Technocracy Inc.

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TRENDEVENTS

IN THIS ISSUE

This issue of TrendEvents features news about finance, indoor farming, air travel, and laser engine ignition, followed by questions & answers about Technocracy and its design. Remember to visit the Technocracy blog for further news and updates.

http://www.technocracy.org/category/technocracy-blog/

NEWS

THE STOCK BUY-BACK GAME

There is a game called the shell game, in which three identical cups or shells are placed face-down on a table. A small ball is placed beneath one of these cups so that it cannot be seen. The cups that are then shuffled by the operator in plain view. Players are invited to bet on which cup holds the ball. In practice, however, the shell game is notorious for its use by tricksters who will typically rig the game using sleight of hand to move or hide the ball during play.

The world of finance works in a similar matter. One must stay extremely alert to see where financial operators have "placed the ball", and even then one can be sure it is really somewhere else.

The latest game is the stock buy-back game. In it, a corporation uses its cash (or borrowed funds) to buy back its own stock.

Hieronymus Bosch: The Conjurer, 1475-1480. Notice the boy on the far left is stealing the man's purse while he is distracted by the game. One wonders what the real game is on Wall Street these days?

Of course, the value to the corporation remains the same, yet because that value is now divided by fewer shares, the corporation's stock price increases. (If the CEO's bonus is based on share price growth,

the CEO will be well-rewarded for literally sneaking the ball in another cup.

"A less positive reason for buybacks is that management can't find a more attractive use for capital, such as growth through an acquisition or expansion. Many investors prefer buybacks to increased dividends because they don't have to pay income taxes on them until they sell their stock." (MarketWatch.com).

"The most solid effect of buybacks is to increase the per-share expression of profits. Net income of $1 million equals 10 cents a share with 10 million shares outstanding, but 13 cents a share with 7.5 million. Higher per-share profit also lowers the price-earnings ratio, which many investors use in shopping for stocks. Indeed, one reason for the upsurge in buybacks nowadays could be concern that profit growth in 2015 will be more difficult than in previous years." (MarketWatch.com).

How widespread is the practice? "Of the change in S&P TTM ***operating earnings*** between Q3 2011 and the just completed Q1 2013, a stunning 60% … of all "gains" have been the result of buybacks." (Zerohedge.com)

"**Share buybacks mask weak credit growth in the economy**. And this is especially true for the US as 80% of global share buybacks are typically announced by US companies. And these share buybacks are typically financed by debt issuance as even those US companies with large cash holdings appear to be reluctant to repatriate their cash holdings and instead prefer to issue debt to fund share purchases." (Zerohedge.com)

Sources:

John Prestbo, "Opinion: Stock buyback ETFs are not investments you can buy with confidence", *MarketWatch.com*, March 12, 2015.

Tyler Durden, "Presenting The Full Impact Of Stock Buybacks On S&P 500 'Earnings'", *ZeroHedge.com*, 05/28/2013.

Commentary: Investors and analysts often price stocks by their EPS (earnings per share, related to P/E ratio) and earnings trends. Since share buy-backs artificially increase both, stocks will tend to be overvalued, and it will be pension funds and small investors who will get caught "holding the bag."

Further, this means that much of the recent economic "growth" in the USA is illusory. It is just Wall Street smoke and mirrors effects on the major stock indices.

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

ZERO ENERGY HOUSING

A zero energy house is one that produces as much energy as it uses. That requires high efficiency appliances as well as good insulation. The cost of such housing is now getting into the range of middle income folks. "The Twin Cities Habitat Net Zero house reduces carbon emissions by 16.7 tons per year, sulfuric oxide emissions by 50.6 pounds per year, and nitrogen oxide emissions by 40.3 pounds per year, compared to the typical new Minnesota home."

Key energy-efficiency elements in the home include solar thermal panels, two air-to-air heat exchangers, improved insulation, triple-pane casement windows throughout the house, and a special coating on south-facing windows to collect energy in winter.

"The low-income family that owns the net-zero home will save about $2,200 per year in utility costs, compared to a home built to Minnesota energy code standards."

Mechanical Engineering; December 2014; pg. 42

INDOOR FARMING

"There is a real trend towards something called variously urban agriculture, indoor farming or vertical farming," says Cary Mitchell, a horticulturist at Purdue University in West Lafayette, Indiana. The original idea was for skyscrapers filled with plants but was never realistic. Skyscrapers don't come cheap.

In New York City, a company called Gotham Greens has built several greenhouses on the roofs of buildings. One supplies the supermarket beneath. There aren't many suitable sites. Greenhouses typically use more energy than growing plants in fields – they need cooling in summer and heating with extra light in winter.

The advent of LED lighting has made this sunless form of vertical farming possible. High-pressure sodium lights have been used by growers for decades to supplement the winter sun. LED's are no more efficient at converting electricity to light than the latest sodium lights, but crucially are a much less concentrated source of heat. "They can be positioned closer to plants allowing plant

growth on shelves," says Bruce Bugbee of Utah State University in Logan.

This means that many more plants can be grown in a small space. The government-subsidized Miyagi farm in Japan, where plants grow all year round in racks 16 layers deep, is reportedly 100 times more productive per square meter of land than an outdoor farm.

Fans of indoor farming, however, claim that advances in LED's are now making indoor farming more than just a way of growing expensive plants. Some have even suggested that this is the future of farming and could help solve the world's food crisis.

LED plant chamber (credit: NASA)

But for Bugbee, nothing fundamental has changed. "It is possible to operate a business growing specialty crops indoors sold to specialty markets," he says. "But the idea of growing our staple crops in vertical farms is ridiculous." Louis Albright of Cornell University in Ithaca, New York, has calculated that growing enough wheat under electric light to make a loaf of bread would run up a $23 electricity bill.

But is it also, as many of the new enterprises claim, a greener way? The Zero Carbon Food website, for instance, states that the food it grows will have a "Reduced carbon footprint" and a "Lower energy consumption than glasshouse growing". The Green Sense Farms website says that "Growing near our customers means fewer food miles travelled, less fuel usage and significantly-reduced carbon emissions."

Growing food locally does greatly reduce food miles, but that doesn't necessarily mean lower overall carbon emissions. In 2008, Albright produced a report for the New York State Energy Research and Development Authority on the emissions associated with food imported into the state compared with the same food grown locally. For lettuce, he has calculated that about 0.7 kg of carbon dioxide is produced per kilogram imported into the state. But lettuce grown locally in heated greenhouses with supplemental lighting was typically even more carbon-intensive – at up to 2.4 kg of carbon dioxide per kilogram.

"It's hard to replace free sunlight," Bugbee says. This doesn't have to be bad news for the climate, though. Albright and Frediani both think the carbon footprint of food grown in climate-controlled greenhouses can be greatly reduced by, for example, better insulation and smarter control systems, making local food grown in or around cities the clear green choice. A number of innovative approaches are being tested, Frediani says. "This has to be the way to go."

Source:

New Scientist; Feb. 14 2015; pg. 31

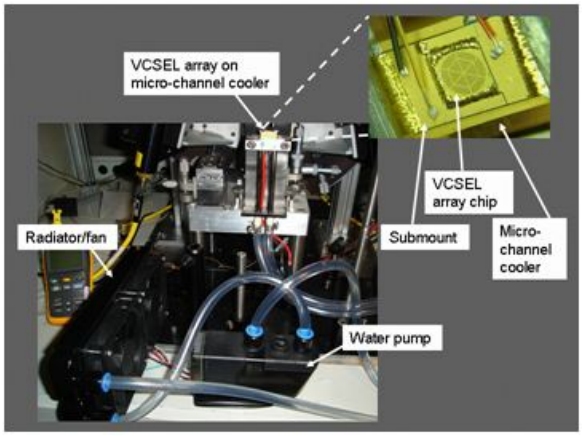
Comment: It pays not to allow enthusiasm to overwhelm arithmetic whenever one is engaging in something new.

LASERS IMPROVE ENGINE EFFICIENCY

In a normal combustion engine, a mix of fuel and air enters a chamber where it is ignited by a spark plug. Hot, expanding gases from the burning fuel then exert force on a moving part such as a piston – generating mechanical energy that can be used to turn the wheels of a car, for example. But because each combustion cycle happens very quickly, it is hard to get all the mixture to burn. The problem is that spark plugs can only ignite the fuel at one end of the chamber, says Chuni Ghosh, CEO of New Jersey-based Princeton Optronics, the firm that developed the new ignition system.

In Ghosh's engine, a laser ignites the fuel in the middle of the chamber instead, burning more of the fuel and improving combustion efficiency by 27 percent. Laser ignition could boost fuel efficiency of a car from 40 kilometers per liter up to around 50, for example. The more complete burn also emits fewer pollution by-products such as nitrogen dioxide.

Lasers are also better at keeping up with the thousands of cycles a minute at which a car engine runs. They can be tuned more precisely than spark plugs so that they fire at the optimal instant for ignition. They can even be fired multiple times during the same cycle into different parts of the cylinder to maximize fuel burn.



Laser diodes using a radiator and a water pump in an arrangement like in a car engine (credit: Princeton Optics).

The engine was presented for the first time at the ARPA-e energy innovation summit last week in Washington DC. The idea itself is not new, but Princeton Optronics is the first to show that it works in a real engine, with extreme forces that thousands of revolutions per minute produce. Toyota toyed with a similar system in 2011, but never tested it in these conditions.

Cars are not the only vehicles that stand to gain. Back-up generators and ships' engines could benefit too. "There is a lot of pressure on the shipping companies to reduce the pollution from their ships," says Ghosh.

Source:

New Scientist; Febuary 21, 2015; pg. 21.

FREQUENTLY ASKED QUESTIONS ABOUT TECHNOCRACY

CONCEPT AND ORGANIZATION (continued from last issue)

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 do Technocrats mean by social change?

Their use of the term seems to differ from that of the popular understanding.

Very much so. Social change is far more basic than the periodic switches from one political party to another, even if these switches are from the far right to the far left; for unless the essential ingredient of social change is introduced by the new administration, nothing more than superficial differences will result.

The essential ingredient to effect social change is a change in the rate of energy conversion, whether this be upwards or downwards. Thus, a society that converts energy at a low rate can have only a low overall living standard, while another that converts energy at a higher rate can have a correspondingly higher standard of living for all its citizens. That this may not actually occur has nothing to do with society's ability to do so; the fault lies in the distributive mechanism.

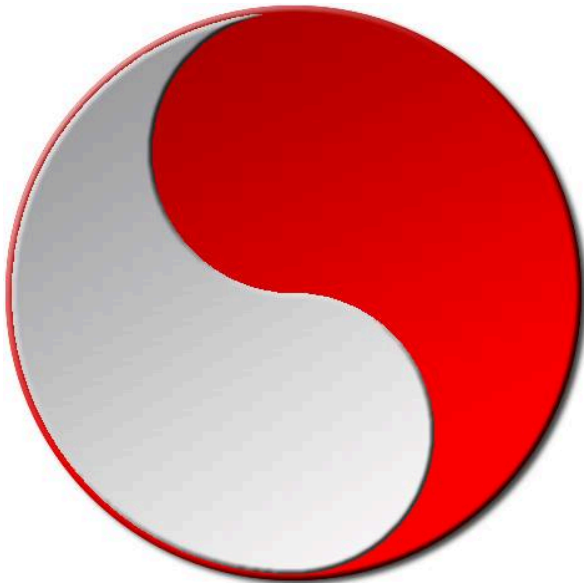
For all practical purposes we may consider social change to involve an upward adjustment of the ability to convert energy. Historically, from time immemorial until the last couple of centuries, the only significant means humankind had of converting energy was the power of their own muscles. This accounted for about 98 percent of all energy converted; notwithstanding the assistance obtained from such extraneous sources (those outside the human body) as domesticated animals, windmills, and waterfalls. Thus, the general living standard throughout the world in the middle of the 18th century was not substantially different from what it had been four or five thousand years earlier, which suggests that the rate of energy conversion was at its irreducible minimum.

The first significant change upward occurred when the energy of burning coal was harnessed for use through the medium of the newly invented steam engine in the 18th century. Slowly at first, but with rapidly gathering momentum, the trend to the use of extraneous sources of energy — coal, petroleum products, electricity — increased until today in North America an exact reverse of the historic situation exists. Less than two percent of all energy converted for the production of goods and services can be attributed to human muscle power; the balance, over 98 percent, comes from extraneous sources: technological energy, mechanical, electrical, or chemical. Accordingly, we now have the physical

ability to produce an optimal amount of goods and services for every resident of the Continent. The fact that they are not receiving it stems from their stubborn retention of that archaic Price System social mechanism that was conceived in natural scarcity and is operable only under those environmental conditions.

What is your symbol called, and what is its significance? Would it, with the gray field, be the flag of the Technate?

The symbol is called the monad and it signifies balance between production and distribution, which is an integral part of the social program designed by Technocracy. Whether it and the gray field will be the flag of the Technate is a matter that will have to be determined by the citizens of the Technate.



THE PRICE SYSTEM

What does Technocracy mean by a Price System?

Technocracy defines a Price System as any system whatsoever that effects the distribution of its goods and services on a basis of commodity evaluation and that employs any form of debt tokens or money.

By this definition, every major society in the world today employs some form of Price System whether they call it capitalism, communism, socialism, fascism, or by any other label. Whatever their form, all were geared to conditions of natural scarcity and hence are unsuitable for distributing abundance.

What does Technocracy propose to substitute for the Price System?

Technocracy proposes: first, a carefully planned production adjusted so as to maintain as high a physical standard of living for the people of North America as is compatible with the limitations of irreplaceable natural resources; second, a carefully planned distribution based upon the total amount of energy consumed in production. This twofold plan would give to each individual an equal and substantial income.

Does Technocracy envisage the collapse of the Price System in the near future?

Technocracy will not make a flat prediction on this subject. Too many qualifying factors are involved. What we can say is that the problems of the Price System are multiplying daily and more and more people

are becoming intolerant of this wasteful and obsolescent method of social operation.

What can we do to stop the terrible waste of our natural resources and still keep the Price System going?

Nothing, because the two go hand in hand. The character of the North American Price System requires that it constantly expand in order to survive, and this in turn requires a mindless drain of resources to satisfy the production needs of the revered Gross Domestic Product. To cut back on the use of resources would necessitate a decline in the GDP and hence in the fortunes of Price System operation.

Conservation of our natural resources to any meaningful extent would soon wreck the Price System. But is that so bad? In view of the alternative? For the first time humankind can look forward to an age of prosperity, but some people still yearn for the past.

What geographical area would the Technocratic society cover?

The Technocratic society, or Technate, would embrace the entire North American Continent, plus the peripheral islands north to the North Pole, the West Indian archipelago, and those in the Pacific Ocean east of the International Date Line and north of the Equator. In addition, the northern tip of South America would be invited to join, embracing that portion of the southern Continent north of the Amazon River basin.

Why is the Technate restricted only to North America?

For no reason other than that North America is a geographical and industrial unit, whereas the whole world is not. Because of intervening oceans it is not possible to integrate the river systems of the world in the way that can be done for the rivers of a continent, nor can any number of other physical feats be accomplished practically for the same reason. Moreover, it is impractical to attempt to have an impartial, world-embracing governmental control that would deal similarly with all parts of the earth; and especially has this been the case since World War II when most countries of the world have had more than their fill of political and economic interference from the Price System controls of North America. Until this Continent sets its own affairs in order, it is unlikely that any other area of the world would be interested in any proposition that might issue from here.

Apart from the above considerations, there is a further important one: as yet North America is the only land area that, because of its fortunate supply of physical resources and because of its advanced development of the technical arts, has crossed the threshold from an environment of scarcity to one of abundance (notwithstanding certain present manifestations to the contrary) and thus has reached the point where a new distributive mechanism is not only desirable but mandatory if civilization on this land area is to survive.

What do the numbers 12349-1 mean?

The numbers 12349 represent the Regional Division in which Section 1 (Vancouver. B.C.) of Technocracy Inc. is located. A Regional Division is a quadrangle bounded by two successive degrees of longitude and latitude and the number designation is taken from the southeast corner of the quadrangle.

The whole of North America is blocked off by Technocracy into these quadrangles or

Regional Divisions. In this rational and simple system of geographical divisions, the numbers for each not only designate it but also locate it.

Would Technocracy put an end to private ownership?

Yes, except for personal belongings; but why let that worry you? You don't own the telephone line service to your house, but that doesn't keep you from using it whenever you wish, except for the cost of those expensive long-distance calls that is a Price System interference to the most efficient use of such equipment.

More people are finding that owning a car or house is more of a detriment than a benefit, considering taxes and maintenance. They look with some envy at apartment dwellers who live as comfortably as they without the usual concerns of house owners; and when it is possible to do so, many of the house owners join the ranks of the apartment dwellers.

Private ownership is a Price System hang-up that will be gladly abandoned by most people when they experience the considerable advantages of being able to use goods and services whenever desired without the bother of owning them.

IF YOU KNOW SOMEONE WHO IS INTERESTED IN TECHNOCRACY …

Please feel free to tell them to contact CHQ or go to the below websites to learn more! Although Technocracy proposes some simple, down-to-earth concepts, we have a depth of materials and literature that are thought-provoking and rich in details. There is always more to discover and learn!

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Howard Scott in front of map of proposed technate area

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