



November-December Issue 2014

# TRENDEVENTS

HAPPY HOLIDAYS FROM TECHNOCRACY & BEST WISHES FOR 2015!

Happy holidays to you, whether you celebrate the winter solstice, Kwanzaa, Hannukah, Christmas, or even just the ski season.

## IN THIS ISSUE

Although the year draws to an end, the progression of society and technology continues. This issue of TrendEvents contains articles and reviews running the gamut from air travel to economic mathematics and climate change. Also featured is a question & answer section taken from the *Technocracy Technological Continental Design* book.

## TECHNOCRACY IN ACTION—HIGHLIGHTS

- See *Declining Oil Prices* at the **Technocracy blog**:  
<http://www.technocracy.org/declining-oil-prices/>
- **Participate in online meetings of the San Francisco section.** Meeting announcements are posted at the official Technocracy Facebook page at:  
<https://www.facebook.com/technocracyinc.scott?fref=ts>

## THE ONLY WAY OUT

A letter concerning Linda Tirado's *Hand to Mouth – Living in Bootstrap America*  
Oct 31, 2014

Greetings to you all:

I will try to be as concise as possible in spite of the monumental problems facing this planet. First, we may be too far down the path "of no return." Just this morning I

witnessed a conference about the declining oil prices; Venezuela sells its fuel for 9 cents a gallon for instance. We should be inching up the price of fossil fuels and have a great effort to implement renewable sources. This may be far removed from the issues you are concerned with, but the problem at the center of low wages and the environment is undeniably related. It is our political and economic structures in total.

We have been handed down an economic structure that was conceived centuries ago, for a life that was lived centuries ago. It is supported by the business and political entities whose only goal is profiting from expending irreplaceable resources from our lands and oceans. Now, in this year of 2014, with so advanced technologies, we can extract those resources to almost infinity, and do it with miniscule human effort. This now unneeded human effort is revealed in all aspects of our lives and Linda Tirado's book shows part of the overall picture.

There is no salvation by looking for answers within the system that is creating them, that in fact can only exist by expanding the waste built into its agenda. We have to develop a system of government to accommodate our modern day of existence.

For some time now, yet denied examination by the public, a method of scientific functional governance for North America has been available for an intellectual examination to turn us away from the suicidal and destructive method of operations now in use.

If you deem any of my message to be of some interest, go one step further and scan our web site;

<http://www.tehcnocracyinc.org/>

My best to you all,

George Wright

## NEWS

### ECONOMICAL MATH

Complexity theory was devised in the 1960s. It makes possible analysis of the structure of complex systems and the determination of probabilities of events occurring. Referring to mathematical analyses of economic structures:

“Beyond the cutting edge is complexity theory. Complexity has not been warmly embraced by mainstream economics, in part because it reveals that much economic research for the past half century is irrelevant or deeply flawed. Complexity is a quintessential example of new science overturning old scientific paradigms. Economists’ failure to embrace the new

science of complexity goes some way toward explaining why the market collapses in 1987, 1998, 2000, and 2008 were both unexpected and more severe than experts believed possible.

Complexity offers a way to understand the dynamics of feedback loops through recursive functions. These have so many instantaneous iterations that explosive results may emerge from minute causes too small to even be observed. An example is the atomic bomb. Physicists know that when highly enriched uranium is engineered into a critical state and a neutron generator is applied, a catastrophic explosion will result that can

level a city; but they do not know precisely which subatomic particle will start the chain reaction. Modern economists spend their time looking for the subatomic particle while ignoring the critical state of the system. They are looking for snowflakes and ignoring the avalanche.

Another formal property of complex systems is that the size of the worst event that can happen is an exponential function of the system scale. This means that when a complex system's size is doubled, the systemic risk does not double; it may increase by a factor of ten or more. This is why each financial collapse comes as a "surprise" to bankers and regulators. As systemic scale is increased by derivatives, systemic risk grows exponentially.

Criticality in a system means that it is on the knife-edge of collapse. Not every complex system is in a critical state, as some may be stable or subcritical. One challenge for economists is that complex systems not in a critical state often behave like noncomplex systems, and their stochastic properties can appear stable and predictable right up to the instant of criticality, at which point emergent

properties manifest and a catastrophe unfolds, too late to stop. Again, enriched uranium serves as an illustration. A thirty-five-pound block of uranium shaped as a cube poses no risk. It is a complex system – the subatomic particles do interact, adapt, and decay – but no catastrophe is imminent. But, when the block is precision engineered in two parts, on the size of a grapefruit and one like a small baseball bat, and the parts are forced together by high explosives, an atomic explosion results. The system goes from subcritical to critical by engineering.

Complex systems can also go from subcritical to critical spontaneously. They morph in the same way a caterpillar turns into a butterfly, a process physicists call "self-organized criticality". Social systems including capital markets are characterized by such self-organized criticality. One day the stock market behaves well, and the next day it unexpectedly collapses."

"The Death of Money: the coming collapse of the international monetary system" by James Rickards; from *Maelstrom*, chapter 11.

## NEW BATTERY

Stationary batteries can store surplus energy converting an unsteady power source into a steady flow. Most are made from toxic or flammable materials. The Aqueous Hybrid Ion battery relies on salt water based electrolyte to carry the charge. It's nontoxic, low cost, and modular, and it can't overheat. It has a long life cycle and a high capacity. And it can be scaled for home use or the

grid. In other words, it's basically everything today's batteries are not.

*Popular Science*; Dec. 2014; pg. 28

**Comment:** Battery technology usually grows in minute increments. This appears to be a bounce to an entirely new level. If it is as good as it looks we should see these showing up soon.

## PLASTIC

Humans produce 660 billion pounds of plastic a year, and the manufacturing process creates three times as much carbon dioxide by weight as actual plastic. Typically, plastic is made by exposing hydrocarbons from fossil fuels to tremendous pressure and energy. Newlight Technologies has devised a new way of making plastic.

The first commercial plant in California captures methane generated by a dairy farms waste lagoon and transports it to a bioreactor. There, enzymes combine the gas with air to form a polymer. The resulting plastic, called AirCarbon, performs

identically to most oil-based plastics but costs less – creating a market-driven solution to global warming. Companies have already signed on to use AirCarbon in their products, including KI desk chairs, Dell computer packaging, and Sprint smartphone cases.

*Popular Science*; December 2014, pg. 24

**Comment:** This is a double win. We use less irreplaceable natural resources while simultaneously reducing greenhouse emissions.

## BUMPER CROPS

Green Sense Farms, a vertical-agriculture project achieved its goal: It out-produced a traditional farm of comparable size for the first time. By using LED's indoor farmers can grow all year round – and researchers are working on customizing light spectrum and intensity for each crop. Because the lights are cool, they can sit close to plants, ensuring uniform illumination even when crops are grown vertically, enabling farms to plant more per acre.

*Popular Science*; December 2014; pg. 83

**Comment:** Growing plants indoors means that all conditions can be fully controlled which also increases production. While it is a more energy intensive way of producing food it could reduce time, transportation, and waste. It would also be possible to produce fresh food without concerns about seasonal variability.

## EFFICIENT AIR TRAVEL

Air travel on a per person basis has now become better than travel by car. A great deal of the improvement resulted from simply increasing the number of passengers per aircraft. In 1970 the average aircraft flew with 56% of the seats filled. In 2013 the number of seats filled was up to 83%.

Aerodynamics has improved as well. The little vertical winglets added to the wing tips increase efficiency by four percent. Compressors in engines have improved and materials capable of higher temperatures have increased combustor temperatures improving efficiency as well. Rather than

constructing bodies piece by piece by riveting, bodies are now being made of new materials in whole segments. This design

reduces the use of rivets by 50,000. All of this helps to reduce weight.

*Popular Science*; December 2014; pg. 45

## CLIMATE CHANGE LIKELY CATASTROPHIC

Climate change may be far worse than scientists thought, causing global temperatures to rise by at least 4 degrees Celsius by 2100, or about 7.2 degrees Fahrenheit, according to a new study.

The study published in the journal *Nature*, takes a fresh look at clouds effect on the planet, according to a report by the *Guardian*. The research found that as the planet heats, fewer sunlight-reflecting clouds form, causing temperatures to rise further in an upward spiral.

That number is double what many governments agree is the threshold for dangerous warming. Aside from dramatic environmental shifts like melting sea ice, many of the ills of the modern world – starvation, poverty, war and disease – are likely to get worse as the planet warms.

“This would likely be catastrophic rather than simply dangerous,” lead researcher Steven Sherwood told the *Guardian*. “For example, it would make life difficult, if not impossible, in much of the tropics, and would guarantee the eventual melting of the

Greenland ice sheet and some of the Antarctic ice sheet.”

Another report released earlier this month said the abrupt changes caused by rapid warming should be cause for concern, as many of climate changes biggest threats are those we aren’t ready for.

In September, the Intergovernmental Panel on Climate Change said it was “extremely likely” that human activity was the dominant cause of global warming, or about 95% certain – often the gold standard in scientific accuracy.

The *Huffington Post*; by Nick Visser 12/31/2013

Comment: Scientists have known this for many years if not decades. The operation of a price system only interested in making money, the concerns of human are not even on the agenda, other than to talk about it. It should be obvious to all that we have a social system that has not only outlived its usefulness it has now become a threat to our survival.

## FREQUENTLY ASKED QUESTIONS ABOUT TECHNOCRACY

### CONCEPT AND ORGANIZATION

These questions deal with the body of thought of Technocracy itself and with the organization formed to fill the need for

disseminating that body of thought to all North Americans.

**What is Technocracy?**

Technocracy, the word, is derived from Greek language roots to convey the overall concept of "Government by Science." We accept Technocracy to be science applied to the social order. Science concerns itself with the determination of the most probable in any field of knowledge, be it chemistry, engineering, or social phenomena. Technocracy, then, concerns itself with the determination of the most probable in the field of social science — the determination of the most probable state of society. It has to do primarily with that part of the social mechanism relating to the production and distribution of goods and services, but it has many far-reaching implications.

**How did Technocracy originate?**

Technocracy had its inception in 1919 in New York City in an organization known as The Technical Alliance of North America. This group included in its ranks such people as Thorstein Veblen, a distinguished educator in the field of social science, sometimes called the "stormy petrel of American economics;" Charles Steinmetz of the General Electric company, referred to as "The wizard of Schenectady;" consulting engineer and mathematician, Bassett Jones; physics professor, Richard Tolman; consulting architect Frederick L. Ackerman; and Stuart Chase, popular economist and author. Heading the group as chief engineer was Howard Scott, outstanding consulting and industrial engineer.

The primary aim of The Technical Alliance was to ascertain the possibility of applying the achievements of science to social and industrial affairs. With this in mind, they set about to make a survey of the energy and

natural resources of the North American Continent — all the territory included between the Panama Canal and the North Pole. In addition, they studied the industrial evolution that had taken place therein. They showed graphically the operating characteristics of the present industrial system with all its waste and leakage and worked out a tentative design of a completely coordinated system of production and distribution. Of course, they always kept in mind their aim, which was to provide a better standard of living for the people living on the continental area with the least possible waste of nonrenewable resources.

After nearly four years of research, analysis, and synthesis, the Alliance's work was revealed to the public in an article by Charles H. Wood, Associate Editor, of "The New York World", Feb. 20, 1921. Shortly thereafter, for financial and other practical reasons, The Technical Alliance members were forced to suspend work on their Energy Survey of North America.

We present the following important testimony, presented by M. King Hubbert in Washington D.C., April 14, 1943, to the Board of Economic Warfare. (M King Hubbert was a co-founder of Technocracy as well as a preeminent geologist for Shell Oil and originator of the Peak Oil principle).

To make clear the true story behind The Technical Alliance and the founding of Technocracy Inc.

From the Official Record, Page 8, paragraph 3, in response to a question, Hubbert said: "In the Winter of 1931 I came to New York as a member of the staff of Columbia University and quite by accident heard of Howard Scott and some of the things he was

talking about. I was introduced to the gentleman, and we had dinner together, and we covered quite an extensive range of subject matter. He was a total stranger to me. I had never heard of him before and what he told me was largely the work of this old Technical Alliance and its implications. I was impressed with it as the most important piece of scientific thinking I had ever heard of, and that impression still stands.

“At my (Hubbert) instigation, Mr. Scott rounded up some of these old group members again, and we formed a small informal group that started to review the old work quite informally, no formal organization. That went along quietly until it got out in the newspapers through the Columbia University publicity agent who wanted publicity for the University; so that, in turn, spread around the press for a while, and before long, it looked like a forest fire; so, to protect ourselves legally, and to prevent piracy of the type going on, we (Howard Scott and M. K. Hubbert) set up a membership organization in the spring of 1933, the organization (Technocracy Inc.) was incorporated under the laws of the State of New York as a nonsectarian, educational-research membership organization. The training of public speakers and the formation of study classes on a Continental scale quickly followed.



Those technocrats you're heard so much about are right here at the Morrison Hotel today. Howard Scott (left) is the director; Dorothy Crozier is secretary, and M. King Hubbert is assistant director. (Chicago American photo.)

### **What are the conclusions of Technocracy?**

There are three basic conclusions. The first is that there exists on the North American Continent a physical potential in resources to produce a high standard of goods and services for all citizens, and that the high-speed technology for converting these resources to use-forms in sufficient volume is already installed, and the skilled personnel for operating it are present and available. Yet we have unprecedented insecurity, extensive poverty, and rampant crime.

The second conclusion of Technocracy is that the Price System can no longer function adequately as a method of production and distribution of goods. The invention of power machinery has made it possible to produce a plethora of goods with a relatively small amount of human labor. As machines displace men and women, however, purchasing power is destroyed, for if people cannot work for wages and salaries, they cannot buy goods. We find ourselves, then,

in this paradoxical situation: the more we produce, the less we are able to consume.

The final basic conclusion is that a new distributive system must be instituted that is designed to the special needs of an environment of technological adequacy, and that this system must not in any way be associated with the extent of an individual's functional contribution to society.

### **Could either Canada or the United States operate a Technate without the other?**

No, because each nation in itself has deficiencies that in large measure can be met only by joining with the other. Canada, for instance, except for cereal grains, grows very little of its own food, depending otherwise mostly on importations from the climatically better located United States. On the other hand, Canada is far better endowed than the United States with certain essentials that the latter needs to sustain its technological mechanism. Important among these are fuel and energy resources, various metals, and abundant water supply and accompanying hydroelectric power potential.

### **What are the social implications of Technocracy?**

There are many. Take, for instance, the attainment of leisure. For the first time in history, people would be released from drudgery and their creative energies set free.

It would be impossible in a Technate to sue for breach of promise, alimony, breach of contract, damages, or to probate a will, because in a Technate all citizens would have a high, secure, individually chosen standard of living. As practically all

crime in the Price System results from attempts of individuals to illegally acquire the property of others in order to alleviate their own insecurity, crime would practically cease to exist in a Technocratic Society.

In a Technate, citizens would be treated as human beings for the first time in their social history. They would no longer be considered mostly as a means of converting raw materials into usable products for the comfort and enhancement of a privileged few but would be freed by a provident technology to enjoy more of those products themselves along with the time to do so. In addition, they no longer would be subjected to the many legalistic prohibitions and monetary restraints that preclude participation in many desired pursuits, as is presently the case.

### **Is the Technocratic movement a political party?**

No, it is not. Technocracy's sole reason for being is to promote its social program for institution when the Price System can no longer operate in North America. To run candidates for political office to advocate adoption of the program would quickly defeat the organization's whole purpose, for they would be unable to introduce any of the program's features on a local basis because of the Continental scope of the program. Technocracy, by remaining entirely free from political entanglements, can promote its social program at the Continental level without being restricted by the national or local boundaries of political limitations.

This is not to say that Technocracy will not consider political action in the future if the need arises, but such action would be only in a referendum calling for the acceptance or

rejection of Technocracy's proposals. It is highly improbable that the program would be rejected in the face of badly deteriorated

social circumstances that would likely prevail at the time of such referendum.

## THE MISSION OF TECHNOCRACY, INC.

Our Mission:

### **Inform, Educate, Empower and Collaborate**

Our objectives are:

- To inform and educate the public on how our current government and social structure creates a lack of abundance and struggle for the general population.
- To empower the people by showing them another way.
- To gather people who are interested in assisting in the process of developing our alternative government and social structure.

See: <http://www.technocracy.org/our-mission/>

### **TECHNOCRACY-THEME HOLIDAY GIFT IDEAS**

- Technocracy sweatshirt: <http://www.technocracy.org/product/technocracy-sweatshirt/>
- Technocracy t-shirt: <http://www.technocracy.org/product/technocracy-t-shirt/>
- Editor's Pick: *Technocracy Study Course Booklet*—ask CHQ or buy it online: <http://www.technocracy.org/product/technocracy-study-course-booklet-international-copy/>

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Howard Scott and a visiting fellow member.

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