Technocrats: Left To Their Devices, There Is No End In Sight

This is an insightful look by a doctoral candidate at the nexus of industry, Technocracy, Christianity and Christian Humanism. The book he cites, *The Year of Our Lord 1943 Christian Humanism in an Age of Crisis*, concludes the “reign of technocracy has become so complete that none can foresee the end of it while this world lasts.”

In President Eisenhower’s farewell address, most readers stop after his warning about the military-industrial complex. If you read just a little further, you will hear, “Yet in holding scientific discovery in respect, as we should, we must also be alert to the equal and opposite danger that public policy could itself become the captive of a scientific-technological elite.” Yes, Ike knew about and understood Technocracy!

TN Editor

In September 2016, literary critic Alan Jacobs published an essay in *Harper’s* lamenting the diminished standing of Christian
intellectuals in the American public square. Some, he claimed, now found themselves too at home in the “liberal secular world,” often distancing themselves from ordinary believers and offering little to challenge mainstream views; others had self-sorted into Christian institutions, writing and speaking mostly to Christian audiences. Both tendencies, he believed, contributed to American culture’s mounting incomprehension of religion.

His timing was auspicious. Just two months before that year’s presidential election, we were only beginning to grasp the depths to which conservative evangelical leaders and intellectuals would descend in their alliance with Donald Trump, how rapidly and shamelessly they would abandon the values in defense of which the religious right had become a major political force. But Jacobs was already concerned at both the rise of populism based in part on “religious ressentiment” and the way liberals seemed utterly perplexed by it. “It would be valuable,” he wrote, “to have at our disposal some figures equipped for the task of mediation—people who understand the impulses from which these troubling movements arise, who may themselves belong in some sense to the communities driving these movements but are also a part of the liberal social order.”

Jacobs’s latest book, *The Year of Our Lord 1943*, seems inextricable from the problem he identified two years ago. He turns to an eclectic group of Anglo-American and French writers—W. H. Auden, T. S. Eliot, C. S. Lewis, Jacques Maritain, and Simone Weil—as figures who were, amid the dark days of World War II and its immediate aftermath, able to mediate between Christian conviction and the big questions of their historical moment. These thinkers, too, lived through a clash between liberal democracy and authoritarian nationalism, and worried that the masses of ordinary citizens in Western societies had little basis on which to resist the lure of ideologies that promised victory through sheer domination. The challenge to the survival of liberal society raised the problem of the role of the Christian intellectual—of how Christian thinkers could speak in a way that their fellow citizens found at least comprehensible, and in some cases persuasive.

Around the year 1943, Jacobs argues, these “Christian humanists”
realized that the Allies would win the war and turned their attention to the rebuilding that would follow. They saw the role that American technological might had played in turning the war’s tide, and the grand plans political and scientific elites were drawing up for the postwar world. They worried that the anthropological assumptions supporting these visions uncomfortably resembled those of liberal democracy’s “totalitarian” opponents that prized the scientific and technological organization of the whole over the individual. In response, they articulated a humanist counter-vision of “man” as a remedy to the “miseducation” that they believed had left ordinary citizens vulnerable to the appeal of authoritarian political ideologies. To challenge the materialist and technocratic vision of society, Jacobs writes, “They thought it was possible—and necessary—to restore Christianity to a central, if not the dominant, role in the shaping of Western societies.”

This project, as Jacobs understands it, had two closely related dimensions: a form and a content. The form was “Christian humane learning”: engagement with the classical and European literary tradition as a way of recovering ideas that relativized the modernist, scientistic concepts that dominated the twentieth century. Maritain found inspiration in medieval Thomism, Weil in a reconfiguration of Christian spirituality as the inheritance of the classical tradition. Lewis, himself a literary scholar, used the genre of satire as a vehicle for a theological critique of secular materialism, while Auden and Eliot, in different ways, defended poetry and humanistic education as ways of being in the world that resisted the objectifying and dominating ways modern states approached knowledge.

For the Christian humanists, the form of humanist learning produced a particular kind of content: individuals whose sensibilities and vocations were cultivated in opposition to the totalizing projects of modern political regimes. Like the Catholic “anti-totalitarian” movement of the 1930s, they associated both communism and fascism with “materialism”—that is, an understanding of human beings as biological and productive entities that could be organized and managed toward utopian ends. If such designs were primarily incarnated by the “totalitarian” Nazi and Soviet regimes, the American technocracy that
developed during the war—the unaccountable authority of national-security experts, engineers, and industrialists to decide the direction of national policy—shared its faith in the power of rational organization and the manipulation of average citizens by technical experts. The answer the Christian humanists gave to the question “What is man?” was skeptical of such projects: man was a spiritual entity, an inviolable person whose individual status came before any political design. Thus Christian humanism, as Jacobs presents it, was a personalist anti-totalitarianism: an emphasis on the spiritual person as a bulwark against the designs of the state.

Read full story here...

Universal Basic Income Had A Rough 2018; 2019 May Kill It

TN predicts that Universal Basic Income will be completely nullified in 2019, thanks to a meltdown in big-tech stocks and deterioration in the
global economy. Many cities are already on the verge of bankruptcy and the world is awash with debt. [TN Editor]

Silicon Valley loves the idea of universal basic income. Many in the tech elites tout it as the answer to job losses caused by automation, if only people would give it a chance.

The idea is that all citizens receive a set amount of money from the government to cover food, housing, and clothing, without regard to income or employment status. This minimum stipend can be supplemented with wages from work. Advocates say it will help fight poverty by giving people the flexibility to find work and strengthen their safety net, or that it offers a way to support people who might be negatively affected by automation.

Getting people on board with basic income requires data, which is what numerous tests have been trying to obtain. But this year, a number of experiments were cut short, delayed, or ended after a short time. That also means the possible data supply got cut off.

Back in June we declared, “Basic income could work—if you do it Canada style.” We talked to the people on the ground getting the checks in Ontario’s 4,000-person test and saw how it was changing the community. Then, just two months later, it was announced that the program is ending in the new year rather than running for three years. The last checks will be delivered to participants in March 2019.

We’ve been waiting for basic-income data for a while. In 2016, MIT Technology Review predicted that “in 2017, we will find out if basic income makes sense.” There were two main tests we were waiting on. First there was Finland’s promising basic-income program, which received a lot of hype when it was launched in 2017. Then, in 2018, it was revealed that the program would not yet be extended beyond its original trial period. Another experiment, from tech incubator Y Combinator, has also faced more delays, pushing the experiment into 2019.

That isn’t to say all tests of universal basic income have collapsed. In North America alone there are two programs that have been functioning
for more than 20 years. Spain and Kenya also have their own high-profile tests under way. But the problems that plagued the Ontario, Finland, and Y Combinator programs illustrate the issues that basic-income programs constantly face.

Read full story here...

Amazon Convinces FBI To Try Its Facial-Recognition Software

After being lashed by its own employees for selling facial recognition software to law enforcement, Technocrat Jeff Bezos doubled-down on his efforts to penetrate all levels of government, the FBI being the latest win. ⁃ TN Editor

The software allows the FBI to go through video surveillance footage much faster than agents can.

The FBI is piloting Amazon’s facial matching software—Amazon
Rekognition—as a means to sift through mountains of video surveillance footage the agency routinely collects during investigations.

The pilot kicked off in early 2018 following a string of high-profile counterterrorism investigations that tested the limits of the FBI’s technological capabilities, according to FBI officials.

For example, in the 2017 mass shooting in Las Vegas carried out by Stephen Paddock, the law enforcement agency collected a petabyte worth of data, much of it video from cellphones and surveillance cameras.

“We had agents and analysts, eight per shift, working 24/7 for three weeks going through the video footage of everywhere Stephen Paddock was the month leading up to him coming and doing the shooting,” said FBI Deputy Assistant Director for Counterterrorism Christine Halvorsen.

Halvorsen made those remarks in November at the Amazon Web Services re:Invent conference in Las Vegas, where she described how the FBI is using Amazon’s cloud platforms to carry out counterterrorism investigations. She said Amazon Rekognition could have gone through the same trove of data from the Las Vegas shooting “in 24 hours”—or three weeks faster than it took human FBI agents to find every instance of Paddock’s face in the mountain of video.

“Think about that,” Halvorsen said, noting that technology like Amazon Rekognition frees up FBI agents and analysts to apply their skills to other aspects of the investigation or other cases.

“The cases don’t stop, the threats keep going,” Halvorsen added. “Being able to not pull people off that and have computers do it is very important.”

Read full story here...
Qualcomm: 5G Is Coming In 2019, And It’s Going To Change Your Life

This is a Qualcomm press release. It is a leader in 5G technology, providing “innovation in autonomous driving, smart cities, social good, and beyond.” It promises Utopia yet delivers Scientific Dictatorship. However, it is true that 5G is going to change your life! — TN Editor

It’s hard to imagine life without smart phones and mobile devices. But it wasn’t until 3G that smart phones began to resemble the user experience now so ingrained in our daily lives. Since then, faster network speeds have been one of key enablers of the creation and widespread use of cloud technology enabling transformative services like ride-sharing apps, HD entertainment, and video calls that have become mainstream.

While 3G and 4G powered these services, 5G represents another connectivity leap beginning this year.

It is envisioned — per ITU-R’s IMT-2020 requirements — to support blazing-fast speeds of up to 20 Gbps, low latency as low as 1 millisecond, and 100x more capacity as compared to 4G, 5G is setting the stage for
immediate improvements to existing experiences as well as the
development of new, yet-to-be-imagined technological advancements.

Here’s a look at the change coming:

**Everything will get faster**

From day 1, 5G is designed to make virtually everything faster, providing fiber-like speeds to support insatiable demand for unlimited data. You should notice improved download speeds, superior quality video streaming and virtually instant cloud access in flagship 5G devices launching in 2019. And it should be easier than ever to download your favorite binge-worthy series at the airport or deliver massive files to colleagues when you’re on the go.

**Instant access to cloud**

5G brings extraordinary low latency. Latency is the time between data request and its delivery. 5G is purpose-built and designed to deliver entirely new real-time experiences we’ve never had before. We expect our new smartphones, tablets, and always-connected PCs* will be able to utilize 5G’s lower latency connectivity, higher capacity, in addition to its super-fast speeds, for the next level of cloud services.

**Smooth real-time multiplayer gaming**

Once online/cloud gaming make it easier for multi-player collaboration, then, live-stream gameplay with rapid map and level downloads will get a boost. Think of first-person shooter game where latency can be the difference between your character’s life and death.

**Transformation to the Wireless Edge**

As virtually everything gets connected in this new era, realizing 5G’s full potential requires transformation of the wireless edge. An architecture of distributed intelligence where intelligence that deals with immediacy is moved toward the edge (closer to or on the devices) while processing-intensive functions are kept in the cloud. 5G is enabled with the help of
Qualcomm’s foundational inventions and mobile platforms, and is engineered to provide the high-speed low-latency link that connects them together.

One great use case of 5G and edge computing is extended reality (XR). Enough processing is kept in the headset while offloading nearly everything else, including rendering, to the cloud. With your 360-degree views effortlessly synchronized with your movements, XR experience is intended to feel immediate and photorealistic. Simply put, this could transform your experience from passive watching to living the moment.

Another use case is AR shopping. This is just beyond utility, it can make the shopping experience more fun, with the ability to virtually decorate with friends or family. An experience that can allow you to see how a couch will fit in your home – try it before you buy type of experience.

What’s next can only be imagined

Qualcomm, an inventor of breakthrough technologies for wireless, is focused on enterprise as well as consumer use cases. The next phase of 5G is designed to bring large-scale changes for the enterprise and business sides, allowing for innovation in autonomous driving, smart cities, social good, and beyond.

Read full story here...
Cash No Good: More Retailers Reject Paper Money

Cashless society is a requirement for forcing everyone into a digital system, a goal for Fintech and Sustainable Development. Nobody has yet taken American retailers to court over the legality of refusing to accept cash, but according to the U.S. Treasury, each bill clearly states: “This note is legal tender for all debts, public and private.” — TN Editor

“Your cash is not wanted here”, a growing number of retailers and restaurants throughout the US and UK are telling customers. But are reasons being given by companies for the new “cashless” approach — speed, efficiency, and the safety of store employees — valid enough to require something as utterly and downright unAmerican as rejecting cash?

We think not, and unfortunately the trend of “cash not welcome here” establishments is growing, to the point that lawmakers are beginning to take note and could introduce legislation barring the practice, as Massachusetts has done already, and as the New Jersey State House could be set to do next. According to a Federal Reserve survey conducted in 2017 cited in The Wall Street Journal, cash represented 30% of all transactions in America, with 55% of those being under $10.
Regardless of Americans’ longtime preference for plastic in most transactions, many of which take place online, research by the Federal Reserve found that cash is still king in terms of Americans’ daily lives and usage, and as the study concluded further, this remains true across all income levels:

*Not only is cash used frequently for small value and in-person purchases, it is also used by a wide array of consumers.* The data on cash use by household income provides two main insights. First, consumers make—on average—14 cash transactions per month, regardless of household income. It is also noteworthy that cash was the most, or second most, used payment instrument regardless of household income, *indicating that its value to consumers as a payment instrument was not limited to lower income households that may be less likely to have access to an account at a financial institution.*

But this reality is now pushing up against the new trend of the cashless restaurant, bar and retailer, and creating awkward and frustrating situations for consumers, as a new *Wall Street Journal* piece chronicles. In one scenario, a customer had to intervene on another’s behalf and play personal bank for a “card only” salon, even though there was plenty of cash on hand offered by the woman who couldn’t pay. Ironically, as the WSJ story notes, this *created an “emergency”:*

*Sam Schreiber was mid-shampoo at a Drybar blow-dry salon in Los Angeles when someone from the front desk approached her stylist with an emergency: a woman was trying to pay for her blow-out with cash.*

“There was this beat of silence,” says Ms. Schreiber, 33 years old. “She literally brought $40.”

More and *more businesses like Drybar don’t want your money—the paper kind* at least. It’s making things awkward for those who come ill prepared. After all, you can’t give back a hairdo, an already dressed salad or the two beers you already drank.
And in another situation where someone simply wanted to order a salad, but was refused upon presenting $20 cash, the rejected customer slammed the policy that created the whole awkward situation as elitist. The customer recounted for the WSJ:

Jaclyn Benton, 30, visited a Sweetgreen near her office in Reston, Va., last summer with $20 cash, but no credit or debit card because she had forgotten her wallet at home. When her order was ready and she went to pay, the cashier explained that the restaurant doesn’t take bills.

“It’s almost like when your credit card gets declined for silly reasons,” says Ms. Benton, who works as an event planner. “It makes you feel like you can’t afford it even though I had the money right there.”

Ms. Benton has no plans to go back: “It feels very elitist,” she says.

A Sweetgreen spokeswoman said its decision makes its team members safer amid the risk of robbery and improves the cleanliness and efficiency of the restaurants.

Another anecdote involved a 51-year old women left feeling humiliated at a Manhattan restaurant. Though the eatery proudly advertises that its food comes from “from farmers and partners as close to home as possible,” it apparently rejects your local cash.

Read full story here...
Is Rep. Ocasio-Cortez Promoting Technocracy With Her ‘Green New Deal’?

Ocasio-Cortez appears to be reading directly from United Nations policy documents, proposing universal Smart Grid, eliminating ‘greenhouse gas emissions, total oversight for American industry, spreading her Green New Deal to the whole world, etc. Don’t fall into the trap of calling this “democratic socialism”; it’s Sustainable Development, aka Technocracy.

Incoming New York Rep. Alexandria Ocasio-Cortez brings with her a massive online following, influence she says she’ll deploy only in support of candidates and politicians who support her plan for a “Green New Deal.”

“The Green New Deal” is something Ocasio-Cortez invokes frequently in media appearances and rallies.

So what’s actually in it?

Her office recently released the text [full text produced below] of a
proposed House rules change outlining the plan.

The proposed rule change for the upcoming 116th Congress would require the creation of a “Select Committee for a Green Deal” that would be responsible for creating the plan by January 1, 2020, with corresponding draft legislation soon after. The text of the rule change lays out the committee’s jurisdiction and required areas of action.

Its scope and mandate for legislative authority amounts to a radical grant of power to Washington over Americans’ lives, homes, businesses, travel, banking, and more.

Early on, under “Jurisdiction,” the document makes clear its grandiose philosophical vision: “The select committee shall have authority to develop a detailed national, industrial, economic mobilization plan for the transition of the United States economy to become greenhouse gas emissions neutral and to significantly draw down greenhouse gases from the atmosphere and oceans and to promote economic and environmental justice and equality.”

In addition to achieving its goal of “meeting 100% of national power demand through renewable sources,” the document also repeatedly states the Green New Deal will advance non-environmental projects, such as, “social, economic, racial, regional and gender-based justice.”

Ocasio-Cortez’s plan further claims it will (virtually) eliminate poverty: “The Plan for a Green New Deal (and the draft legislation) shall recognize that a national, industrial, economic mobilization of this scope and scale is a historic opportunity to virtually eliminate poverty in the United States and to make prosperity, wealth and economic security available to everyone participating in the transformation.”

More specifically, Ocasio-Cortez’s plan calls for, within 10 years, a series of lofty overhauls of American life [emphasis added]:

- The installation of a “national, energy-efficient, “smart grid.”
- “Upgrading every residential and industrial building for state-of-the-art energy efficiency, comfort and safety”
- “Eliminating greenhouse gas emissions from the
manufacturing, agricultural and other industries” as well as from America’s transportation and infrastructure network
• Funding “massive investment” in reducing existing greenhouse gasses

Between its calls for “upgrading” homes and overhauling travel, public infrastructure, and even the way Americans consume electricity, the plan leaves virtually no facet of everyday life untouched. Think of how often you don’t use electricity to imagine how much of your average day the plan wouldn’t impact.

The proposed committee would also have seemingly total oversight of American industry, with a mandate for pushing union membership. Under “Scope of the Plan,” a section on labor states the committee’s final plan shall: “Require strong enforcement of labor, workplace safety, and wage standards that recognize the rights of workers to organize and unionize free of coercion, intimidation, and harassment, and creation of meaningful, quality, career employment.”

Later in the document, Ocasio Cortez’s plan imagines creating a national jobs force to help people participate in this “transition.” The Green New Deal, it says, shall “provide all members of our society, across all regions and all communities, the opportunity, training and education to be a full and equal participant in the transition, including through a job guarantee program to assure a living wage job to every person who wants one.”

The plan also imagines creating governmental support for “transitioning” minority communities. The deal shall: “ensure a ‘just transition’ for all workers, low-income communities, communities of color, indigenous communities, rural and urban communities and the front-line communities most affected by climate change, pollution and other environmental harm including by ensuring that local implementation of the transition is led from the community level.”

More, Ocasio-Cortez sees this plan is being a vehicle through which social equality might finally realized through the use of reparations to right historical injustices. The final Green New Deal will “mitigate deeply
entrenched racial, regional and gender-based inequalities in income and wealth (including, without limitation, ensuring that federal and other investment will be equitably distributed to historically impoverished, low income, deindustrialized or other marginalized communities in such a way that builds wealth and ownership at the community level).”

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DRAFT TEXT FOR PROPOSED ADDENDUM TO HOUSE RULES FOR 116TH CONGRESS OF THE UNITED STATES

SEC. [____]. COMMITTEES, COMMISSIONS, AND HOUSE OFFICES.

(a) Establishment of the Select Committee For A Green New Deal.—

(1) ESTABLISHMENT; COMPOSITION.—

(A) ESTABLISHMENT.—There is hereby established a Select Committee For A Green New Deal (hereinafter in this section referred to as the “select committee”).

(B) COMPOSITION.—The select committee shall be composed of 15 members appointed by the Speaker, of whom 6 may be appointed on the recommendation of the Minority Leader. The Speaker shall designate one member of the select committee as its chair. A vacancy in the membership of the select committee shall be filled in the same manner as the original appointment.

(2) JURISDICTION; FUNCTIONS.—

(A) LEGISLATIVE JURISDICTION.—

(i) The select committee shall have authority to develop a detailed national, industrial, economic mobilization plan (hereinafter in this section referred to as the “Plan for a Green New Deal” or the “Plan”) for
the transition of the United States economy to become greenhouse gas emissions neutral and to significantly draw down greenhouse gases from the atmosphere and oceans and to promote economic and environmental justice and equality. In furtherance of the foregoing, the Plan shall: (a) be prepared in consultation with experts and leaders from business, labor, state and local governments, tribal nations, academia and broadly representative civil society groups and communities; (b) be driven by the federal government, in collaboration, co-creation and partnership with business, labor, state and local governments, tribal nations, research institutions and civil society groups and communities; (c) be executed in no longer than 10 years from the start of execution of such Plan; (d) provide opportunities for high income work, entrepreneurship and cooperative and public ownership; and (e) additionally, be responsive to, and in accordance with, the goals and guidelines relating to social, economic, racial, regional and gender-based justice and equality set forth in paragraph (6).

(ii) In addition to preparing the Plan as set forth in paragraph (2)(A)(i), the select committee shall prepare draft legislation for the enactment of the Plan (hereinafter in this section referred to as the “draft legislation”), in accordance with this section. Such draft legislation may be prepared concurrently with the development of the Plan, or as the select committee may otherwise deem appropriate, provided that such finalized draft legislation shall be completed in accordance with the timing set forth in paragraph (5)(B)(ii).

(iii) The select committee shall not have legislative jurisdiction and shall have no authority to take legislative action on any bill or resolution, provided that the foregoing shall not affect the select committee’s ability to prepare draft legislation in accordance with paragraph (2)(A)(i) and (2)(A)(ii).

(B) INVESTIGATIVE JURISDICTION.—In furtherance of the mandate set forth in paragraph (2)(A), the select committee shall have the authority to investigate, study, make findings, convene experts and leaders from industry, academia, local communities, labor, finance, technology and any other industry or group that the select committee deems to be a relevant resource. The select committee may, at its discretion and as its
members may deem appropriate, hold public hearings in connection with any aspect of its investigative functions.

(3) PROCEDURE.—

(A) Except as specified in paragraph (2), the select committee shall have the authorities and responsibilities of, and shall be subject to the same limitations and restrictions as, a standing committee of the House, and shall be deemed a committee of the House for all purposes of law or rule.

(B)(i) Rules [to be confirmed by reference to overall House Rules package] (Organization of Committees) and [to be confirmed by reference to overall House Rules package] (Procedures of Committees and Unfinished Business) shall apply to the select committee where not inconsistent with this resolution.

(ii) Service on the select committee shall not count against the limitations on committee or subcommittee service in Rule [to be confirmed by reference to overall House Rules package] (Organization of Committees).

(4) FUNDING.—To enable the select committee to carry out the purposes of this section—

(A) The select committee may use the services of staff of the House and may, at its discretion and as its members may deem appropriate, use the services of external consultants or experts in furtherance of its mandate;

(B) The select committee shall be eligible for interim funding pursuant to clause [to be confirmed by reference to overall House Rules package] of Rule [to be confirmed by reference to overall House Rules package] (Interim Funding - Organization of Committees); and

(C) Without limiting the foregoing, the select committee may, at any time and from time to time during the course of its mandate, apply to the House for an additional, dedicated budget to carry out its mandate.

(5) INTERIM REPORTING; SUBMISSION OF THE PLAN FOR A GREEN NEW DEAL; SUBMISSION OF DRAFT LEGISLATION—
(A) The select committee may report to the House or any House Committee it deems appropriate from time to time the results of its investigations and studies, together with such detailed findings and interim recommendations or proposed Plan or draft legislation (or portion thereof) as it may deem advisable.

(B) (i) The select committee shall complete the Plan for a Green New Deal by a date no later than January 1, 2020.

(ii) The select committee shall complete the finalized draft legislation by a date no later than the date that is 90 calendar days after the select committee has completed the Plan in accordance with paragraph (5)(B)(i) and, in any event, no later than March 1, 2020.

(iii) The select committee shall ensure and procure that the Plan and the draft legislation prepared in accordance with this section shall, upon completion in accordance with paragraphs (5)(B)(i) and (ii), be made available to the general public in widely accessible formats (including, without limitation, via at least one dedicated website and a print publication) by a date no later than 30 calendar days following the respective dates for completion set forth in paragraphs (5)(B)(i) and (ii).

(6) SCOPE OF THE PLAN FOR A GREEN NEW DEAL AND THE DRAFT LEGISLATION.—

(A) The Plan for a Green New Deal (and the draft legislation) shall be developed with the objective of reaching the following outcomes within the target window of 10 years from the start of execution of the Plan:

1. Dramatically expand existing renewable power sources and deploy new production capacity with the goal of meeting 100% of national power demand through renewable sources;
2. building a national, energy-efficient, “smart” grid;
3. upgrading every residential and industrial building for state-of-the-art energy efficiency, comfort and safety;
4. eliminating greenhouse gas emissions from the manufacturing, agricultural and other industries, including by investing in local-scale agriculture in communities across the country;
5. eliminating greenhouse gas emissions from, repairing and
improving transportation and other infrastructure, and upgrading water infrastructure to ensure universal access to clean water;

6. funding massive investment in the drawdown of greenhouse gases;

7. making “green” technology, industry, expertise, products and services a major export of the United States, with the aim of becoming the undisputed international leader in helping other countries transition to completely greenhouse gas neutral economies and bringing about a global Green New Deal.

(B) The Plan for a Green New Deal (and the draft legislation) shall recognize that a national, industrial, economic mobilization of this scope and scale is a historic opportunity to virtually eliminate poverty in the United States and to make prosperity, wealth and economic security available to everyone participating in the transformation. In furtherance of the foregoing, the Plan (and the draft legislation) shall:

1. provide all members of our society, across all regions and all communities, the opportunity, training and education to be a full and equal participant in the transition, including through a job guarantee program to assure a living wage job to every person who wants one;

2. diversify local and regional economies, with a particular focus on communities where the fossil fuel industry holds significant control over the labor market, to ensure workers have the necessary tools, opportunities, and economic assistance to succeed during the energy transition;

3. require strong enforcement of labor, workplace safety, and wage standards that recognize the rights of workers to organize and unionize free of coercion, intimidation, and harassment, and creation of meaningful, quality, career employment;

4. ensure a ‘just transition’ for all workers, low-income communities, communities of color, indigenous communities, rural and urban communities and the front-line communities most affected by climate change, pollution and other environmental harm including by ensuring that local
implementation of the transition is led from the community level and by prioritizing solutions that end the harms faced by frontline communities from climate change and environmental pollution;
5. protect and enforce sovereign rights and land rights of tribal nations;
6. mitigate deeply entrenched racial, regional and gender-based inequalities in income and wealth (including, without limitation, ensuring that federal and other investment will be equitably distributed to historically impoverished, low income, deindustrialized or other marginalized communities in such a way that builds wealth and ownership at the community level);
7. include additional measures such as basic income programs, universal health care programs and any others as the select committee may deem appropriate to promote economic security, labor market flexibility and entrepreneurism; and
8. deeply involve national and local labor unions to take a leadership role in the process of job training and worker deployment.

(C) The Plan for a Green New Deal (and the draft legislation) shall recognize that innovative public and other financing structures are a crucial component in achieving and furthering the goals and guidelines relating to social, economic, racial, regional and gender-based justice and equality and cooperative and public ownership set forth in paragraphs (2)(A)(i) and (6)(B). The Plan (and the draft legislation) shall, accordingly, ensure that the majority of financing of the Plan shall be accomplished by the federal government, using a combination of the Federal Reserve, a new public bank or system of regional and specialized public banks, public venture funds and such other vehicles or structures that the select committee deems appropriate, in order to ensure that interest and other investment returns generated from public investments made in connection with the Plan will be returned to the treasury, reduce taxpayer burden and allow for more investment.
FREQUENTLY ASKED QUESTIONS

Why do we need a sweeping Green New Deal investment program? Why can’t we just rely on regulations and taxes alone, such as a carbon tax or an eventual ban on fossil fuels?

- Regulations and taxes can, indeed, change some behavior. It’s certainly possible to argue that, if we had put in place targeted regulations and progressively increasing carbon and similar taxes several decades ago, the economy could have transformed itself by now. But whether or not that is true, we did not do that, and now time has run out.
- Given the magnitude of the current challenge, the tools of regulation and taxation, used in isolation, will not be enough to quickly and smoothly accomplish the transformation that we need to see.
- Simply put, we don’t need to just stop doing some things we are doing (like using fossil fuels for energy needs); we also need to start doing new things (like overhauling whole industries or retrofitting all buildings to be energy efficient). Starting to do new things requires some upfront investment. In the same way that a company that is trying to change how it does business may need to make big upfront capital investments today in order to reap future benefits (for e.g., building a new factory to increase production or buying new hardware and software to totally modernize its IT system), a country that is trying to change how its economy works will need to make big investments today to jump-start and develop new projects and sectors to power the new economy.
- The draft resolution sets out a (non-exhaustive) list of several major projects that need to be completed fast. These include upgrading virtually every home and building for energy efficiency, building a 100% greenhouse gas neutral power generation system, decarbonizing industry and agriculture and more. These projects will all require investment.
- We’re not saying that there is no place for regulation and taxes (and these will continue to be important tools); we’re saying we need to add some new tools to the toolkit.
**Why should the government have a big role in driving and making any required investments? Why not just incentivize the private sector to invest through, for e.g., tax subsidies and such?**

- Two main reasons: (1) scale and (2) time.

  - First – scale. The level of investment required will be massive. Even if all the billionaires and companies came together and were willing to pour all the resources at their disposal into this investment, the aggregate value of the investments they could make would not be sufficient. For example, the “$1 trillion over 10 years” plan for investment in the green economy that has been floated by some policy makers has been criticized by climate experts as a wholly inadequate level of investment – $1 trillion is the entire market cap of Amazon, one of the biggest companies of all time (and it is far ahead of its closest competitors in terms of market size).

  - Second – time. The speed of investment required will be massive. Even if all the billionaires and companies could make the investments required, they would not be able to pull together a coordinated response in the narrow window of time required to jump-start major new projects and major new sectors.

  - Time-horizons matter in another way – by their nature, private companies are wary of making massive investments in unproven research and technologies; the government, however, has the time horizon to be able to patiently make investments in new tech and R&D, without necessarily having a commercial outcome or application in mind at the time the investment is made. Major examples of government investments in “new” tech that subsequently spurred a boom in the private section include DARPA-projects, the creation of the internet – and, perhaps most recently, the government’s investment in Tesla.

  - We’ve also seen that merely incentivizing the private sector doesn’t work – e.g. the tax incentives and subsidies given to wind and solar projects have been a valuable spur to growth in the US renewables industry but, even with such investment-promotion
subsidies, the present level of such projects is simply inadequate to transition to a fully greenhouse gas neutral economy as quickly as needed.

- Once again, we’re not saying that there isn’t a role for private sector investments; we’re just saying that the level of investment required will need every actor to pitch in and that the government is best placed to be the prime driver.

How will the government pay for these investments?

- Many will say, “Massive government investment! How in the world can we pay for this?” The answer is: in the same ways that we paid for the 2008 bank bailout and extended quantitative easing programs, the same ways we paid for World War II and many other wars. The Federal Reserve can extend credit to power these projects and investments, new public banks can be created (as in WWII) to extend credit and a combination of various taxation tools (including taxes on carbon and other emissions and progressive wealth taxes) can be employed.
- In addition to traditional debt tools, there is also a space for the government to take an equity role in projects, as several government and government-affiliated institutions already do.

Why do we need a select committee? We already have committees with jurisdiction over the subject matter e.g. Energy and Commerce, Natural Resources and Science, Space and Technology. Just creating another committee seems unnecessary.

- This is a big problem with lots of parts to it. The very fact that multiple committees have jurisdiction over parts of the problem means that it’s hard for any one of those existing committees to generate a comprehensive and coherent plan that will actually work to transform America’s economy to become greenhouse gas neutral in the time we have left.
- Not having a full 360° view of, and approach to, the issue (and only having authority over a part of the issue) means that standing committee solutions would be piecemeal, given the size and scope of the problem. A Democratic administration and
Congress in 2020 will not have the time to sort through and combine all those solutions in the brief window of opportunity they will have to act.

- Select committees, in the Congressional Research Services’ own words, serve the specific function of “examin[ing] emerging issues that do not fit clearly within existing standing committee jurisdictions or cut across jurisdictional boundaries.” (see: https://www.senate.gov/CRSpubs/312b4df4-9797-41bf-b623-a8087cc91d74.pdf)

- The challenges that the Select Committee For A Green New Deal is mandated to meet fit squarely within this space.

- This does not need to be a zero sum proposition between committees. Just as Markey-Waxman was collaborative between the head of the Select Committee and standing Energy & Commerce committee, this can also be collaborative. More is more. A select committee ensures constant focus on climate change as the standing committee deals with that and many other issues of the day — such as wild fires in California, Infrastructure, clean water issues, etc.

**Why should we not be satisfied with the same approach the previous select committee used (i.e. the Select Committee on Energy Independence and Global Warming)? Why do we need a new approach?**

- The previous select committee did not have a mandate to develop a plan for the transformation of our economy to become carbon neutral. It mainly held hearings to draw attention to the problem of climate change. That was already too little too late in 2007-11 when the committee was active.

- The previous select committee’s work can be summarized as follows (see: https://www.congress.gov/bill/111th-congress/house-resolution/5/text, the old select committee is established in Section 4):

- The “sole authority” it did have was to “investigate, study, make findings, and develop recommendations on policies, strategies, technologies and other innovations, intended to reduce the
dependence of the United States on foreign sources of energy and achieve substantial and permanent reductions in emissions and other activities that contribute to climate change and global warming.”

- From March 2007 to December 2010 – a full 3.5 years – they did the job that they were tasked to do and held hearings and prepared reports (see: https://www.congress.gov/committee/house-energy-independence-and-global and https://www.markey.senate.gov/GlobalWarming/index.html (in fact, they held 80 hearings and briefings)

- Per their website, they “engage[d] in oversight and educational activities through hearings, reports, briefings and other means intended to highlight the importance of adopting policies which reduce our dependence on foreign oil and our emissions of global warming pollution.”

- So there has already been a select committee that did the investigating to highlight that it was important to have some action on this issue – it’s now time to move on from investigating and reporting to action.

- The old select committee also had (even within its limited investigative mandate) the limitation that it focused on strategies for reducing foreign energy dependence and reducing emissions – rather than treating climate issues as the integrated social, economic, scientific challenge that it is.

**Why does this new select committee need to prepare draft legislation? Isn’t investigation, hearings, briefings and reporting enough?**

- The old select committee was mandated merely to investigate and prepare reports for other people and House Committees to read and act on.

- The idea was that (as per the old select committees website) “each Member of the Select Committee sits on legislative committees which process legislation and amendments affecting
energy independence and global warming issues in other committees” and presumably, that those members would take the work of the select committee and come up with legislation in their own committees.

- However, this approach did not make a big impact relative to the scale of the problem we face. The one piece of legislation that eventually came out of the old select committees work – the American Clean Energy and Security Act of 2009 (ACES) [https://www.markey.senate.gov/GlobalWarming/legislation/index.html] was a cap-and-trade bill that was wholly insufficient for the scale of the problem.

- The House had a chance (from 2007 to 2010) to try a version of a select committee that investigated an issue and then passed along preparation of legislation to other committees – the result of that process doesn’t inspire any confidence that the same process should be followed again if we wish to draft a plan to tackle the scale of the problem we face.

- The new select committee will also continue to have investigative jurisdiction, so the new proposal isn’t taking anything away from the old one - it is adding things on to make the select committee more effective.

What’s an example of a select committee with abilities to prepare legislation? Does the new Select Committee For A Green New Deal seem to fit on that list?

- Recent examples for select committees in the House include: Ad Hoc Select Committee on the Outer Continental Shelf (94th-95th Congresses), Ad Hoc Select Committee on Energy (95th Congress), Select Committee on Homeland Security (107th Congress), and Select Committee on Homeland Security (108th Congress).

- The Congressional Research Service notes (in discussing these four recent select committees with legislative jurisdiction) that “The principal explanation offered in creating each of the four select committees with legislative authority was that their creation solved jurisdictional problems. The proponents in each
case indicated that multiple committees claimed jurisdiction over a subject and that the House would be unable to legislate, or at least to legislate efficiently, in the absence of a select committee.”
(see: https://www.everycrsreport.com/reports/R40233.html#_Toc228679963)
- The proposed subject matter and mandate for the Select Committee For A Green New Deal sits squarely within this general description for a select committee with the ability and mandate to prepare legislation.

**Doesn’t this select committee take away jurisdictional power from the other (standing i.e. permanent) committees that have jurisdiction over at least part of the issue?**

- All of the relevant standing committees will be able to provide input to and make their wishes known to the select committee during the creation of both the plan as well as the draft legislation, and then in a future Congress, when it comes to crafting and passing the final legislation, that Congress can take a decision on the best mechanism for bringing that final legislation to a floor vote and passage.
- Allowing the select committee to draft legislation doesn’t take any jurisdiction away from current standing committees, it is entirely additive.
- The legislation developed by the select committee would still need to be referred to and pass through the permanent House Committees that have jurisdiction over parts of the subject matter.
- For example, the legislation drafted by the Select Committee on Homeland Security needed to pass through the permanent committees on Agriculture; Appropriations; Armed Services; Energy and Commerce; Financial Services; Government Reform; Intelligence (Permanent Select); International Relations; Judiciary; Science; Transportation and Infrastructure; Ways and Means
(see: https://www.congress.gov/bill/107th-congress/house-bill/50
The benefit of a select committee in this case would also be that there would be a single forum that could act as a quarterback in working through and resolving any comments or issues brought up by the other House Committees, which would streamline the process of drafting this legislation.

But a select committee only exists for the congressional session that created it! So even if this select committee prepares legislation, it likely won’t get passed in this session by a Republican-held Senate and White House, so why does having a select committee now even matter?

- The proposed new select committee would work in two stages (which wouldn’t necessarily have to be sequential):
  - First, they would put together the overall plan for a Green New Deal – they would have a year to get the plan together, with the plan to be completed by January 1, 2020. The plan itself could be in the form of a report or several reports.
  - Second, they would also put together the draft legislation that actually implements the plan – they could work on the draft legislation concurrently with the plan (after they get an initial outline of the plan going) and would need to complete the draft legislation within 90 days of completing the plan (i.e. by March 1, 2020 at the latest)
- The select committee is also required to make the plan and the draft legislation publicly accessible within 30 days of completing each part

- The plan and the draft legislation won’t be developed in secret – they are specifically required to be developed with wide and broad consultation and input and the select committee can share drafts or any portions of their work with the other House Committees at any time and from time to time, so their work will be conducted in the open, with lots of opportunities to give input along the way.
- The idea is that between (a) developing the plan and the draft
legislation (and holding public hearings and briefings along the way as needed), (b) the plan coming out in Jan 2020 and (c) the draft legislation coming out in March 2020, the relevant permanent House Committees, House members, experts and public will have time to engage with, discuss, revise the draft legislation between March 2020 and the end of the 116th Congress so that, by the end of this congressional term, there is a comprehensive plan and enacting legislation all lined up as soon as the new (Democratic) Congress convenes in January 2021.

What’s wrong with the other proposed legislation on climate change? Can’t we just pass one of the other climate bills that have been introduced in the past? Why prepare a whole new one?

- The shortest and most accurate response is that (1) none of them recognize the extent to which climate and other social and economic issues are deeply interrelated and (2) even if looking at climate as a stand-alone issue, none of them are scaled to the magnitude of the problem.
- Of the other proposed legislation, the OFF Act could be a good starting point
Technocracy Rules: China Is Purging Marxists and Communists

Why is China purging Marxists and Communists from its population?

A let-the-cat-out-of-a-bag story from Time Magazine in 2001 declared that China had already flipped into a Technocracy, leaving Communism in the dust. The article, Revenge of the Nerds stated:

_The nerds are running the show in today’s China. In the twenty years since Deng Xiaoping’s reforms kicked in, the composition of the Chinese leadership has shifted markedly in favor of technocrats._ …_It’s no exaggeration to describe the current regime as a technocracy._

After the Maoist madness abated and Deng Xiaoping inaugurated the opening and _reforms that began in late 1978, scientific and technical intellectuals were among the first to be rehabilitated_. Realizing that they were the key to the Four Modernizations embraced by the reformers, concerted efforts were made to bring the “experts” back into the fold.

_During the 1980s, technocracy as a concept was much talked about, especially in the context of so-called “Neo-Authoritarianism” — the principle at the heart of the “Asian Developmental Model” that South Korea, Singapore, and Taiwan had pursued with apparent success._ The basic beliefs and assumptions of the technocrats were laid out quite plainly: _Social and economic problems were akin to engineering problems and could be understood, addressed, and eventually solved as such._

_The open hostility to religion that Beijing exhibits at times — most notably in its obsessive drive to stamp out the “evil cult” of Falun Gong — has pre-Marxist roots. Scientism underlies the post-Mao technocracy, and it is the orthodoxy against which heresies are mea-
I have stated for several years now that China’s Communists and Marxists would end up being the “useful idiots” of Technocracy, just like they will in America. The radical Marxist left served a purpose – for a time – and now their time is running out.

The following broadcaster really gets that China is not Communist, but has no knowledge of Technocracy. TN Readers will clearly see Technocracy for what it is. ⁃ TN Editor

China is finally starting its purge of Marxists and Communists, as evidenced by the recent headlines in major publications:

- China’s Communist Party is cracking down on a new target — student communists campaigning for workers’ rights. - Business Insider
- Peking University threatens to close down Marxism society - Financial Times (UK)
- No Place for Real Marxists in Communist China - The Diplomat
- The Communist Party’s Latest, Unlikely Target: Young Marxists - NPR

All of these journalists scratch their head as to how strange this seems, but if they understood anything about Technocracy, they would know that Technocracy and Communism have always been natural enemies. They are oil and water or matter and anti-mater to each other. In the end, Technocrats have absolutely no use for anything Marxian.

If you are a Communist, Marxist, Socialist, Leftist, etc., I suggest that you watch your back. Although you have helped them to deconstruct Capitalism and Free Enterprise, the Technocrats will throw you all under the bus when they feel you are not needed any longer. China has already reached that point, and America isn’t far behind.
I have warned for years that the UN intends to deep-six Capitalism in favor of Sustainable Development, aka Technocracy. Now, the UN is coming out in the open as the global economy turns downward. Cries that “Capitalism is dead” will soon be heard while Technocracy will be offered as the only possible solution to save the world. ☐ TN Editor

Capitalism as we know it is over. So suggests a new report commissioned by a group of scientists appointed by the UN secretary general. The main reason? We’re transitioning rapidly to a radically different global economy, due to our increasingly unsustainable exploitation of the planet’s environmental resources and the shift to less efficient energy sources.
Climate change and species extinctions are accelerating even as societies are experiencing rising inequality, unemployment, slow economic growth, rising debt levels, and impotent governments. Contrary to the way policymakers usually think about these problems these are not really separate crises at all.

These crises are part of the same fundamental transition. The new era is characterised by inefficient fossil fuel production and escalating costs of climate change. Conventional capitalist economic thinking can no longer explain, predict or solve the workings of the global economy in this new age.

Energy shift

Those are the implications of a new background paper prepared by a team of Finnish biophysicists who were asked to provide research that would feed into the drafting of the UN Global Sustainable Development Report (GSDR), which will be released in 2019.

For the “first time in human history”, the paper says, capitalist economies are “shifting to energy sources that are less energy efficient.” Producing usable energy (“exergy”) to keep powering “both basic and non-basic human activities” in industrial civilisation “will require more, not less, effort”.

At the same time, our hunger for energy is driving what the paper refers to as “sink costs.” The greater our energy and material use, the more waste we generate, and so the greater the environmental costs. Though they can be ignored for a while, eventually those environmental costs translate directly into economic costs as it becomes more and more difficult to ignore their impacts on our societies.

And the biggest “sink cost”, of course, is climate change: “Sink costs are also rising; economies have used up the capacity of planetary ecosystems to handle the waste generated by energy and material use. Climate change is the most pronounced sink cost.”

Overall, the amount of energy we can extract, compared to the energy we are using to extract it, is decreasing “across the spectrum –
unconventional oils, nuclear and renewables return less energy in generation than conventional oils, whose production has peaked – and societies need to abandon fossil fuels because of their impact on the climate.”

The UN

A copy of the paper, available on the website of the BIOS Research Unit in Finland, was sent to me by lead author Dr Paavo Järvensivu, a ‘biophysical economist’ – a rare, but emerging breed of economist exploring the role of energy and materials in fuelling economic activity.

I met Dr Järvensivu last year when I spoke at the BIOS Research Unit about the findings of my own book, Failing States, Collapsing Systems: BioPhysical Triggers of Political Violence.

The UN’s GSDR is being drafted by an independent group of scientists (IGS) appointed by the UN Secretary general. The IGS is supported by a range of UN agencies including the UN Secretariat, the UN Educational, Scientific and Cultural Organization, the UN Environment Programme, the UN Development Programme, the UN Conference on Trade and Development and the World Bank

The paper, co-authored by Dr Järvensivu with the rest of the BIOS team, was commissioned by the UN’s IGS specifically to feed into the chapter on ‘Transformation: the Economy’. Invited background documents are used as the basis of the GSDR, but what ends up in the final report will not be known until it is released next year.

The BIOS paper suggests that much of the political and economic volatility we have seen in recent years has a root cause in this creeping ecological crisis. As the ecological and economic costs of industrial overconsumption continue to rise, the constant economic growth we have become accustomed to is now in jeopardy. That, in turn, has exerted massive strain on our politics.

But the underlying issues are still unacknowledged and unrecognised by policymakers.
More in, less out

“We live in an era of turmoil and profound change in the energetic and material underpinnings of economies. The era of cheap energy is coming to an end,” says the paper.

Conventional economic models, the Finnish scientists note, “almost completely disregard the energetic and material dimensions of the economy.”

The scientists refer to the pioneering work of systems ecologist Professor Charles Hall of the State University of New York with economist Professor Kent Klitgaard from Wells College. This year, Hall and Klitgaard released an updated edition of their seminal book, *Energy and the Wealth of Nations: An Introduction to BioPhysical Economics*.

Hall and Klitgaard are highly critical of mainstream capitalist economic theory, which they say has become divorced from some of the most fundamental principles of science. They refer to the concept of “energy return on investment” (EROI) as a key indicator of the shift into a new age of difficult energy. EROI is a simple ratio that measures how much energy we use to extract more energy.

Read full story here...
Facebook’s Anti-Christian Bias Hits Franklin Graham

Facebook’s AI censorship program tagged Franklin Graham but his large public profile forced an apology and reinstatement. How many other ‘little people’ have been banned that never come to the surface because they have no voice? As in China, Technocracy in America is blatantly anti-Christian and will increasingly be seen and felt. ⁃ TN Editor

Evangelist Franklin Graham on Sunday accused Facebook of personally attacking him after the company banned him from the platform for 24 hours over a post he published in 2016.

“Why are they going back to 2016,” Graham, the president of the evangelism organization Samaritan’s Purse and the Billy Graham Evangelistic Association, said on Fox News after discussing how the social media platform moderates content on a day-to-day basis.

“I think it was just really a personal attack toward me.”

His comments came a day after a Facebook spokesperson confirmed to
The Charlotte Observer that Graham had been banned from the site for 24 hours last week over the contents of a 2016 post.

The spokesperson said that Graham was mistakenly banned from the site after the post in question was flagged by its content review team for violating a company policy banning “dehumanizing language” and excluding people based on factors like sexual orientation and race.

The post had targeted Bruce Springsteen for canceling a North Carolina concert at the time due to the state’s House Bill 2, or “bathroom bill.”

“He says the NC law #HB2 to prevent men from being able to use women’s restrooms and locker rooms is going ‘backwards instead of forwards,’” Graham said in reference to the singer in the post. “Well, to be honest, we need to go back! Back to God. Back to respecting and honoring His commands.”

Graham’s page has since been reinstated.

“The problem with Facebook, if you disagree with their position on sexual orientation then you could be classified as hate speech, or that you’re a racist. This is a problem,” Graham said Sunday of the social media company.

“The Bible is truth and I would hope [Facebook] would look to the Bible and get some instruction from God’s word.”

Read full story here...
AI Program Hid Data From Creators To Cheat At Appointed Task

Whether intentional or not, AI algorithms inherit the biases of their creators. It is absolutely unacceptable that any AI could learn to deceive those who are served by it. [TN Editor]

Depending on how paranoid you are, this research from Stanford and Google will be either terrifying or fascinating. A machine learning agent intended to transform aerial images into street maps and back was found to be cheating by hiding information it would need later in “a nearly imperceptible, high-frequency signal.” Clever girl!

This occurrence reveals a problem with computers that has existed since they were invented: they do exactly what you tell them to do.

The intention of the researchers was, as you might guess, to accelerate and improve the process of turning satellite imagery into Google’s famously accurate maps. To that end the team was working with what’s called a CycleGAN — a neural network that learns to transform images of type X and Y into one another, as efficiently yet accurately as possible,
through a great deal of experimentation.

In some early results, the agent was doing well — suspiciously well. What tipped the team off was that, when the agent reconstructed aerial photographs from its street maps, there were lots of details that didn’t seem to be on the latter at all. For instance, skylights on a roof that were eliminated in the process of creating the street map would magically reappear when they asked the agent to do the reverse process:

![Images of aerial photographs, street maps, and reconstructed aerial maps.](image)

(a) Aerial photograph: $x$.  (b) Generated map: $F(x)$.  (c) Aerial reconstruction: $GF(x)$.

The original map, left; the street map generated from the original, center; and the aerial map generated only from the street map. Note the presence of dots on both aerial maps not represented on the street map.

Although it is very difficult to peer into the inner workings of a neural network’s processes, the team could easily audit the data it was generating. And with a little experimentation, they found that the CycleGAN had indeed pulled a fast one.

The intention was for the agent to be able to interpret the features of either type of map and match them to the correct features of the other. But what the agent was actually being graded on (among other things) was how close an aerial map was to the original, and the clarity of the street map.

So it didn’t learn how to make one from the other. It learned how to subtly encode the features of one into the noise patterns of the other. The details of the aerial map are secretly written into the actual visual data of the street map: thousands of tiny changes in color that the
human eye wouldn’t notice, but that the computer can easily detect.

In fact, the computer is so good at slipping these details into the street maps that it had learned to encode any aerial map into any street map! It doesn’t even have to pay attention to the “real” street map — all the data needed for reconstructing the aerial photo can be superimposed harmlessly on a completely different street map, as the researchers confirmed:

![Image of maps and differences]

The map at right was encoded into the maps at left with no significant visual changes. (Images: agsandrew/ Shutterstock)

The colorful maps in (c) are a visualization of the slight differences the computer systematically introduced. You can see that they form the general shape of the aerial map, but you’d never notice it unless it was carefully highlighted and exaggerated like this.

This practice of encoding data into images isn’t new; it’s an established science called steganography, and it’s used all the time to, say, watermark images or add metadata like camera settings. But a computer creating its own steganographic method to evade having to actually learn to perform the task at hand is rather new. (Well, the research came out last year, so it isn’t new new, but it’s pretty novel.)

Read full story here...