured residents that escapes, unrest, and violence were the exception, not the rule, in New York's correctional system. Reading state prison planning documents from the 1840s, 1970s, and 1990s can feel like déjà vu all over again.

With even just a cursory understanding of this history, I hope we can see how the sensational coverage of Richard Matt and David Sweat's flight from Dannemora obscured a whole set of harsh and uncomfortable realities underpinning social and economic life in this region. Yes, their escape exposed local residents to unacceptable threats to life and limb and helped uncover egregious public corruption inside Clinton. However, if residents and lawmakers knew their history, none of this would have been a surprise. There have been dozens of escapes and escape attempts from Clinton over the past 170 years, and in the four decades since the birth of mass incarceration in the North Country, a whole slew of fugitives from the area's newer prisons have roamed the region's roadways and forests in their own bids for freedom.

Further, the illegal acts of Joyce Mitchell, Gene Palmer, and others inside Dannemora are but the latest examples of a culture of corruption that has plagued American prisons for decades. My research uncovered well-reported episodes just in the past three decades of extralegal physical punishments, sexual assaults on inmates, illegal wage theft, shocking security lapses, and a well-established "code of silence" within local prisons. Equally troubling has been the failure of correctional facilities to achieve the state's much vaunted promise of economic revitalization. To this day, northern New York's unemployment and poverty levels remain above state and national averages, and the business districts of area prison towns are largely hollowed out shells of their former selves. Just take

a ride down Cook Street in Dannemora, a thoroughfare whose rundown infrastructure was featured prominently on national newscasts on a nightly basis in June. How and why did this happen?

There is strong resistance to knowing and understanding uncomfortable historical and contemporary truths about the North Country's place in New York's correctional system because the economic imperatives to keep the prison industry operational have never been stronger. Think back to June 6th through the 27th. I followed the press coverage very closely and can't remember a single instance when a local resident interviewed either on TV, radio, or in print criticized the Corrections Department for creating the conditions that made the escape possible. However, if we go back to the late 1970s and 1980s, all one has to do is examine local press coverage from the time to discover residents both frightened and angry at prison escapes they deemed unacceptable risks imposed on an isolated and vulnerable population.

Now fast forward back to 2015. Within the past decade, three of the region's prisons (at Gabriels, Lyon Mountain, and Chateaugay) have closed, and there is constant talk of shuttering Moriah and Altona. State and national incarceration rates have been on a downward spiral for the past decade, and the movement to dismantle mass incarceration enjoys support across the political spectrum. In fact, reforming the nation's criminal justice and correctional systems is one of the few areas where President Obama and congressional Republicans have found common ground. Remarkably, Mr. Obama recently became the first president to visit a federal prison.

It should come as no surprise, therefore, that area residents deeply implicated in the local prison industry would defensively circle the wagons, tie on blue ribbons, and seek to pin the blame for the recent escape on an amorphous "state" that has always been both a convenient punching bag and the region's primary benefactor. The North Country's peculiar flavor of anti-statism came alive on social media and in the press in the days and weeks following June 27th. Of particular interest for me were residents' complaints that state officials had interfered with Clinton administrators' operation of the prison in the weeks and months before the escape, as if the penitentiary were the personal property of its leaders and officers. Illogical laments such as these, unfortunately, have punctuated discussions of prisons in northern New York going back decades.

However, what many locals don't (or can't) admit is

that we are all equally responsible, along with the "state," for embracing an economic development scheme based on the gross exploitation of largely non-white outsiders whose degree of "criminality" was rooted in a very specific historical time and place that, like everything from the past, was always subject to change. Local residents connected and unconnected to the prison industry should also understand that they are victims of a shortsighted and exploitative correctional system that has precluded the development of more socially just and sustainable forms of punishment and economic growth. The takeaway message here is that it didn't have to turn out this way. We're all responsible. We're all "the state." We all need to be accountable for Matt, Sweat, Mitchell, Palmer, and what happens (or not) along Cook Street.

Following this summer's escape drama, it is my hope that North Country residents might appreciate developing a stronger understanding of how deeply rooted the prison system is in this birthplace of American conservation. However, in accepting our own complicity in this summer's events, and in the history surrounding them, we must recall and acknowledge the rich and largely unknown history of resistance, dissent, and protest in the Adirondacks. These men and women, members of organizations as varied as Stop the Olympic Prison, Concerned Citizens of Ray Brook, Citizens Against More Prisons in the Adirondacks, Tupper Lake Concerned Citizens, and more recently, Friends of the North Country and John Brown Lives, heeded John Brown's 1859 lament of his fellow abolitionists: "These men are all talk. What is needed is action!" The stories of their struggles for social justice, successes, and failures should inspire everyone from schoolchildren to seniors in the same way that the works of Paul Smith, Anne LaBastille, and other iconic Adirondack figures have enriched our culture and society.

In his eulogy at Reverend Pinckney's funeral, President Obama used the Scriptures to describe how the massacre in Charleston had helped open the eyes of Americans north, south, east, and west to the persistent racism, injustice, and inequality that continue to bedevil this land. The president also took the opportunity to join the chorus of voices demanding the removal of the Confederate flag from the State House grounds in Columbia, an act that, as I mentioned at the beginning, was achieved (albeit without government approval) the very next morning.

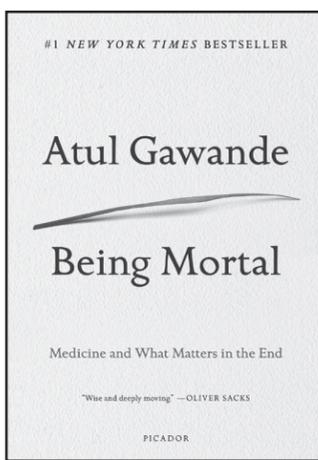
The debate over the Confederate flag and other racist symbols associated with American slavery reminded me of an incident that took place at my alma mater, Saranac

High School, back in 2004. At that time, thirty students arrived sporting Confederate flags on their clothing and vehicles, and were promptly ordered home to change by the district superintendent. Claiming the flag represented "American heritage," a handful promised to continue displaying the symbol, while an even larger number of Saranac's finest held a demonstration the following day, holding signs promoting "diversity," "respect for all," and "tolerance and unity."

While we rightly applaud the brave Saranac students who stood against displays of America's swastika over a decade ago, ironically, the Confederate flag seems an oddly appropriate symbol in the North Country, where generations of residents, tourists, second homeowners, and individuals just passing through have directly and indirectly benefited from the mass incarceration and poorly paid labor of the region's thousands of largely non-white, urban, and impoverished male prisoners. The fact that that flag resonated with young people living far from the South is indicative of the largely negative attitude toward inmates and their families that pervades many area living rooms, restaurants, bars, and coffee shops. However, much like Confederate soldiers who carried that banner into battle 150 years ago, many in this area fail to appreciate that without those imprisoned black and brown bodies, their ability to even purchase, let alone display, a Confederate flag, would be deeply compromised.

If state governments in South Carolina and Mississippi, the cradles of the Confederacy, and other localities across the South have been courageous enough to remove their symbols of a racist past, what will we do to begin cleansing the stains of racist oppression that stand amidst our beautiful Adirondacks? Much like Bree Newsome in Columbia on the morning of June 27th, who will be the first to scale the wall at Dannemora and strike a blow for a just and humane society? Matt, Sweat, and the journalists are gone, but much work remains to be done.





A REVIEW OF ATUL GAWANDE'S BEING MORTAL

by Bill Cowan & Lisa Gibson

Atul Gawande was born in Brooklyn, New York, in 1965, to Indian immigrants in the United States. Both his parents were doctors, and the family soon moved to Athens, Ohio, where Atul and his sister grew up.

Atul graduated from Stanford University in 1987 and was a Rhodes scholar at Balliol College, Oxford, studying Philosophy, Politics, and Economics (PPE) in 1989. He graduated with a Doctor of Medicine Degree from Harvard Medical School in 1995 and received a Master of Public Health Degree from Harvard School of Public Health in 1999. *Being Mortal* is his fourth book, although he has written many articles for *The New Yorker* magazine.

Gawande's medical background is important to note because it provides him with a lens through which to critically examine our mortality. The opening line of *Being Mortal's* Introduction sets the stage for that examination: "I learned a lot of things in medical school, but mortality wasn't one of them.... Our textbooks had almost nothing on aging or frailty or dying. How the process unfolds, how people experience the end of their lives, and how it affects those around them seemed beside the point. ... the purpose of medical schooling was to teach how to save lives, not how to tend to their demise."

But our demise is what Gawande is writing about. While that may sound depressing to some, his book is actually very positive because it focuses upon what we can each do to make sure our lives have meaning for us. He explores many different kinds of assisted living and nursing homes, and what makes a good one, and what

doesn't. And he is especially interested in wanting people to think about what medical measures we want to have as we inevitably age. The full title of his book is *Being Mortal - Medicine and What Matters in the End*.

Early in his narrative, Gawande points out that for most of our 100,000-year human existence, "the average life span of human beings has been thirty years or less." Today, with average life span in much of the world past 80 years, we're in uncharted territory. "What we are trying to understand," he says, "is not so much a natural process as an unnatural one."

He acknowledges how much we want autonomy, but he also sounds a warning. "Our reverence for independence takes no account of the reality of what happens in life: sooner or later, independence will become impossible. Serious illness or infirmity will strike. It is as inevitable as sunset. And then a new question arises: If independence is what we live for, what do we do when it can no longer be sustained?" He implores us to think about what we feel makes life worthwhile for us. Just how much medical intervention do we want? It's important to have contemplated this and to be able to say.

Gawande, however, reserves his most sharply directed comments for his own, the medical profession. As he says toward the end, "We think our job [in medicine] is to ensure health and survival. But really it is larger than that. It is to enable well-being. And well-being is about the reasons one wishes to live." He does not want us to continue being "a society that faces the final phase of the human life cycle by trying not to think about it."

Atul Gawande is a good writer, and his book is engrossing to read and important to understand. We highly recommend it.

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"Speak your Truth quietly,
Then just walk away,
But speak your Truth."

~ offered by Anne N. Mousse

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NATURE'S TRUST

REVIEW PART III, "NATURE'S TRUST AND THE GREAT TRANSITION"

by Tim Palmer

In Parts I and II of her book, Mary Christina Wood laid the foundation for the Great Transition by tracing the legal history of natural trusts back through Roman times and into the indigenous cultures that preceded Western Civilization. U.S. case law provides abundant evidence that it is the sovereign duty of modern government to insure the preservation of natural trust principal. This includes, but is not limited to, clean air, safe water, sufficient food and the biological systems required to provide them. As its trustees, government officials are accountable for passing this 'common wealth' along, undamaged, to future generations.

The book also documents the perverse agency mismanagement of statutes like The Clean Air and Water Acts. Environmental law under the control of neoliberal capitalism provides bureaucratic cover for permitting widespread destruction of the very natural resources it was intended to protect. Justified by a presumed need for unending material growth, it is rapidly liquidating the natural resources and living systems that constitute the most vital stock of capital in Nature's Trust, while calling it 'profit'. This is the "ideology of a cancer cell"! It clearly violates the trustee obligations of any government, especially one claiming to represent citizen interest and dedicated to insuring their posterity.

Citizenship includes the duty to hold government accountable for its destruction of vital, natural resources and to reclaim the endowment held in Nature's Trust. Insuring a secure future for our children requires the restoration of governance that administers natural trust law for the many, rather than providing obscene wealth for the few who

have seized control of it for their own benefit.

Unfortunately, we have forgotten both our dependency on the natural environment and the stewardship ethic implicit in that relationship. As a result, we are vulnerable to the modern administration of environmental law, which effectively destroys any vestigial moral basis an individual might muster in an attempt to defend themselves and their communities from destruction.

How can we possibly prevail?

Professor Wood emphasizes that moral principle is the foundation of law "not only to maintain credibility and respect in society at large, but also to inspire citizens to participate in democracy." The Nature's Trust approach revives four moral understandings that are fundamental to humanity's continued existence:

1. "That we owe ...future generations a beautiful, rich and healthful environment."
2. "Natural law designates certain resources common to all mankind and not susceptible to private ownership," including the air, water and the ecological web that sustains community prosperity. (Claiming personal ownership of such resources for oneself is theft.)
3. Natural law compels using this commonwealth for the greatest possible public benefit. (Wasting community resources is a sign of greed.)
4. Nature itself has a right to exist and flourish.

When a community recalls its dependence on natural systems, it bolsters this constellation of values. Viewed in this frame, it is apparent that preserving the Nature's Trust endowment, especially in the face of its imminent destruction, is paramount to everything else. The contrast between living in an environment governed by such precepts versus one dominated by greed, fear and waste provides additional incentive.

Professor Wood provides powerful insights about how structuring property rights relative to Nature's Trust can



provide effective legal tools for curbing corporate power. As a fundamental property concept, natural trust law defines the obligations of governance in a deeply integrated, holistic way that applies to all sovereigns—from tribes to nations. This intrinsic quality endows it with legal validity independent of legislation—an essential characteristic where elected officials are bound by special interests.

The integrity of the trust concept depends instead on a strong judiciary to enforce the fiduciary duties of trustees—the very ones that have been sloughed off by our elected officials. The author details the "steps that judges could take immediately, within their realm of authority and judicial tradition, to restore integrity to environmental law and enforce the property rights of citizen beneficiaries."

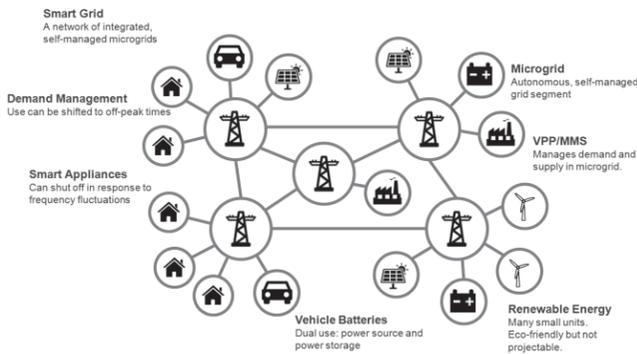
However, making judicial findings that result in the fundamental changes needed requires courage. Judges must first understand the real gravity of the ecological disaster confronting us. It is equally important to assist them with recollecting the fundamental human values embodied in Nature's Trust principles.

A citizenry acting in accordance with such values will animate the courts. Choosing to act in the best interest of coming generations, while simultaneously making very visible and vocal demands that corporate and governmental actors do likewise, (by eschewing wasteful uses of needed resources, for example) is required. Such social behaviors are manifestations of the deepest human sensibilities. Open display of these qualities is inspirational to humanity, including judicial actors.

If they can be so inspired, the judiciary already has the power to make the necessary changes, as Professor Wood explains so well in *Natures Trust!*

BIG POWER IS DYING, Long Live the Microgrid

by Colin Read



Next year is the 130th anniversary of the technologies necessary to create the modern electric grid. However, now the modern grid is not so leading edge.

The late 1880s saw a battle of competing innovations. In one corner stood Thomas Alva Edison, the intrepid and productive inventor and innovator of the light bulb, the audio recording device, moving pictures, and large direct current electric generators. In the other corner stood his former assistant, Nikola Tesla. The young upstart saw many advantages in using alternating current rather than direct current. His impudence earned him the wrath of Edison.

Edison's idea had a problem that has since been rectified (pun intended). Any high voltage is dangerous and is difficult to generate. However, it travels greater distances with lower losses than low voltage. Edison's early grids were small, perhaps even microgrids, because of his insistence on using direct current.

However, another pioneer, George Westinghouse, saw an advantage in alternating current—the prevailing electric standard today—that shifts its polarity back and forth between negative and positive many times each second. By doing so, it could use a device called a transformer to “transform” its voltage up and down. The Westinghouse concept allowed the electricity to be raised to a high voltage for transmission along lines and for great distances, and then be brought down to a lower voltage to be used more safely in the home.

Edison found this competing technology economically threatening. He waged a propaganda war against Westinghouse's preferred method, which included demonstrations of animals being electrocuted, or “Westinghoused”, by high voltage alternating current.

Undaunted, Westinghouse asked Tesla to design what would be the first long distance transmission grids. This system has prevailed ever since to bring the power most all of us use, from hydroelectric plants in Northern Quebec, to nuclear plants in Southern New York and coal-fired plants in the Midwest.

Edison's dysfunction may now be remedied because of new technologies. At the same time, solar energy and microgrids could, and should, change how we get our power. As it does so, we can expect a democratization of energy production, and perhaps an end to the large distribution towers that criss-cross our country.

The microgrid may soon replace the ubiquitous national grid because new and more powerful semiconductors allow us to change the voltage of direct current cheaply and efficiently, and perhaps even more benignly than the transformers that have changed little in 130 years. Direct current is actually safer and more efficient to move long distances, now that the voltage conversion problem has been overcome. This has opened up all kinds of opportunities.

The reason is that many new technologies, from solar cells to fuel cells, intrinsically generate direct current. And, batteries can efficiently store direct current. A combination of solar panels producing electricity during the day, batteries storing energy at night, and sustainable hydroelectric power

smoothing over our energy needs by throttling up and down as necessary is the most efficient and most environmentally benign way to provide us with the electricity we all need.

Such an opportunity allows us all to become both producers and consumers of electricity. We can generate electricity from solar panels on our rooftops that are now very affordable. We can use this energy to charge the batteries in electric cars that now have the performance and are approaching the range of hydrocarbon-burning vehicles. We can keep these cars plugged in even after they are charged to pump energy back into our lights and appliances, and even into the homes of our neighbors connected to our community microgrids.

The technology to form microgrids within our neighborhoods, rather than rely on non-sustainable power from afar, allows us to create sustainable communities, perhaps even in spite of the large power companies or consortia that want us to buy the power that they generate by their choice of means.

Organized power is not going to let us form these microgrids without a fight, though. Their technologies are becoming increasingly obsolete, but they have no competitive advantage in monopolizing power that anyone can now generate in our own backyard or on our rooftops. There are profits to preserve and yesterday's mortgaged electricity production facilities to pay. Yet, solar and wind power, and microgrids are here to stay.

Colin Read teaches environmental and energy economics at SUNY Plattsburgh.

TO PLANT A TREE

by Tim Palmer

Members of People for Positive Action recently planted a tree as part of their Annual Retreat, at Mae Currier Recreation Park. Town of Plattsburgh officials chose the planting site so that, once grown, the tree will shade the younger children as they use the playground equipment there.

Upon arriving, we found one member had already dug the hole and delivered the tree. Another brought a five-gallon bucket of homemade compost to mix with the soil around the root-ball. Cook and Gardener nursery loaned us a watering ring to help insure the tree's success, and the Town thoughtfully leaves the outside spigot at the recreation building open (so that the new tree can be watered without hauling water to the Park).

This meant one environmentally conscious PFPA member could ride his bike over to the Park with an empty 3-gallon jug to water the tree. Sure enough, the hose bib was on!

Unfortunately, however, it turned out that the faucet comes out of the building only a wee distance above the ground, making it impossible to fill that darn jug. This, therefore, required pedaling back home for a short length of hose, then riding back out to the Park again.

After using the hose to fill the jug at the bib, he hauled that first 24 pounds of water over to the tree... where he discovered someone else had already left three one-gallon milk jugs filled with water—right beside the watering ring!

Nonetheless, the determined arborist poured his full jug into that sucker anyway, then made the trip two more times to fill the ring. Never touched those other three jugs, which were left filled for when the next, community-minded Aquarian drops by to water the tree...

There are lessons here beyond knowing the use

of that handy-dandy Town spigot requires having a hose with your jug. Or that, as another member suggested, one “could haul a 500 foot hose on a trailer behind your bike.” All that would be required is “to hook up to the faucet and reel it out to the tree.”

It only takes a little serious thought to realize a greater appreciation for the kinds of community effort required to plant a tree in a public space. The dollar cost is insignificant compared to the time and effort required for communicating with each other about whether and where, when and how a tree might be planted, let alone finally placing it!

Now, the planning and effort must continue in order to provide the care required to insure it becomes well established, so that it can grow on its own.

This particular project leads to thinking about the long-term future too...

The present generation of children, and maybe the next, will not be enjoying much shade from that sapling on the playground. Nonetheless, so long as it grows it will be, like all other trees, building wood out of the CO₂ it captures, and making vital oxygen.

In this sense, it represents an infinitesimal, but ongoing contribution toward a desperately needed global atmospheric rebalancing. This is in addition to what will, eventually, become a source of much needed shade.

Planting a tree is an act of community. It is part of the sequence of subtle changes in human relationships that extends behind us, as far back as there have been human beings. That continuum of community is what has delivered each and every one of us to this particular place and time. It continues to extend in front of us, too, into the future that includes our children, and their children's children.

However, it will only go as far as we are willing and able to maintain it—together.

