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Defeat the British Crown's Green Fascist Dictatorship

13 October 2011—Amidst a rising chorus of panic from governments, financial institutions and the mass media, the Global Financial Crisis deepens by the hour. All acknowledge that it is far worse now than in those perilous days of 2007-08 when the entire system teetered on the brink. Terrified governments continue to pour tens of trillions of dollars of taxpayers' funds into the world's major private banks, to no avail. *This global bailout must be cancelled*, and sweeping remedial measures taken very soon, or we will plunge into the worst depression in world history, far worse than that of the 14th-century Dark Age. Then, one-third of Europe's population perished from starvation, endemic warfare, general chaos and the Black Death. Now, the world's population will plunge to less than a billion, perhaps far less.

The British Crown has intended such worldwide mass death since the end of the 19th century. It was their stated purpose in creating the eugenics movement then, and it is the stated purpose of Queen Elizabeth and Prince Philip in sponsoring that movement today, rebranded since the end of World War II as "environmentalism". The systematic Green Fascist crippling of agriculture, industry, infrastructure, and the urgently-needed development of nuclear power has devastated the world's economy since the 1960s, far more than even the unbridled speculation by the Crown-centred City of London and its appendage on Wall Street.

Now, facing the present collapse of the London-centred international monetary system, the British are preparing the option of fascist coups. Statesman and physical economist Lyndon H. LaRouche, Jr. warned the Citizens Electoral Council's National Conference on 23 July: "We're on the verge of a coup d'état which establishes a Nazi-style dictatorship inside the United States." He starkly amplified this warning on 8 October 2011.

This special issue of the *New Citizen* lays bare the history of the British Crown's creation of Green Fascism over the past century for the purpose of perpetrating mass murder, including in Australia. Surveying the mass of evidence presented within, no honest reader could dispute the facts, the conclusion to which they lead, or the present coordinating role of Queen Elizabeth and Prince Philip. After all, the Queen's own climate-change envoy, her honoured servant Hans Joachim Schellnhuber, has shouted from the rooftops that the world's "carrying capacity" is *less than one billion human beings*, while her Royal Consort has been demanding genocide for decades, and has personally led the world's Green Fascist movement towards that end since his founding of the World Wildlife Fund in 1961.

The Nature of Mankind

The account of the Crown's creation of Green Fascism and of their present intent to install a global fascist dictatorship, dwarfing even Hitler's wildest dreams, is necessary, even urgent, to dispel the fog of green illusions now enveloping much of the world. But it is the lesser of the two major stories presented in this *New Citizen*.

The beautiful, uplifting alternative was presented in the 23-24 July National Conference of the Citizens Electoral Council, titled "Educating the Mass Strike: Cosmic Radiation Beats Green Fascism". LaRouche keynoted the conference, presenting both the stark reality of the global crisis, and as the optimistic pathway to solve it **(page 5)**.

U.S. President Abraham Lincoln's victory over the British Empire-created Confederacy in the U.S. Civil War of 1861-65 unleashed a worldwide explosion of nation building in the late 19th and early 20th centuries, pivoted upon the construction of transcontinental railways and sweeping advances in physical chemistry. Those fundamental advances in science were led by such geniuses as Louis Pasteur, Pierre and Marie Curie, Max Planck, and Albert Einstein, of whose discoveries the conference heard in some detail.

Perhaps most stunning was CEC leader Craig Isherwood's presentation of the work of Vladimir I. Vernadsky (1863-1945), the Russian universal genius and founder of the science of biogeochemistry, against whom the British invented the quack notions of "ecology" and "ecosystems", upon which the entire edifice of Green Fascism has been constructed. LaRouche has resurrected and advanced Vernadsky's concept of the Noösphere—a new geological era, driven by the mind of man through advances in science—as the central feature of his science of physical economy. Any competent understanding of the galactic challenges faced by mankind today, as well as the needed further development of the biosphere, depend upon mastering and extending Vernadsky's study of cosmic radiation, a task taken up today by LaRouche's

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In the 1930s the British monarchy and City of London sponsored fascist movements who wore black and brown. Today their movement is cloaked in green.

LaRouche: Three Steps to Global Economic Recovery

In an emergency televised address on 30 September 2011, U.S. statesman and physical economist Lyndon H. LaRouche, Jr. outlined three urgent steps to avert a looming Dark Age, and launch a global economic recovery:

1. Fire President Barack Obama, because he is clinically insane and a British agent;

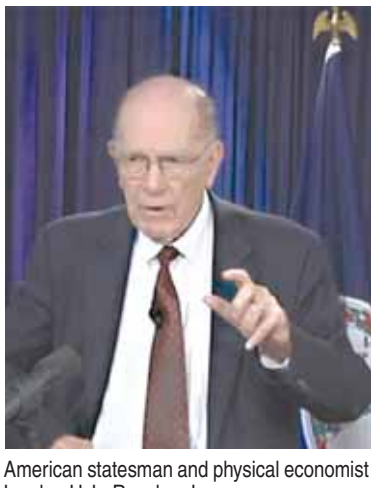
2. Re-enact President Franklin Roosevelt's 1933 Glass-Steagall law, which separated commercial from speculative banking, in order to wipe out the power of the City of London and Wall Street, and allow the issuance of masses of credit for the real, physical economy;

3. Establish a Pacific-centred U.S./Russia/China alliance, with the political and economic muscle to spearhead a global economic recovery.

Looming Coup Threat

The political reality emerging in the days after LaRouche's TV address drove home the urgency of such actions, particularly of dumping Obama. High-level U.S. Congressional, military, and intelligence sources leaked to LaRouche and his associates the developing plans for a fascist military coup in the United States. Summarising those reports, LaRouche warned on 8 October: "The British are, along with their friends of the Bush-league type, ready to move with a *coup d'état*, to establish a dictatorship in the United States—which will mean mass murders. It would be a purge of the type the British ran under Hitler. Get ready for a Hitler-type purge where suddenly people are swept up at night and disappear, and go into gas chambers and things like that, more or less quickly—prisons and so forth. That's what's in store, from the British side, and that's what the Obama policy is."

The sobriquet "Bush-league" refers to former U.S. Presidents George H.W. Bush (1989-1993), and his son George W. Bush (2001-2009). The Bush family is no stranger to coups or coup attempts: Working in conjunction with Bank of England boss Montagu Norman, Bush, Sr.'s father, Prescott Bush, had personally funded Hitler's election campaign in late 1932, with money from his Wall Street bank, Brown Brothers Harriman, then the largest private investment bank in the world. Shortly thereafter, on 15th February 1933, a London/Wall Street assassin unleashed a hail of bullets at newly elected President Franklin D. Roosevelt, missing him but killing Chicago Mayor Anton Cermak and wounding four others. Failing then, the same crew tried to stage a military coup against Roosevelt the next year, only to be foiled when General Smedley Butler, whom the plotters had tried to recruit, exposed them. As for George W., not only did the 9/11 attacks consolidate a police-state apparatus under his régime, but he and Vice President Dick Cheney orchestrated a cover-up of the British and Saudi organisers of the attack, one which Obama has continued.



American statesman and physical economist Lyndon H. LaRouche, Jr.

Barack Obama was elected U.S. President thanks to billions poured into his campaign through financier George Soros, a Nazi collaborator during World War II, and a front man for the Rothschilds' Inter-Alpha banking combine, the world's largest. Obama was chosen as a puppet: he suffers from a severe and worsening narcissistic personality disorder, the same which drove the Emperor Nero to murder many around him, including his own mother.

Calls for Glass-Steagall

The British/Wall St. coup planning is driven not only by the accelerating financial crash, but by an ever louder clamour for the re-implementation of Glass-Steagall. Already in 2009, British diplomats notified their U.S. opposites that the British Crown would regard a new Glass-Steagall law in the U.S. as a "hostile act"—a term typically connoting war. Such a law failed by only one vote to pass in the House of Representatives in June 2010, due to intense personal pressure by Obama. Now it is back on the agenda as H.R. 1489, introduced by Congresswoman Marcy Kaptur (Ohio-Dem.), with 45 co-sponsors including members of the Congressional leadership. The largest U.S. trade

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"Basement" scientific team.

Each of the presentations developed the central theme of the conference: that mankind is created *imago Dei* ("in the image of God") and *capax Dei* ("capable of God"), to participate in the ongoing work of the Creator of the Universe; there is no difference, therefore, between true theology and true science—only the mystification of both by a Cambridge University-centred British imperial priesthood.

Target: Australia

Australia has been a prime target of Green Fascism. After all, the first Green party in the world was set up in Tasmania under Prince Philip's personal supervision, in the process of his building the Australian Conservation Foundation—the mother of all Green Fascism on this continent **(page 48)**. At the 10 March 2011 annual President's Lecture of the Royal Society of Arts which he has personally chaired for more than 58 years, Prince Philip beamed while the naturalist David Attenborough (who has personally promoted green issues in Tasmania) raved that Thomas Malthus was right, that we must reduce the world's population, and that Australia was leading the world in this matter by its institution of a Department of Sustainability and Population.

For years the Crown has assigned Australian politicians and scientists world leadership roles in its plot for a global green dictatorship. In her keynote speech to the November 2009 Commonwealth Heads of Government Meeting (CHOGM) in Trinidad and Tobago, the Queen demanded that the Commonwealth lead the charge for draconian measures against global warming at the December 2009 Copenhagen Climate Change Conference. Among world heads of state, no one crusaded more fervently for such measures than did former Prime Minister Kevin Rudd. In preparation, the Crown had appointed the lunatic Gaia cultist Tim Flannery, Australia's present Chief Climate Commissioner, as Chairman of the Copenhagen Climate Council established in 2007. Today, it is Prime Minister Julia Gillard who has been assigned to fall on her sword, by ramming through a carbon tax in time to present it to Elizabeth and Philip, at this October's CHOGM conference in Perth, as a model for the Commonwealth, if not the world.

Flannery's Climate Commission cites the work of the Queen's flunky Hans Joachim Schellnhuber as the premise for its own activity, even as Schellnhuber brazenly predicts that some leading "climate scientist" will be assassinated in the near future. Such an event would be typical of British imperial methods of provocations through assassinations and incidents of the Reichstag Fire-type as pretexts to establish brutal dictatorships, of which LaRouche warned in his CEC keynote speech.

Given how much they have staked on Australia, the Queen fears that this country might go out of control. There is a deepening mass strike process under way in our nation, typified by the overthrow of Malcolm Turnbull and Kevin Rudd in 2009 and the present deepening hatred of Julia Gillard, all driven by the growing realisation that "global warming" is a fraud; that dawning realisation has been sparked by the CEC, shifting the situation since 2007, when the majority of Australians naïvely believed in it.

The success of Green Fascism depends upon its victims accepting its phony, cultist premises. And those premises were ripped to shreds in the CEC's July National Conference.

LaRouche: Three Steps to Global Economic Recovery

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union confederation, the AFL-CIO, has endorsed the bill, along with numerous state and local union bodies and city councils.

The Glass-Steagall principle is being discussed in Europe as well, most recently by former French Prime Minister Michel Rocard in the leading newspaper *Le Monde*. Under the headline "Rethinking the Banking System", Rocard penned a spirited advocacy of separating speculative investment operations from commercial banking, and protecting the rights of human beings, as opposed to speculators, by simply writing off "the enormous mass of dubious toxic debt." Said Rocard, "[I]f someone has to pay, which now seems to be fated, it is more equitable that it be those risk-takers, than taxpayers or especially the unemployed."

"Let's not forget history", he continued. "This idea came from Franklin D. Roosevelt, who put in place the Glass-Steagall Act in 1933, by an act of Congress, against the advice of the banks at the time, of course. It was an order for separation of the banking institutions, according to whether they took risks, or managed their deposits in order not to take risks. It was introduced in Europe after the end of the war. It prevented severe financial crises for us for nearly 60 years.

Mass strike: everyday Americans have turned their anger on Wall Street, the City of London's U.S. outpost, demanding the re-enactment of Glass-Steagall to force the financial system to serve the needs of the nation and the people.

It was repealed under German pressure in the 1980s, and in the United States at the end of the 1990s", and financial crises have followed ever since, Rocard concluded.

Glass-Steagall has also been taken up as a demand by the hundreds and thousands of young people of the Occupy Wall Street group that has been staging sit-ins on Wall Street since 17 September, in the spirit of the régime-changing mass demonstrations in Tunisia and in Tahrir Square in Egypt early this year. Support for them is growing by the day, from prominent national unions and members of Congress, among others, and through satellite demonstrations at 1,000 other sites in the United States and around the world.

Calls for Glass-Steagall have even come from the Queen's own colony of Australia, notably by former BHP Chairman and NAB chief executive Don Argus, who told the 17 September *Weekend Australian*, "What has to be done is to separate commercial banking from investment banking. I challenge any commercial bank board to really understand investment banking risk. It's different and needs to be properly priced. But you actually don't want it on a commercial bank balance sheet that comprises depositor funds."

U.S./Russia/China vs. the British

LaRouche in his 30 September 2011 TV address emphasised that "the general breakdown crisis of the entirety of the trans-Atlantic region", with European nations under the British boot through the supra-national European Union, meant that world history had to now shift to the trans-Pacific. Indeed, the three great trans-Pacific powers of the U.S.A., Russia, and China must join together to lead the world into recovery. Furthermore, there is the recent joint decision of Prime Minister Vladimir Putin and President Dmitri Medvedev to switch positions in the Russian national elections in March 2012, with Putin once again assuming the presidency and Medvedev becoming prime minister under him. During his first two terms as president of Russia (2000-2008), Putin had staunched the savage looting of Russia by the British after the collapse of the Soviet Union in 1991, and had reined in the power of the British-created Russian "oligarchs". Putin is oriented towards the development of Russia's physical economy, in particular through joint development projects in Russia's Far East, north of China. His allies in the state-owned Russian Railways company are committed to building a rail line from the existing Baikal-Amur Mainline to the northeast Russian coast of the Bering Strait, and the potential connection to North America.

The key to unleashing all this potential, LaRouche emphasised, lies in the United States, by virtue of its unique cultural and political institutions, particularly the one around which the 13 colonies were united after their defeat of the British in 1781: a sovereign national *credit* system, by its nature outside the British Empire's globe-strangling international *monetary* system. LaRouche concluded his address with a discussion of the real nature of credit, anchored in mankind's nature as an immortal species **(see box)**.

Crediting Man's Immortality

In response to a request following his 30 September TV address to elaborate on why "the process of building physical wealth is the basis for a restoration of our credit as a currency", in opposition to a mere monetary system, Lyndon LaRouche replied:

You're talking about an investment by more than one generation. All of the great projects, which we need now, as in the past, too, are projects which require multigenerational investment. They require the incurrence of debt, a debt which spans generations. …

Mankind has something that no animal has, the power of creativity, the power of introducing a higher state of organisation, by the human will, and no species on this planet otherwise, has ever been able to do that! …

The point is, is to have a purpose in life, which transcends death. And this is only possible through the creative powers of mind of the human individual. And therefore, this leads to what? It leads to something that no animal knows: credit. Credit: Because the things we invest in, are the things we create, things which transcend the death of people, of individuals, the investment of a life in a transition to a new life which is a continuation of the old, even though the persons who were succeeding one another have died.

So therefore, the idea of credit is not a physical or financial conception. The idea of credit, first of all, is *human*. And no species known to us, other than human beings, know what credit is! It doesn't exist for anything except for human beings, to our knowledge.

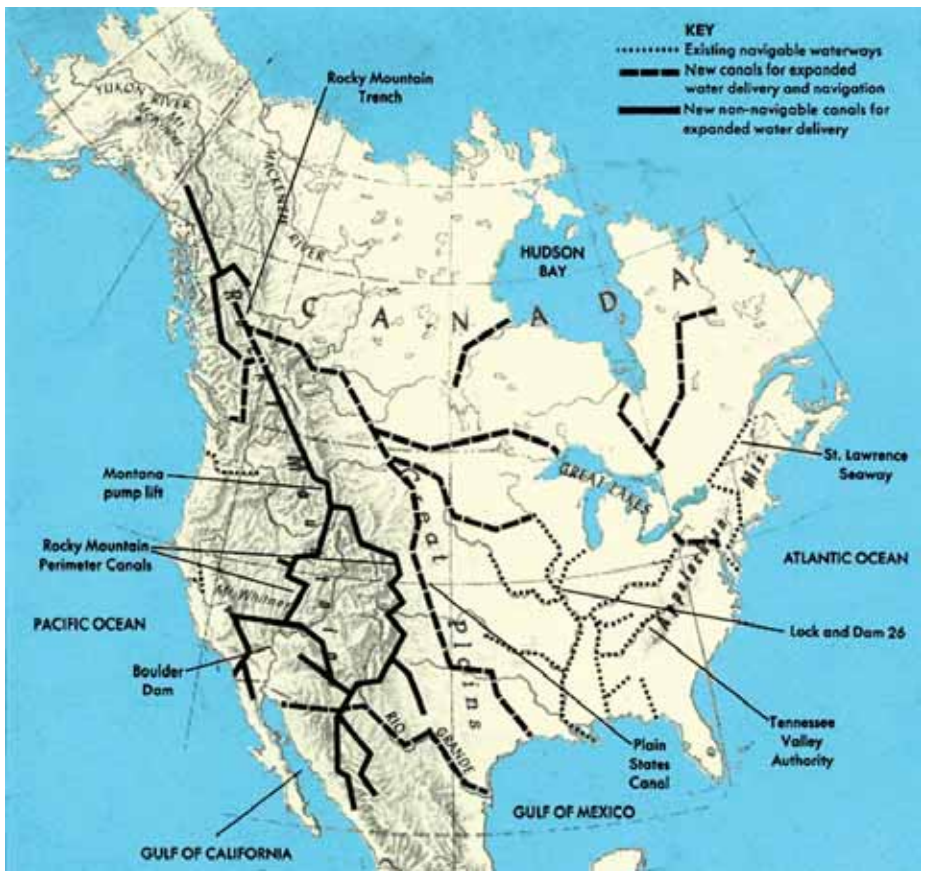
Therefore, we design a monetary system, or a financial system, based on a system of credit, which means the development of one individual, who transmits something which is of use to a second generation, and this is not a process of continuation, it's a process of development! And the unit of development is what we should call "credit".

Now, this was something that has been understood for a long time by some people. But this system, this concept of credit, is unique, as a worked-out system, to the United States: This was the Massachusetts Bay Colony, for example, was a system of credit! The system authored in the founding of our Constitution was a system of credit. And the system of credit, is not a monetary system, it's not a cash collection! The system of credit is the transition, and the continuation, of the activity of *a life,* through the transmission of a continuation of an effort, an intended effort, to a second life, and a life beyond that! Credit is history: Credit is *human* history. … A human credit system, is the advancement of mankind, the powers of mankind, the accomplishments of mankind, from generation to generation. And the connection among the living, and the living that follow them, and the living that follow them, is credit. That's the true meaning of credit, is that we pledge something to the future! We praise and protect something which was given to us, from the past, for the future!

And the idea of an economic system, a true economic system, a physical economic system is that: The system of credit. But the content of credit is not cash, the content is not money, the content is not notes and bills of exchange: the content is human creativity, from generation to generation.

People die, but humanity must never die. And once we have that concept, we've got it right.

NAWAPA, a *Real* Green Project: the Greatest Biosphere Engineering Plan in History



The North American Water and Power Alliance, first proposed in the 1960s, exemplifies what we can do, using the human institution of *credit*—a system in which our concept of the future determines the value of everything we do—instead of feeling constrained by *money*. The scheme will capture 20 per cent of the 800 million acre feet of water that runs off yearly into the Pacific and Arctic Oceans, and route it into the dry and barren areas of the western half of the continent.

NAWAPA will build strategically placed dams and tunnels, creating a collection system of major new reservoirs and canals, taking advantage of the natural topography of the Rocky Mountain Chain, and effecting a distribution of 160 million acre feet of water per year to parched lands and strategic waterways.

Of this total, 22 million acre feet would go to the Canadian Prairie Provinces, 69 million acre feet to U.S. states, and 21 million acre feet to Northern Mexico. This will irrigate 86,000 square miles of land, doubling the current irrigable acreage west of the Mississippi. It will replace the increasingly inefficient and limited sources of well water with a permanent source from gravity flow, relieving agriculture of pumping costs and restoring its productivity.

LaRouche PAC's cutting-edge scientific research team, known as the Basement Project, has expanded the original NAWAPA concept to incorporate the principles of biospheric engineering. In their video "NAWAPA: the Tennessee Valley Project of the 21st Century", they explain: "Taking the core of the original 1960s design, we will elaborate the project by building high-speed rail lines for both passengers and freight, new nuclear reactors, and even new cities. Along this route the irrigation and managed water flow will begin to transform the land area, including the climate and weather, as a case of mankind's conscious management of a significant region of the biosphere, increasing the productivity of both mankind, and the biosphere itself." (Source: www.larouchepac.com/infrastructure.) The water introduced by NAWAPA will be used multiple times, as it makes its way through smaller sub-cycles, falling multiple times as rainfall over land, and making its way back to the sea, to someday return to Alaska and begin the entire cycle once again.

Even just the launch phase of NAWAPA will create an estimated five million new jobs for skilled and semi-skilled workers.

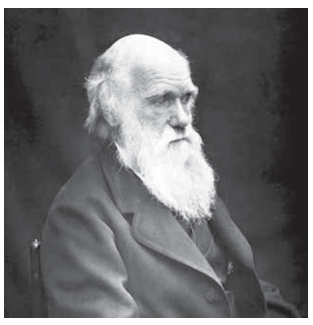
Citizens Electoral Council Conference, 23-24 July 2011

Educating the Mass Strike:
Cosmic Radiation Beats Green Fascism

Citizens Electoral Council activists nationwide rallied to the CEC's 23-24 July 2011 National Conference in Melbourne, a historic event which sounded the trumpet to escalate the CEC's fight to save Australia from Green Fascism. Under the banner, "Educating the Mass Strike: Cosmic Radiation beats Green Fascism", the CEC composed the conference as an intervention into the current political turmoil, which is being shaped by the unprecedented willingness of the population to fight back against the carbon tax and similar schemes that they recognise are destroying them. The conference demonstrated that the fight against Green Fascism is actually not a matter of specific schemes, horrific though they may be, but a battle of ideas, a battle of world outlooks between the oligarchical conception of man as a beast, to be controlled and culled, and the Judeo-Christian principle that man is uniquely creative. It is only from this standpoint that the fight for humanity can be won.

In that spirit, the conference made history by presenting scientific subjects never before expounded in Australia, including an exposé of Charles Darwin as a fraud **(see page 19)**, a demolition of the Second Law of Thermodynamics **(see page 36)**, and a comprehensive treatment of the visionary ideas of the great Ukrainian-Russian scientist Vladimir Vernadsky **(see page 26)**. Also featured were the ideas and work of other giants of science: Louis Pasteur, Marie and Pierre Curie, Max Planck, and Albert Einstein, whose discoveries advanced mankind, and provide a legacy for the ongoing fight for the progress of humanity today.

CEC National Chairman Ann Lawler exposed the fraud of Charles Darwin.



Theology

The most provocative aspect of the conference is that it set out to reclaim genuine theology as synonymous with true science, as expressed, for example, in the Judeo-Christian Book of Genesis, which proclaims that God created men and women in his own image, i.e., as embodying a divine spark of creativity, and charged mankind: "Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth." (Gen. 1:28)

Pointing to the rigorous development of that concept of man as *imago Dei* ("in the image of God") and *capax Dei* ("capable of God") in the opening verses of the New Testament Gospel of St John, CEC leader Craig Isherwood declared, "[T]here is no difference whatsoever between the truths of actual theology, and those of modern science, as that has been developed by Nicholas of Cusa, Leibniz, Riemann, Vernadsky, and the others you will hear from. In fact, that current of modern science helps make what might seem abstract in theology, much more intelligible to mankind. The central issue in both cases is the immortality of the soul,

CEC Leader Craig Isherwood

in the provable immortality of the human species, when the human individual consciously commits himself or herself to securing the future of that species."

(For the full text of Craig Isherwood's opening speech, ***see page 8****.)*

Following an address by American statesman and physical economist Lyndon H. LaRouche, Jr., live via Skype video, which is reprinted in full on **page 5**, including the question and answer session, CEC leader and National Secretary Craig Isherwood spoke on "Universal Principles vs. Sense Certainty"; National Executive member Noelene Isherwood presented the life and work of Louis Pasteur; CEC National Chairman Ann Lawler spoke on "The Humbuggery of Charles Darwin"; National Executive member Gabrielle Peut presented "Pierre and Madame Curie"; *Australian Alert Service* Editor Elisa Barwick presented the work of Max Planck; National Executive member Robert Barwick spoke on "Space-Time and Einstein"; and Craig Isherwood concluded the event with an introduction to "The Noösphere of Vernadsky and LaRouche".

After the opening addresses by Lyndon LaRouche and Craig Isherwood, the full texts of the papers on Darwin and Vernadsky are reprinted in this edition of the *New Citizen*, along with the opening section of Gabrielle Peut's presentation on the Curies, which located the work of these scientists in its historical context: U.S. President Abraham Lincoln's victory over the slavery-based plantation system of the Confederacy, whose rise the British Empire had sponsored, in an attempt to destroy the United States in a great civil war. Reviving the American System of national banking, tariff protection, and great infrastructure projects, upon which the United States had been founded against British imperial free trade and monetarism, Lincoln and his top economic adviser, Henry Carey, unleashed an explosion of railway building and other technological advances. As these methods were rapidly copied by other nations, such as Germany, Japan, and Russia, a worldwide alliance of industrially advancing nation-states, linked by transcontinental railway grids, threatened to destroy the British Empire forever.

Activists rallied to the July 2011 National Conference of the CEC, to escalate the fight to save Australia from Green Fascism.

Noelene Isherwood discussed the genius of Louis Pasteur, who opposed the leading genocidalist of his day, the British Empire's Thomas Malthus.

Louis Pasteur

Noelene Isherwood began her revelation of the true genius of Louis Pasteur (1822-1895) by contrasting his creativity and commitment to humanity, with the leading genocidalist of the day—the British Empire's Thomas Malthus (1766-1834).

Pasteur summarised his own mission and philosophy in the speech delivered at his reception into the Académie Française on 27 April 1882: "The greatness of human actions is measured by the inspiration that gives them birth. Joyous is he who carries within him an inner God, an ideal of beauty, which he obeys: an ideal of art, an ideal of science, an ideal of his nation, an ideal of the virtues of the Gospel. These are the living sources of great thoughts and great actions, and all of them are lit by the gleam of the infinite."

Pasteur was responsible for some of the greatest leaps in human potential ever realised, through his discoveries in microbiology, leading to the practice of sterilisation, pasteurisation, and vaccination. As a result billions of people have lived longer, healthier, and more productive lives.

Parson Thomas Malthus, on the other hand, in his *Essay on the Principle of Population*, written on behalf of his oligarchical controllers in the world-straddling, genocide- and dope-pushing British East India Company, insisted that the "narrow principle of self-love" is what motivates mankind, and that: "[W]e should reprobate specific remedies for ravaging diseases; and those benevolent, but much mistaken men, who have thought they were doing a service to mankind by projecting schemes for the total extirpation of particular disorders."

But it was Pasteur's discovery of the "left-handedness" characteristic of living processes, associated with his proof of the principle of biogenesis—life only comes from life—that laid the groundwork for the breakthroughs of Pierre Curie and Vladimir Vernadsky. That may yet prove to be Pasteur's greatest immortal contribution to the survival of the human species.

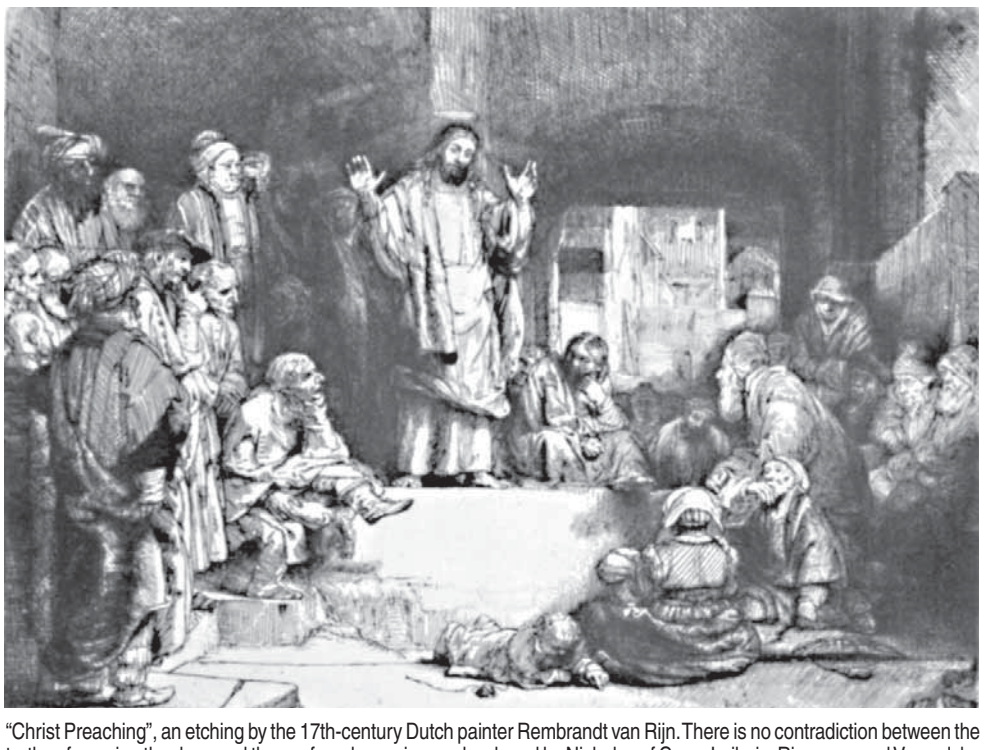
At just 26 years of age, Pasteur, drawing upon the constructive geometry tradition of the French École Polytechnique as it applies to biology and living processes, conducted ground-breaking experiments on tartaric acid. He demonstrated that a plane of polarised light always rotates to the left when passed through a solution of tartaric acid (produced as a result of the living process of fermentation). By contrast, racemic acid, which is chemically identical to tartaric acid (but which is produced artificially in a laboratory), did not rotate a plane of polarised light. The reason the racemic solution didn't rotate light was that an equal number of left- and right-handed molecules and crystals were formed, cancelling out any rotation. Pasteur found that every active and naturally occurring biological molecule has a definite form, which can be symmetrical, but most are chiral—either right- or left-handed.

Maths and statistics freak August Comte, founder of positivism.

With a keen prescience of where his discovery might lead, Pasteur hypothesised: "I believe that there is a cosmic dissymmetric influence which presides constantly and naturally over the molecular organisation of principles immediately essential to life".

Pasteur's method of creative hypothesis-formation put him into open polemical warfare against the doctrine known as *positivism*, a philosophy that denies all reality except the supposed "facts" of sense certainty. Unfortunately, we live in a society dominated by positivism. Like a deadly virus, it infects us all, to one degree or another.

The champion and founder of positivism in the early 1800s was the mathematics and statistics freak, Auguste Comte (1798-1857). Comte came out of the tradition of the French Enlightenment's Antonio Conti and Voltaire, as well as the stupid and fanatical mathematicians, the Marquis Pierre Laplace, Baron Augustin Cauchy, and Adolphe Quetelet. Their systematised mathematical analysis



"Christ Preaching", an etching by the 17th-century Dutch painter Rembrandt van Rijn. There is no contradiction between the truths of genuine theology and those of modern science, developed by Nicholas of Cusa, Leibniz, Riemann, and Vernadsky.

as a universal method was explicitly intended to destroy human creativity. The word was, "If you can't mathematise it, it is not valid." Comte launched a crusade to destroy "metaphysics" by name—the same metaphysics which Leibniz had established as being the actual substance of man's knowledge of the Universe—and to substitute mere sense perceptions for actual physical principles, the latter not being accessible by the senses, but only by human creative reason.

Comte's benefactors in the British East India Company, who also ran the Darwin project, premised their anti-human, statistical, survival-of-the-fittest social theory largely on Comte's positivist "social evolution" theory, including the belief "that nations never reach the highest point of achievement of which they are capable, without long and bloody wars."

One key point of attack by the positivists was the origin of life itself: does life arise magically from nothing, or from non-living matter, as the adherents of "spontaneous generation" (otherwise known as "abiogenesis") believe, and as they fanatically maintained? Or, following the work of such giants as Nicholas of Cusa and Leibniz, is *life itself* a universal physical principle, which never was and never could be constructed out of arbitrary, statistical interactions between particles of dead matter? Through rigorous scientific experimentation, Pasteur dealt a resounding blow to the myth of "spontaneous generation", proving that life comes only from life, and never from non-life.

Pierre and Marie Curie

Gabrielle Peut inspired the conference with the story of Marie Curie and her husband Pierre, whose tireless work both enabled the progression from Pasteur to Vernadsky, and launched the nuclear age, through their discovery and understanding of radioactivity. Gabrielle placed the Curies in the context of the United States post-Civil War explosion of railway building and new industrial technologies, as famously demonstrated at the 1876 Philadelphia Centennial Exhibition, which delighted much of the world, but stunned the British Empire. The Curies came of age in this period of American-influenced development in Europe, and their work launched the next stage of revolutionary scientific progress.

The Curies' discovery of radium and polonium demanded extraordinary effort and dedication, under the most difficult circumstances. Foremost among these was the total devastation Marie felt when her soul-mate and chief scientific collaborator, Pierre, was killed in an accident in 1906, yet she rallied herself to push ahead with her life's mission at the frontiers of world science, which saw her become the first female professor in France, a participant in the Solvay scientific conferences in Europe, and, most importantly, a strong influence on Vernadsky.

Max Planck

Max Planck was a thorn in the side of the Cambridge University priesthood of mathematical/statistical pseudoscience, which intended to destroy real scientific method, and the creativity of man with it. Elisa Barwick introduced the audience to the breakthroughs made by Planck, who wrote prolifically regarding the subjective nature of discovery, and in particular, the search for causality.

He insisted that science not only ask the question "what?", but, more importantly, "why?" Reflecting Leibniz's Principle of Sufficient Reason, in a 1914 lecture titled *The Meaning and Limits of Exact Science*, he said that we must ascertain "why these particular laws and no others hold".

By contrast, since the mid-1890s Cambridge's Bertrand Russell had attempted to wipe out the Cusa/Leibniz tradition of creative physical scientific discovery and replace it with mathematical logical positivism. Towards that end, he and his fellow Cambridge professor Alfred North Whitehead wrote three fat, almost unreadable tomes, *Principia Mathematica* (1910-13), which sought to create a complete, logically deductive system that would henceforth rule (and destroy) actual physical science and universal causal principles.

Russell expressed the intent of the Cambridge scientific priesthood in his 1912 Presidential Address to the Aristotelian Society, titled "On the Notion of Cause", in which he attempted to rule *causation* out of science forever: "All philosophers, of every school, imagine that causation is one of the fundamental axioms or postulates of science…. To me it seems that philosophy ought not to assume such legislative functions, and that the reason why physics has ceased to look for causes is that, in fact, there are no such things. The law of causality, I believe, like much that passes muster among philosophers, is a relic of a bygone age…."

CEC Executive Member Gabrielle Peut introduced Pierre and Marie Curie, the discoverers of radioactivity.

The Leibniz-admirer and friend of Einstein, Kurt Gödel, demolished the *Principia* on the basis of its own logic, but because of British imperial power, it still became the benchmark for positivism in the 20th century, and to this day.

Planck denounced positivism as mere commentary on natural phenomena, rather than science. It is not *logic*, but creative fancy, "which kindles the first flash of new knowledge in the mind of the researcher who pushes forward into dark regions", said Planck. Without creative imagination, "good new ideas do not come". Russell described this approach to science as "mysticism".

Planck's discovery of the elementary *quantum of action*—that electromagnetic radiation is delivered as discrete bursts rather than waves—proved the superiority of his method. The Cambridge networks, and those of the allied Copenhagen School of Niels Bohr, went into damage control, asserting that despite ample experimental evidence, Planck's discovery lacked "theoretical foundation" (never mind that it destroyed the theoretical foundations of classical physics!) and therefore was not subject to discussion.

Whether light was in fact a wave or a particle could not be absolutely determined, according to Bohr and the authorities. So, outlawing causality altogether, the 1927 Solvay Conference ruled that whether it acted as a wave or particle at any particular moment was a matter of probability alone. Statistical method, with which we are so familiar today, became primary at this point.

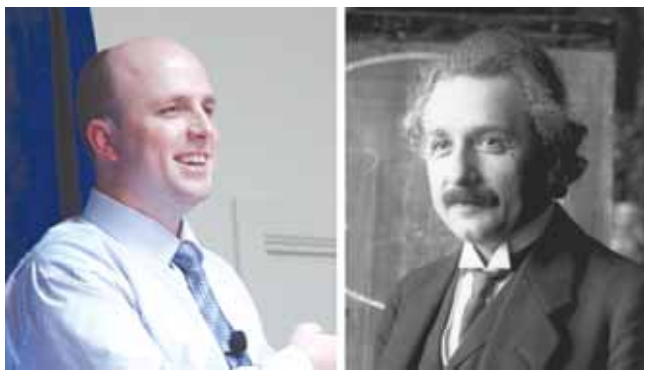
Russell himself, in a 1927 lecture to the National Secular Society in London, said: "[W]here you can get down to any knowledge of what atoms actually do, you will find they are much less subject to law than people thought, and that the laws at which you arrive are statistical averages of just the sort that would emerge from chance."

Despite the oligarchy's attempts to suppress truth, Planck's discovery acted efficiently to transform man's understanding of the Universe, and therefore his scientific inquiries were continued and advanced, as seen especially in the work of Albert Einstein.

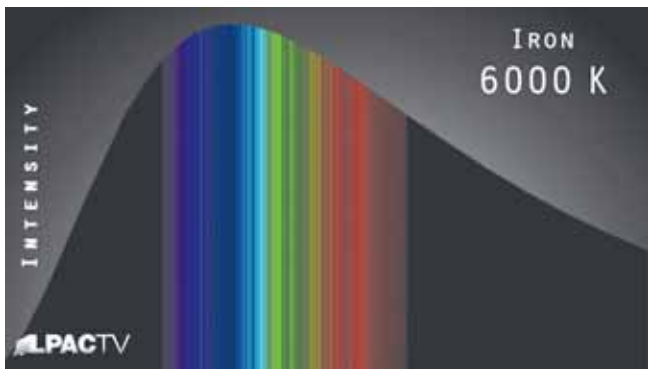
Max Planck, who denounced positivism as mere commentary on real science, was presented by CEC Executive Member Elisa Barwick.

Space-Time and Einstein: Breaking Zeus's Casino

Robert Barwick presented the extraordinary ideas and work of Albert Einstein, which showed that, far from being a "mad scientist" with crazy hair, Einstein was Max Planck's principal ally in the fight to save science from being reduced to the mere calculation of statistical probabilities. In the process, Einstein conceived revolutionary ideas which destroyed the Newtonian view of the Universe, and opened the door for mankind to enter the age of nuclear power and space travel.



CEC Executive Member Robert Barwick presented the revolutionary work of Albert Einstein.



Max Planck discovered that different metals (shown here is iron) emit different, discrete frequencies of electromagnetic radiation when heated, seen as distinct bands within the visible light spectrum.

Einstein's famous dictum, "God doesn't play dice", was his polemic against the corruption of the new field of quantum physics by a Cambridge University-trained cabal centred around Niels Bohr, which was hell-bent on replacing the scientific investigation of causality, with statistical models. By taking this on, Einstein was attacking the scientific scam originally cooked up by the Venetian oligarchy's leading agent for destroying science in the 16th century, the Servite friar Paolo Sarpi, a devotee of the medieval irrationalist and formal logician William of Ockham.

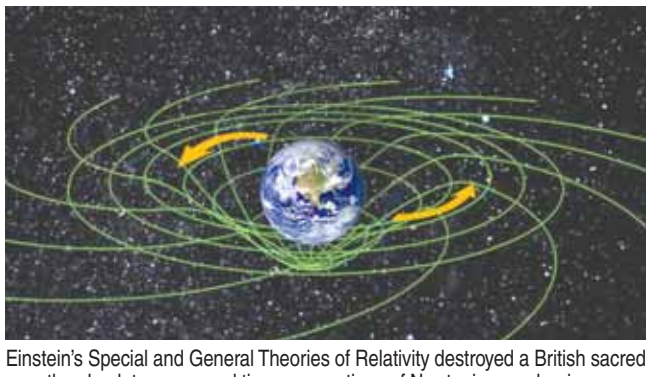
Sarpi originally developed the theories of statistical probability later used by Russell, by studying the statistics of dice and cards in Venice's casinos, casinos being unique Venetian inventions, along with insurance companies and modern central banking. His pupil Galileo called Sarpi the "prince of mathematicians" in Europe, and his methods were simply copied by Sir Francis Bacon, the so-called "founder of modern scientific method" based upon sense certainty, and later by the fraudster and cabalist, Cambridge's Sir Isaac Newton, who idolised "Father Paul".

Robert likened the use of probability to attack causality in science, to Zeus's punishment of Prometheus for awakening creative discovery in mankind through the gift of fire.

Einstein launched the new field of quantum physics by applying Max Planck's concept of the quantum, to discover the cause of the photoelectric effect. Just as his mentor Planck had rejected the statistical assumptions of the Second Law of Thermodynamics, Einstein never accepted the statistical quantum models of Niels Bohr, Werner Heisenberg, and Max Born. Their models insisted that the position of individual electrons in atoms was unknowable, because at the quantum level, there was no reality. Einstein argued that just because we don't know the position of an electron, doesn't mean that the electron doesn't know its position: the Universe knows where it is. Einstein, often misrepresented as an atheist, expressed his firm belief that causality—truth—was knowable to the human mind, by saying, "I want to know how God created this world. ... I want to know His thoughts. The rest, are details."

Robert then Socratically demonstrated Einstein's revolutionary Special and General Theories of Relativity, which destroyed the sacred cow of British science, Newton: Special Relativity overturned the absolute space and time assumptions of Newtonian mechanics, and proved that Newton's nemesis Leibniz was right; General Relativity explained the cause of gravity, which Newton couldn't; General Relativity also explained the irregularities in Mercury's orbit, which Newton's Inverse Square Law couldn't.

Einstein based his ideas of relativity on Bernhard Riemann's anti-Euclidean geometry. From Riemann, he developed the idea of the Universe as "finite, but unbounded", meaning that the physical space-time that is the Universe is definitely finite, but there is no limit to the creativity of the Universe, and the creativity of human beings, to develop new physical principles and states of existence. The presentation concluded with Einstein's declaration: "Logic will take you from A to B; imagination will take you everywhere."



Einstein's Special and General Theories of Relativity destroyed a British sacred cow: the absolute space and time assumptions of Newtonian mechanics.

The Solvay Conference of 1927 saw Niels Bohr and others outlaw causality and impose statistical methods. In the front row are physicists Max Planck (second from l.), Marie Curie (third from l.) and Albert Einstein (fifth from l.).

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LaRouche: Breakdown Crisis Is Tantamount to General War

The 23-24 July 2011 annual conference of the Citizens Electoral Council opened with an address by American economist and statesman Lyndon LaRouche, speaking by live audio-video connection from the United States. The following is a transcript of his remarks and the subsequent dialogue between LaRouche and CEC members.

Craig Isherwood: Hello Lyn, how are you?

Lyndon LaRouche: Well, I'm not in such bad shape. The world's in bad shape, not me.

Isherwood: Welcome back to Australia. It's been 14 months or so, since we last had the privilege of having you here, and at least this time we can see you!

LaRouche: Oh! I'm not much to be seen!

Isherwood: We'd like to welcome Lyndon LaRouche to our conference, and I'm sure he has some very important words for us this morning.

LaRouche: It's completely strange. I have three locations: sometimes Australia, sometimes Germany and similar locations, sometimes in the United States and various parts of the United States, and I'm sort of everywhere, which makes my enemies rather uncomfortable, that I might turn up anywhere! But turning up down under again is a very special kind of experience for me, because we can share something. With the people down under, we're having a common experience, which seems not to be pleasant at present, but with people with a lot of Irish ancestry in them, dragged down to down under to inhabit it and try to control it, that makes the whole thing rather more interesting, don't you think?

Let me start. We're now, as I have announced in various locations, on the verge of what promises to be—we might avert the problem, somehow, but what promises to be—the greatest financial collapse the world has ever known. It's coming on right now. It could be this week, or next week. It could be some weeks down the line. But not much longer, unless certain changes are made.

The whole world system is presently, hopelessly bankrupt. Now, I suppose some of you keep track of what's going on in the British Isles, especially the United Kingdom, and I can tell you, the place is about to blow. All of Europe is about to blow. I'm not talking about down the line, sometime, I'm talking right now. It could happen any time.

When it comes down to forecasting, sometimes it's very difficult to forecast a very narrow selection of date; the selection is now very narrow. The issue, right now, today, inside the United States in particular, but also in Europe, most conspicuously those two places, is that it is ready for the whole system to blow. The present international system, especially that which is located in the trans-Atlantic region, is about to enter a general breakdown collapse, of a quality which might remind some folk of Germany, in 1923, going through the summer, spring, forward and into the autumn. We're at that point.

There's no possibility that the present system, if continued in its present form, is going to survive. Now, you might have a temporary survival, in China, in India, and a few other places in Asia, because they don't have quite the same characteristics as the trans-Atlantic regions. The trans-Atlantic region, the trans-Atlantic monetarist system, is now hopelessly bankrupt. There's no possibility of its surviving.

There are options, however, most unpleasant options: that a Hitler-like dictatorship might emerge, and would probably emerge—I don't know exactly what the probability is—but would probably emerge in both Europe and the United States. We're on the verge of a Hitler-like emergency, taking place in the United States. Also in Britain, in the British Isles, the same thing is threatened. In Europe in general, the same thing is threatened.

President Franklin D. Roosevelt signed the *Glass-Steagall Act* on 16 June 1933, protecting commercial banks from Wall Street's predatory speculation.

Adopting Glass-Steagall

The only thing that will save civilisation, is the immediate adoption of what's called the *Glass-Steagall Act* of the United States. Now, to understand this, you have to know that the Glass-Steagall Act is a peculiar law, characteristic of the United States as a nation-state, or what became the nation-state known as the United States, not just the United States as thirteen colonies about to turn free, but there was a constitutional change: the colonies now became a nation-state, a sovereign nation-state, based not on a monetarist system, but a credit system.

The point of this whole thing is, that *what's considered a monetarist system has now become impossible*. It can not survive. The possibility of survival is the replacement of a monetarist system by a credit system, consistent with the Constitution of the United States.

What's happened is a great bang of trash, absolute trash, trash upon trash upon trash upon trash. What's in the international monetary system as a money system, is now hopelessly bankrupt. You see, they've been out there building up debts, but they have not been building up the means to pay those debts. Most of the money in the world today is purely fictitious, even by monetarist standards; that is, the mass of debts out there, cumulative debts, far exceeds any possibility in the future of mankind, to pay these debts. They can not be paid.

The only thing you can do, is what we did in the United States, and what Roosevelt renewed in 1933, with the Glass-Steagall Act. We divide the whole money system, as such. Now, I'm not talking about the *monetarist* system; I'm talking about *money* systems. What we have is two different kinds of money systems: one is a monetarist system, which is the European system, and the other is a credit system, which is the American Constitutional system. They both use money as a medium of exchange, but they're quite different in every other respect, ontologically.

Therefore, the solution here is to let the money system go! Drop it! That's what Glass-Steagall would tend to do.

Let me explain. There are two aspects of this. First of all, if the United States, and we're on the verge of pushing through a re-enactment of Glass-Steagall, right now; the fastest-building motion, politically, in the United States today is an accelerating urge toward a Glass-Steagall Act, which the British Empire is determined *not* to allow. And the British Empire has a stooge, called President Obama, who is nothing but a stooge for the British royalty. That's all he is. He has the character of the Emperor Nero, the exact personality type as Emperor Nero. He's insane, he's mass-murderous. He's unfit for human habitation, even by cockroaches.

Therefore, this fellow has to be put out of office. We have various ways of doing it, but we have the fact he's impeachable: he's committed crimes against the Constitution of the United States, for which he can be expelled. He also is clinically insane, by the standard of the 25th Amendment of the U.S. Constitution, Section 4: he is clinically insane, by those standards. So therefore, if that section of the Constitution, as amended, is enforced, he's *out*, he's gone! And there are other things that might cause him to go. We've had some Presidents, like Nixon, who are criminals, and Nixon was a fair criminal! A very nasty one at that. He wasn't so smart, but he was nasty. And he did dirty things, evil, wicked things. And he was not actually expelled on the basis of his crimes. Rather, in order to avoid going to prison, he decided to resign his office, on the terms that he would not be sent to prison. Since that was very convenient for the government at that time, they accepted that, and he left office by resigning, rather than being expelled by impeachable offences.

Obama Is Like Nero

We now have a President who is far worse than Richard Nixon [U.S. President, 1969-1974]. The worst President the United States has ever had, a clinically insane monster, whose attributes are akin to those of the Emperor Nero, as some of you may have studied what the Emperor Nero's history was, as a monarch, ruling over the Roman Empire.

That's what we have there. He's very nasty. He has no regard for the Constitution. He's a complete fink. He's now moving, presently—since there are no reforms under which the United States system could remain in the period ahead, no possibility of a reform of the monetarist system, under which the United States could exist under its present laws—toward a coup d'état to take over the United States, through the ministry of the British Empire, the royal family, and through the instrumentality of the President, acting like Adolf Hitler in reaction to the Reichstag Fire, which Hitler's bosses organised and which the London bankers organised, intentionally.

We're having a very similar phenomenon in the United States, now. We're on the verge of a coup d'état which establishes a Nazi-style dictatorship inside the United States. That's what we're involved with.

Now the joyous part of it is, if we can move quickly enough, and if we can continue the effort to clean this mess up, we can survive. And if we survive, our power will be sufficient to save this civilisation from the horrors which now, otherwise, await us.

That's the very sad news. But I don't think we should be sad about it, because sadness gets you nowhere. Sadness peels no potatoes.

You need the reform, and it's what we've got to get, and it's the job of the United States, which is in a position to make this kind of reform, better suited than any other nation. We have to do it, *for you*, and for the honest people of the United Kingdom, as well as for ourselves. That's the good news.

The alliance that won the war in the Pacific: America's General Douglas MacArthur and Australia's Prime Minister John Curtin. Curtin's intervention saved MacArthur's life and brought him to Australia.

There *is* an alternative, and there's a faint hope that we might be able to realise that alternative. That's the situation.

And so, we sit in this situation of catastrophe, a horrible catastrophe, a nightmare worse than the Hitler one, that's right there, now! We're on the edge of it. Those are exactly the circumstances under which we're living. We might survive; that would be a good thing. And if we did survive, that would be a good thing; then we could begin to reorganise the planet around systems that would work.

This would mean, get rid of this nonsense we've had as an economy now. Go back to what was done, by the government of Australia, back during World War II, in which there was an alliance between United States and Australia, and particularly in the Pacific waters of that region.

And you think about the men from Australia who had gone to the First World War, and lost their lives in a futile attempt there, and who had lost lives in World War II. Who had constantly, as people from Australia had given their troops as courageous troops, tried to save, some of them, sacrifice themselves for the sake of the greater good.

Now, I'm sure that that still exists in Australia, because I know how families work, and this is only four generations past (I'm actually in the fourth generation), distant from those being born today. And those in that generation, whether from Australia or from my own country, and with other countries, have a common cause, a common cause in victory. And to the degree we have a spiritual agreement, on a common intention as people, we increase the possibility of a general solution for this planet.

The Damnation of CO_2 Is a Lie

It means we don't believe the kind of nonsense that's been told to us about carbon dioxide: *all the damnation of carbon dioxide is a lie*! There's no truth to it. The idea of a zero-growth system, these kinds of ideas, they're all nonsense! They're utter nonsense. They're scientific rubbish!

We can go back to what the government of Australia did, back during World War II. We can go with those principles which that generation in Australia had, in, and coming out of, that experience in World War II; exactly the same. Some of the projects, the great water projects, and other projects which were designed then, in Australia, could be implemented! And they're exactly what is necessary.

And you've got a whole territory to develop. If you can manage water a bit, there, and we can do that, you can take a lot of Australia and turn it into very productive regions. It's quite possible.

I'm not only saying densities like that: you need nuclear power! You can't develop Australia without nuclear power. But nuclear power's not enough. And the needs today are greater than that of nuclear power: We need thermonuclear power! We also have to think ahead, to further development of power, matter-antimatter reactors, which is a known, feasible technology, orders of magnitude beyond anything we know about, otherwise, yet.

So the opportunities for humanity, as in Australia and elsewhere, are really enormous! Apart from that terrible pessimism, which the Greenies and so forth represent.

Now, what we would do, essentially, and what I'm doing, the most exciting thing to do today for anyone in my position,

is to enjoy the rare privilege of telling the truth! The truth is, that we can succeed! It's not easy; it's like all warfare, rather dangerous. We hope we can pull the thing off without warfare of that sort, again.

But we have to have the intention of doing the kinds of things that will succeed, given a chance, and then, we can hope for something better for humanity now, without a great loss of life, which we otherwise would incur. And the intention is to reduce the world population from over seven billion people down to one [billion]. That's the official line, prevalent in Europe, today, and among the Greenies in the United States today, and some other places. To reduce the world's population, very rapidly, from over seven billion, to less than one, in rapid order. And you know what that means. You don't need a big chart, to know what that means.

So, therefore, we can not morally tolerate, we have to beat these swine! And I think we can. I'm not saying we will, but I think we can, and therefore, we damned well ought to try. And that's the way it's going to be.

We have a vacuum in the United States today, a political vacuum. And fortunately—forget numbers, because numbers don't mean much—you have most of the American people, who want what I want, or they want something which is tantamount to that. They want it right now. They've lost everything! They're losing their pensions, they're losing everything that counts for them! It's being taken away from them.

But the worst thing, the more pitiful thing, is people in power in the United States, who are *not* intrinsically evil, are such stinking cowards! When they have the power to beat this enemy, they won't fight! They give in! Not like old blokes, like me, we don't give in. Veterans of World War II, of which I'm sort of typical in one sense, we don't give in. We're patriots, and we respect patriots in other nations who have similar inclinations. We're determined to win.

The Case of the SDI

I'm not exactly the obscure figure, that some people thought. I've been associated with very powerful forces in the world. We lost that war. We lost the SDI [Strategic Defence Initiative, called "Star Wars" by the media] effort, in which I was the instigator, and I enlisted the old people from the German military forces, retired generals; and French military forces, such as retired generals; Italian forces, such as retired generals; from people in various parts of the world. Influential people inside the United States: a whole group of people, who represented the Office of Strategic Services (OSS), during World War II, in the surviving part of that. They came together with me, and accepted my program for SDI. We had whole sections of the Soviet Union, of people in it, who were for that thing, and for a peace based on that kind of agreement! All kinds of people joining that.

It was taken away from us! It was taken away from us, by the stupidity and the pitifulness of the baby-boomer generation in the United States, which allowed this to happen. There need not have been the situation in Europe that exists today, as a result of a fascist-pig-called-Socialist, François Mitterrand, and his kind of people, who were British-owned fascists, period! Just exactly that! The fellow [then-IMF Managing Director Dominique Strauss-Kahn] who was properly arrested in New York City, who was a Mitterrand man, one of his heirs, and who apparently beat up prostitutes as a kind of special entertainment for themselves, and these kinds of rot, were running, pretty much, the euro.

Now, we've come to a point where, right now, at this time as we sit here and speak together, there's a riot going on in the political processes inside the United States. And there's a possibility that some people might show enough guts, under the circumstances now that we might just do the right thing. And a lot of the problems which you are not yet seeing in Australia, will be solved before the problem reaches your shores. That's possible.

We could win!

So I think there's only one thing to do in a situation like this: We're in a situation tantamount to general war, in terms of the nature of this threat. That's a fact! The fact is not going to go away by itself. Unless we do something appropriate about it, the fact is going to be inevitable! It'll hit! This is not something that's going to pass over. We're going to have to deal with it, square, right now.

But, if we have the attitude, as I think many of you gathered now in the room do, if we have the attitude that we're concerned not only for Australia, or some other countries, such as the United States—we're concerned, really, for humanity: people who were shipped here from Ireland, as virtual prisoners, have turned out to make something of themselves here in Australia. We have something good in Australia, and in other countries. We have to preserve it. It may be weak, it may not be adequate, but it's what we have!

And it's best suited to hold onto it, and go out from there, to some of the projects which are necessary, to make something of the potential there is now. So, I can only give you the voice of optimism. Because it's the only thing worth working for. It's not an illusion. *We could win!* The forces exist. *We could win!*

Australia, with the world's largest reserves of thorium and abundant uranium, must develop nuclear power to drive an agro-industrial renaissance of the nation.

Are we going to win? I don't know. But what do I do? I do, in the spirit of any veteran of World War II, who's worth anything, I do what I must do. I do my duty. And fortunately, I have a deep-rooted heritage inside the United States, and also spilling over into some other countries.

I'm not an isolated individual; I'm a very significant individual. I'm the nightmare of our enemies, very much so. They spend a lot of money on me; it doesn't work. There are too many good people in the United States, including some people with a lot of power at one time or another behind them.

We're going to stage a fight. I'm optimistic as hell. It might be soon. I think we can win. It's the only thing worth thinking. It's the only thing worth taking on. And the important thing is to make the best effort, and hope that effort prevails. So the only way to look at this is: if we lose, there's nothing for us to think about. So therefore, the only thing worth thinking about is winning.

And that's been the experience in Australia, before. And I think that's the way we ought to think. It's the way worth thinking. And I'm going to put on a good show for you, in the coming days in the United States! I'll go up, or I'll go down, but I will do everything, to go up! And there's nothing else worth thinking. Winning is the only thing. And that may not be the best news I could give you, but I can't give you any better. And the best thing is to think about winning, rather than wasting your time thinking about losing. So, back to you.

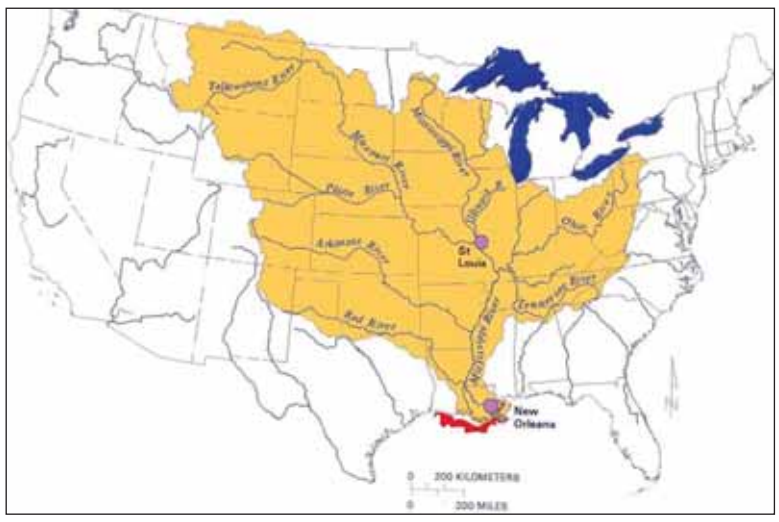
Questions and Answers

CEC activist Warwick Hunt asks Lyndon LaRouche a question.

Warwick Hunt: Good morning, Lyn, this is an absolute pleasure and honour to listen to you. My name is Warwick Hunt, I'm from the east coast of Australia, NSW, just near Sydney. My question is this: You mentioned the possibility of a Hitler-type dictatorship in the United States and elsewhere. Do you have any idea of the type of people in the U.S. that may be involved in this?

LaRouche: Yes, I would say the President of the United States. The current President of the United States is a complete fascist, and his policies are exactly those of Adolf Hitler when it comes to population, except I think he's much more vigorous in his prosecution of those evil terms than even Hitler was capable of being. They're proposing to reduce the world's population from the vicinity of seven billion people to the vicinity of one billion people, or less, and doing it in a relatively short time. Moreover, the policies of this president, Obama, are identical in effect with the population reduction of Hitler, except in one respect—*they're more radical*. They're more immediate: the threat to kill vast numbers.

For example, we have a peculiar situation, a climate situation, in the United States. We had in the early spring of this year a great deposit of water, by rainfall, through an unusual storm system. This water filled the entire area, as you can see on the map, from the Mississippi River down, and up the Mississippi to Minnesota, along the Missouri into the states out there, and up the Ohio River, we still have an accumulation of that water, which has destroyed the agricultural potential of two generations of crops in the region. Now, recently, that water, which has been piled up there, is now reflected in a drought, in the south-western states of the United States. A killer drought! The result is that the food supplies of the United States population for the coming year, or a six-month period and beyond, is now nullified in large degree, which will mean mass starvation in the United States.



Recent huge rainfall in the Mississippi Basin (yellow area) has devastated crops, creating a threat of food shortages and starvation in the United States. Credit: U.S. Dept. of Agriculture.

Now this is the result of the policies of the Obama administration. It's also the policy of the United Kingdom, at least its current government and the British royal family, as in the case of Prince Philip, for example. Prince Philip has now upgraded his intention, which originally, for a long-standing period, was to reduce the world's population to two billion people. He's now upped it, along with a new layer [of his confederates], to reduce the world's population, which is increasing in the meantime, to less than one billion population—and to do it in rapid time.

Australia Has Been Looted

Not only is it the intention to do that; the implementation is already in place. For example, the [global warming] hoax is an *absolute lie*! Environmentalism, this whole thing, is a *complete lie!* And it's done under what is called the ancient oligarchical principle, which has motivated this: first of all, lowering the energy flux density of production of goods in agriculture, manufacturing, and so forth. That's all being lowered, and ruined. The population is being made more stupid through bad educational systems, which have deteriorated greatly in the recent period. And it's been lost, through the industries and agriculture, which would supply a good quality of production.

Australia has been largely looted from the inside by the British Empire, by the extension of policies, long associated with Prince Philip, and others, the old genocide policies, the same genocide policies which the British Monarchy stuck into Germany. They did it; they planned it; they ran it. And this same crowd in Europe and in the United States which did that, is back doing it, but *bigger than ever*.

So unless we defeat these characters we don't have much, do we? We *can* rebuild; we have technologies, and in Australia there are still people with these technologies, which are not much being used. But you take that most recent conference, [International Union of Geodesy and Geophysics General Assembly in Melbourne June/July 2011], which actually was, in my opinion, largely a farce, in which the only quasi-sensible people in the whole affair, were people who were put last in the list of those who were allowed to speak, after all the brain-damaged people had done their damage beforehand. This policy, which is throughout the world today, is a policy of genocide. It's the stated intention of the leading nations of Europe today, at least by their governments, to impose a reign of genocide upon the peoples of Europe, and the peoples of Africa and other places.

We have a policy in the United States of genocide, of population reduction. It's already in progress, and this is what we have to fight against. And it's our courage and determination to condemn and block these things, and replace them with good things, which is our only hope. And it's a cause—it's the cause of humanity, it's the cause of civilisation. And I'm fighting against that.

Elisa Barwick asks: "Can human beings create universal physical principles?"

An Immortal Species

Elisa Barwick: Hi, Lyn, I'm Elisa Barwick and I'm a full-time organiser here in Melbourne. The question came up here a while ago, in reading some of your writings, about whether man is only able to discover universal physical principles, or whether we can create them ourselves. And you did say in your "Creativity as Such" speech at the German conference [of the Schiller Institute, 2-3 July 2011 in Rüsselsheim] that we can create a new principle in the Universe, and that that has been done before. And I was just wondering what examples you were thinking of, whether you were thinking of social principles like the U.S. Constitution, or scientific principles. And if man is capable of creating new scientific universal principles, do we create the principle ourselves, or is it just the case that we create a new state of the Universe under which that comes about?

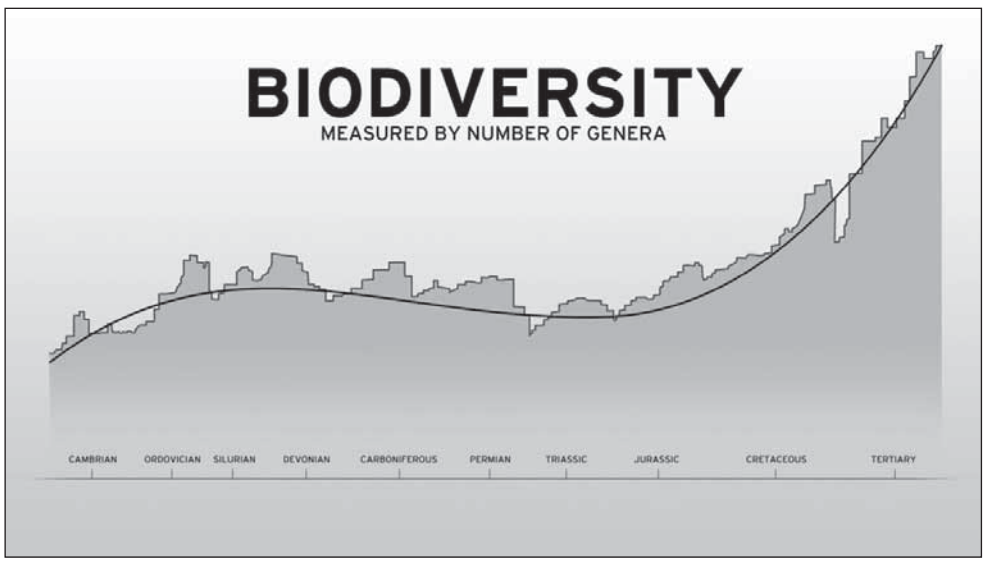
LaRouche: You've pretty much covered the area of the debate, haven't you? Now, what's my answer? My answer may be a bit complicated in appearance, but it's only because there are many factors involved in answering that question, which is a very good question, because it's comprehensive. Covers the whole territory; well, almost.

The fact of the matter is, mankind is the only species which has voluntary creativity. Creativity exists throughout the Universe. There never was a basis for what's taught as environmentalism. What's taught as that, is a great, simple fraud! The entirety of the environmentalist movement is one great, anti-scientific fraud. And anybody who supports that policy is incompetent in science, either because of their ignorance, or because of their evil, one of the two. And it really doesn't make too much difference which, because the effect is pretty much the same.

But the intention now is to reduce the world's population to at least a fraction, about one-seventh of this present population, at a very rapid rate: a rapid rate of extermination of human beings, much more rapid than anything Hitler undertook.

And it was the same crowd in Britain who came up with this crazy law of environmentalism, that stupid bloke Darwin, a complete fraud, useful for nothing, with no science in him, but a lot of other rubbish in there, apparently.

The fact is, first of all, the Second Law of Thermodynamics never existed as a reality, it's a *fraud*, *totally, from top to bottom*! If you examine, as we have, the better part of a billion years of life on Earth, what the characteristic has been, first of



"The Universe is always creative, it never goes backwards; … inferior species die out, higher species emerge and proliferate. The system is changed. The energy flux density, the actual productivity of the planet, increases."

all, is that the potential of population density of various kinds of species of animal and plant and so forth, has increased, constantly, throughout what we know of approximately nearly a billion years of the galaxy which we inhabit as part of the solar system—our solar system is part of the galaxy. And it dances around: the solar system is sometimes down under, I don't think we can call it Australia, but it's down under the galactic plane, and then sometimes it's above. And sometimes, when it goes above, there are vast kills of animal species and plant species, and so forth. But, the net effect of all these kills is that the species which replaced the killed species, are superior to those they replaced. That's the history!

Therefore, the Second Law of Thermodynamics *is a lie!* The evidence shows, first of all, not only that the kills are associated with the increase of the quality of species, that the whole history of what we know of living processes, inside the galaxy, to the extent that we know that; inside the solar system, to the extent that we know that; on Earth, to the extent that we know that; is a process in which what we call the energy flux density of processes, rises. It does not decline.

The potential of the Universe does not decline, it does not shrink, it grows. What happened is that the dinosaurs were replaced. They were replaced by the time that the solar system bounced up to above the plane of the main body of the galaxy. At that point the kind of radiation that was kill radiation, was increased by the exposure to the radiation at the higher levels. And then the processes went underneath the plane of the galaxy, and after that you had higher forms of life emerging, including animal life.

The dinosaurs were dead, they were wiped out. They did not die: they were wiped out. They were wiped out by radiation. These things were very inefficient creatures. They had to sit up and eat all day, including each other; they had to do all kinds of things; they were very imperfect and then *pffft*! All at once, all gone, and only a few types kept struggling on to try and keep something out of it.

So we began to produce higher forms of life. We had all kinds of things, and they all came in together: new forms of life of a higher order. For example, the mammals! The mammals were far more efficient than anything that had lived before. We had the development of leaves, which was very essential to the development of animal species, and so forth, and so on. The history as we have explored it, in detail with all the scientific evidence that was available to us, and we've touched all of it, really, says that life goes from lower to higher forms of expression. That's the natural course of things.

The Universe Is Always Creative

Now in this creativity—and the Universe is always creative, it never goes backwards, not to my knowledge, it always goes upward from lower to higher species—inferior species die out, higher species emerge and proliferate. The system is changed. The energy flux density, the actual productivity of the planet, increases.

Man is a special case. Mankind, in answer to the question in the way that you divided it in parts, mankind is the only known species which has voluntary creativity. All living processes in nature have creativity. That's how they came into existence, for as long as they remained in existence. Mankind is the only species that has a wilful, voluntary capability of superseding the limited powers of ordinary life to replenish itself.

The Universe is not entropic. The Second Law of Thermodynamics is one stinking anti-scientific "law". There never was any truth to it. [Rudolf] Clausius (1822-1888) was a faker. These guys were all fakers. The famous creatures: all fakers.

So, therefore, mankind has a greater degree of potentiality for accelerating the rise of living processes to a higher level, and all processes to a higher level. Mankind is the only creature that can do that voluntarily. Other species do it anyway. Sometimes they die in doing it. It's like an egg that dies.

Now, therefore, the point is that we should be creative. We are human and creative; we should study how to create things. Our greatest scientists have always done that. Our greatest painters and poets have always done that. They create! In poetry and similar things, creativity is expressed by various kinds of things such as irony, such as metaphor. Metaphor in poetry is a form of creativity. And if you take the case, for example, of Brunelleschi, the discovery of the way he was able to develop the dome of the cathedral in Florence; or the discoveries of Nicholas of Cusa; or the whole chain of discoveries of scientific things! All these sort of things: wonderful things!

Mankind is the only species which is capable of surviving great kills in nature, as the same species. All other species tend to create by dying, in the process of bringing forth their successors. Therefore we must think of mankind in divine terms.

Mankind is the only species which is capable of creating, itself, and perpetuating its existence voluntarily, through the power of scientific and related innovation, including creative work in poetry, drama and so forth. These are manifestations, in the mind, of the imagination: works of the imagination, which open our eyes to the possibilities of scientific progress. They are the inspiration of scientific progress, as I think [Percy Bysshe] Shelley (1792-1822) would say this sort of thing.

Therefore, what you asked as a question, is a whole larger question. It is that mankind is a different species, ontologically, than any other form of life we've ever known. Now there may be something out there in the galaxy that we haven't seen yet and don't know, something beyond the galaxy that we might see not yet, not now, which is creative in the same sense that mankind is a creative species. But we don't know it.

But what we know now, is that the discovery of principles, which have enabled mankind to rise from a lower level of productivity of power in nature, power over nature, is unique to mankind. And this unique power of physical improvement is inspired by classical poetry and classical music and so forth. The imagination! The power of metaphor opens the mind's eye to creativity. Man, in turn, then looks at the physical reality of the life in which we live, and then tries to apply the scientific and cultural imagination it gives us, and tries to find higher forms of expression through the aid of physical science, which has been inspired by classical artistic composition and similar kinds of things. The human imagination. And that's the matter of the thing.

So therefore we are, because the discoveries we've made, which are synonymous with what we call scientific discoveries of principle: these discoveries we make extend from us, even after we've died. That principle is still working in the memory of mankind, and is reproducing mankind; advancing mankind to higher states of existence; and we still remain human beings, as a species of human beings, despite the fact that the quality of our life, the power and the very means by which we exist, the very habits, have been radically transformed by discovery.

We have come as a new species, but our grandchildren's species, our grandfather's species, this same species, from generation to generation, sharing the abundance of the accumulation of scientific discoveries and other kinds of discoveries. We live on, and grandfathers are capable of enjoying the achievements of their grandchildren. We are the only known immortal species on earth. We may each die in our time, but we are immortal in the sense that the creation we have given and developed and supplied to mankind is immortal. And we can die with the knowledge that there was meaning to our having lived. There was a human meaning to our having lived!

Former CEC National Chairman Maurice Hetherington, of Central Queensland, greets Lyndon LaRouche.

And it is that beauty that gives us morality. It's that sense of things that gives us our morality, our love of life, our pride in our children, our pride in our determination that our children should be more powerful than we are. That the generations coming after us shall succeed in what we were not able to accomplish.

Now we can go to our death with confidence that the human species, unlike all other known animal species, that the human species is an immortal species, in which the individual may die, but does not die alone, but lives in the heritage of humanity. And that's the point of view that I express.

Truly Creative Work

Ann Lawler: Hi, Lyn, I'm Ann Lawler, the National Chairman of the Citizens Electoral Council. Now you've probably covered most of what I'm asking in a general way. But I want you to actually target your answer to each individual in the audience, as to what they personally should take on board as their means of actually bringing about an end to this financial system we've got that's destroying us, and this green fascism. Now they're both arms of the same enemy, but what do we have to fight within ourselves to really be effective to bring that about?

The discovery of physical principles has enabled mankind to rise from a lower level of productivity to a higher power over nature, and to land on the Moon.

LaRouche: The first thing, which is expressed by the greatest literature, is the truly creative work of art. Because in great art, there's a prayer built into that, or an implicit prayer that mankind shall survive. In the sense that the meaning of our lives, as expressed in the benefit passed on to others, is the great legacy which defines us as human, because we are consciously human, we are consciously creative, and, properly instructed, we are devoted to the future of our descendants, which means the future of the very species we are. We're the only species which has the ability to have a conscious sense of immortality. This is the basis for human morality. And that's what we must tend to; that is the most essential part of the thing.

Now what we have to do with that power, is turn then from great poetry, great art, and so forth, to physical science. Physical science: you don't have to be a scientist to be involved in physical science; you have to make a contribution to the furtherance of that, to the realisation of that, and that's it.

What we want to do, is: take the territory of Australia. I know, as some Australians have also stated, that what is considered a vast desert area can be developed! It can be a power in the Universe: a place that can present something much more powerful than it is today. And therefore, mothers and children can celebrate the fact that something better is coming afterwards.

"Mummy, why are we living? Mummy, what happens when Daddy dies?" These are the kinds of questions by which we identify ourselves. The answers we try to give to children, the good answers which are successful, which we can hopefully give to children: that's the true destiny of an immortal species, of mankind as an immortal species, an immortal species of people who die, but whose efficient effect on their descendants is part of life, afterward. And they can die with a dream of the future life, which was embedded in their part in making it.

That's the essential thing. It is that sense of morality, which gives us the courage of soldiers, which gives us the determination to make things better: meaning, to celebrate the Creator, in the power given to us, as the only immortal species known to us presently. Isn't it much better to be an immortal species, than an animal? Isn't that a destiny which is far greater than any other gift that can be given to us? To know that, although we must die, eventually, the fact that we have lived will be a permanent part of the future of a living species. That's the thing that you count on, when you're faced with the greatest dread. And therefore, because it deals with the greatest dread, it's the greatest gift. And that's what we represent.

"Thank You for Who You Are"

Maurice Hetherington: Lyn, we go back a long way, I'm the lad that gave you that pair of kangaroo hide boots.

LaRouche: I remember that. I do.

Hetherington: Your father was a boot maker and you'd said that you couldn't get decent boots. Long time ago.

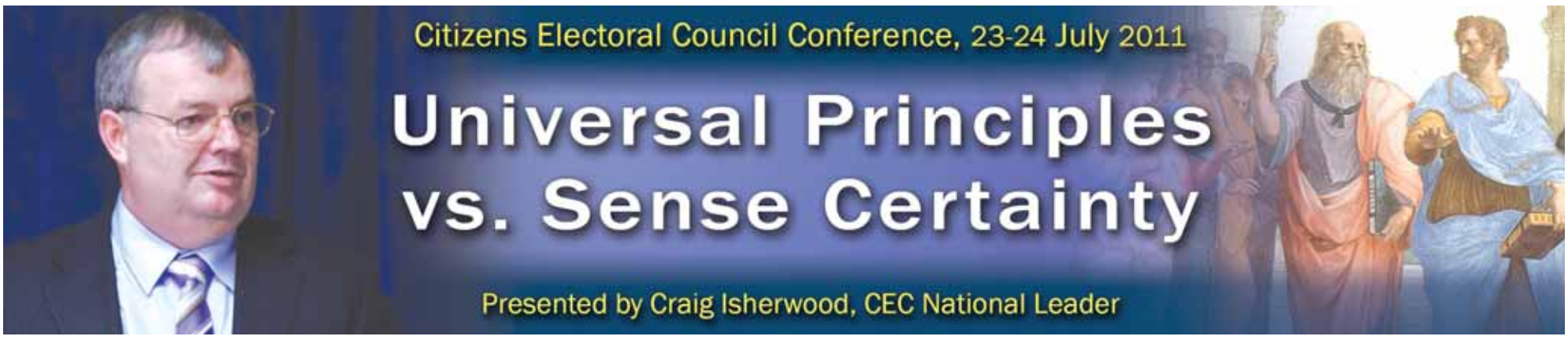
I'm from around Queensland, central Queensland, where we've been inundated with enormous flood waters and havoc. Coal mines everywhere, and now the big concern is the drilling for gas. One of our great assets of this nation is the Artesian Basin, and I believe strongly that they will ruin the aquifers and our water.

My big concern today of course is foreign ownership of buying up this choice land, which I doubt you could do in other countries, I'm not sure. But some of this country: like China bought 42 choice farmlands, with aquifers with up to 20,000 gallons of water underneath, that they will drill and carry on with. I think it's too late now to shut the gate, the horse has bolted.

But my task today, I would just like to say thank you for who you are and what you have been to me and the group. I'm certainly a better person for having met you a long time ago, and I doubt that I'll get back over to the other side. Airline travel is starting to be a bit limited. But thank you, for I gained the opportunity to think outside the colonial square and you're responsible for that. Thank you very much.

LaRouche: Thank you very much. It's most delightful, and I do remember you quite well over these years. I deeply appreciate and remember very well your visit to me and the things that went along with that. We had great fun at that time, and being an immortal species, as I just emphasised, we who approach the limits of mortality, about to enter immortality, are very pleased by these things. These little touches, which are human touches, are blessed, as far as I'm concerned. I appreciate them very much.

The inefficient dinosaurs were wiped out by radiation and replaced by new, higher-order forms of life.



Welcome to all of you this morning! As you see, we have chosen Raphael's great painting, "The School of Athens", as the backdrop, the theme of our entire conference.

Here you see Plato, on the left, pointing upwards to the heavens of creative thinking, while Aristotle, on the right, points downwards to the good ol' solid sense certainty of the Earth. Around them you see a host of historical figures such as Heraclitus, Pythagoras, and Socrates from among the ancients, and Dante from the pre-Renaissance, and including Raphael himself. And that panoply of Temporal Eternity, that immortal dialogue across the millennia, which is unique to mankind among living species, is characterised by an unbridgeable gap—which actually demarcates a war to the finish—between human creativity, as exemplified by Plato's "hypothesising the higher hypothesis", and the animal-like sense certainty championed by Aristotle.

Aristotle didn't just have a "different way of thinking", as you may have been taught at university or otherwise heard; he was a priest of the Apollo Temple at Delphi. Delphi was both a temple and a treasury—the greatest treasury of the ancient world. Its priesthood organised the Peloponnesian Wars which destroyed Classical Greece, and then helped found the Roman Empire upon the ruins of Greece. And the intent of Aristotle and the oligarchic priesthood was, and is, to snuff out that divine spark of human creativity forever.

The Tasks of the Past Year

From that standpoint, I would like to reflect back on the past year, to situate the process in which this conference takes place. Many of you were at the CEC's last national conference, on 1-2 May 2010. That conference was an intellectual blockbuster, a watershed in the history of our organisation in Australia. It took place in the context of LaRouche's intense focus on what he then called "Type A" vs. "Type B" personalities, referring to the personality whose inner sense of identity is based on sense certainty, vs. the personality whose inner self *is* creativity. While still anchored upon that fundamental reality, the international organisation has since undergone a revolution. By fully entering the domain of cosmic radiation, we are forced to give up such remnants of sense certainty as the concepts of independent "space", "time", and "matter", in favour of the seemingly invisible realm of actual causality, the realm of creativity.

Last year's conference was entitled "Destroy Empiricism and Genocide: Let's Go to Mars!", which was also the title of my keynote speech. I posed the absolute necessity, for Australia and for mankind as a whole, to free ourselves from the crippling mental disease known as empiricism, and to move into the domain of cosmic radiation, to begin to colonise other planets.

I proved in that speech that the long-standing policy of the British Crown-centred oligarchy, and of the Venetians before them (and the Venetians still today), has been to commit mass genocide as a way of maintaining their imperial rule. That policy, as we have since powerfully elaborated, has been spearheaded here by Prince Philip's Australian Conservation Foundation and its hangers-on, and Fabian Society flunkeys such as Kelvin "Kill 'em" Thomson and Julia Gillard. But the key to these Venetian, British and other oligarchs getting away with these schemes, I stressed, has been to get their victims to embrace them as their very own. And that this embracing of our own doom, proceeds from the systematic cultural warfare which the inner priesthood of the Venetian, the British, and all the other empires have waged against the rest of mankind for millennia.

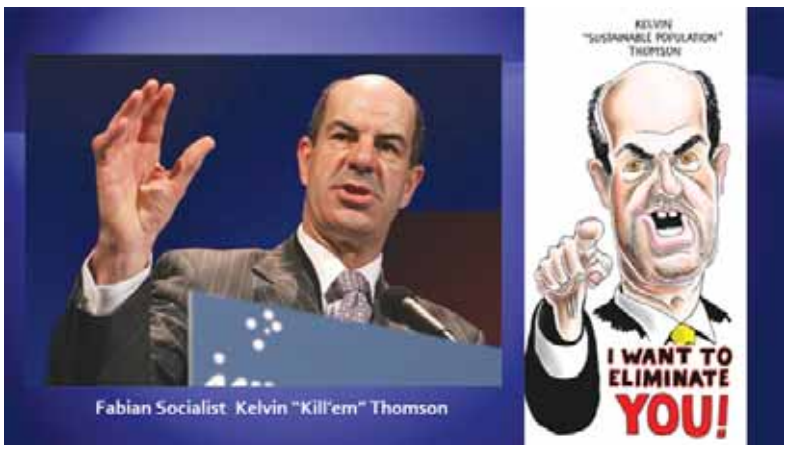
Our task in that conference, was to first of all become conscious of that cultural warfare: that the oligarchy has purposefully created a degenerate culture, a mass culture which is so insidious and so subtle, that the proverbial 99 per cent of Australians have no idea that they have been systematically programmed to believe most of what they do believe, most of the time. And this includes most of us here a fair bit of the time as well. And that there is a specific method to that oligarchical brainwashing, which is known under various brand names as "empiricism", "positivism", or just good old-fashioned "Aristotelianism", but it's all the same thing: it is the insistence that our knowledge of reality is based upon sense certainty, that what our senses convey to us *is* reality. Even more, that our innermost sense of self is just sense certainty. But the whole point of last year's conference was to demonstrate that the actual birthright of humanity is something entirely different—the *creativity* of the individual human soul. We had a number of beautiful presentations incorporating much original material which even now has not been generally presented in our organisation internationally, so we have recently decided to issue those conference proceedings as a booklet, as an enduring weapon for our mass organising in the tradition of our famous "Republic pamphlet" of 1999.

That extraordinary conference uplifted the thinking of all those involved, including many of you here today, and it unleashed some tidal waves in this country.

Freak-outs A-Plenty

These tsunamis began with my campaign here in Wills against "Kill 'em" Thomson, the former president of the Fabian Society and poster boy for the genocide lobby in Australia. Here we forged the method and spirit of the other flagship campaigns around the country. We caused a major freak-out in Wills with our relentless cartoons, starting with the one shown here on the right. LaRouche was taking on the genocidalists.

The Italian Renaissance painter Raphael's fresco *The School of Athens* was the focal point of the CEC Conference. Raphael depicted the immortal domain of the creative human soul, as opposed to those people trapped by brutish sense certainty.



During the 2010 Federal Election, ALP Federal Member for Wills Kelvin Thomson was hit by a vigorous CEC campaign in his own back yard, notifying voters he was out to eliminate them.

Kill 'em's buddy, Dick Smith, came running to his aid, but as Dick refused to debate me publicly on "population reduction", he cowered away with a bumper sticker on his bum [see below], from the contest that he ended up paying for!

And Dick is no "local boy made good".

He has been one of just a few Australians in Prince Philip's elite gang of oligarchs known as the "1001 Club", the chief funding agency for PP's WWF! The issue for the campaigns was established by the conference: "The British want to kill you, and we will defeat them with cosmic radiation and economic development." That conference, together with other LaRouche initiatives, sparked a nationwide series of activist seminars on cosmic radiation and major infrastructure projects, and our youth worked up a beautiful presentation for an Australian NAWAPA [North American Water and Power Alliance].

As these seminars were happening, the Murray-Darling Basin Authority (MDBA) released its *Guide*, which proved everything we had charged: that the British intended to kill off a big chunk of Australia's population. That hit home to a wider audience, beginning with those at the conference.

War Against the British Empire

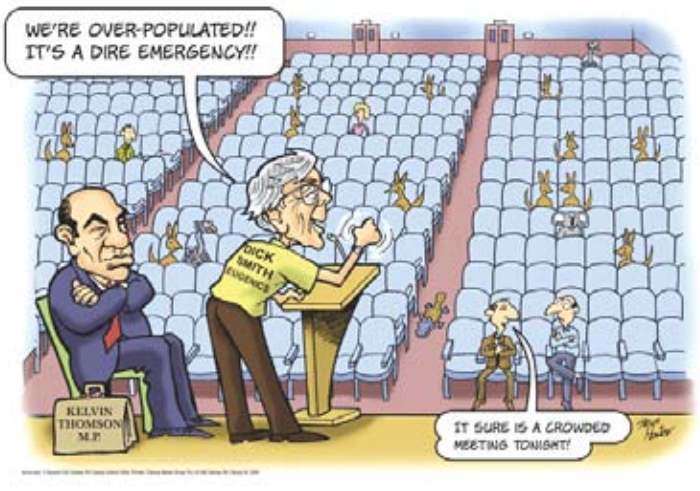
Over the Christmas period last year, we planned the next stage of attack. In warfare you always have to escalate, or you lose. Thus, we decided to "declare war against the British Empire", and the first campaign of that war was to defeat the genocidal plan of the MDBA, which had been designed by Prince Philip and his crew. On 15 January, I addressed the nation with a call to arms amidst the terrible floods and natural disasters which ravaged much of our country.

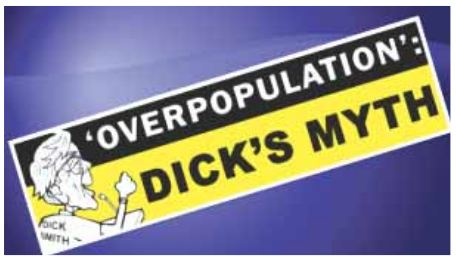
In the Murray-Darling Basin itself, the LaRouche Youth Movement and CEC members intervened in almost every MDBA meeting, whilst a team of organisers poured out telephone calls and literature from the war room we set up in the office. We hammered at the British roots of this MDBA shutdown plot, and exposed the Rizza report, which showed that the banks were in collusion with the MDBA to shut down the Basin. We relentlessly pursued Tony Windsor at his dog-and-pony show hearings up and down the east coast, and continually nailed the Queen for promoting genocide.

We scored some victories, notably the resignation of MDBA chairman Mike Taylor, and the announcement by Tony Windsor that "reduction of the Basin's irrigation water is not necessary", which prompted the quack Wentworth Group of so-called scientists to resign from the MDBA.

But now the British, through their ever-willing Fabian Socialist agent Julia Gillard, have switched their attention to ramming through a genocidal carbon tax, under the lie that carbon dioxide—which

Many attendees had been present at the 1-2 May 2010 CEC National Conference (pictured here)—an intellectual blockbuster that established the creative, cosmic basis for man's existence, as against the British-Venetian empiricism currently leading to our destruction.





In his speech, Craig Isherwood elaborated on the explosions in the circles of Australia's oligarchical lackeys, such as Dick Smith, who reacted to Isherwood's declaration of the CEC-led war against the British Empire and its genocidal depopulation plans.

is vital for all life—is a pollutant. Again, we are there at both the pro and con rallies, blasting away with the truth: that the Queen is behind this, and her name is not Bob Brown.

The Greens now hold the balance of power in the Senate. On the other hand, reflecting the escalating mass strike, polls now show that an overwhelming majority of Australians do not believe in global warming. We uniquely provoked this astonishing shift with the campaign we launched back in 2007 (that autumn's issue of *The New Citizen* is pictured below), when 65 per cent of the population *did* believe in it.

The April/May 2007 issue of *The New Citizen* trumpeted what nobody was thinking about yet.

Revolution in Physical Chemistry

The last conference provided deeper insights into the nature of our mortal enemy, and of the real nature of mankind going back over the millennia, than we had ever presented before. With the help of Mr. LaRouche and his "Basement" scientific research team, we have learned a great deal more since, and we intend that this weekend's conference will unleash a similar, urgently needed upshift in our mass organising. We are going to begin in the 19th century with the great


Louis Pasteur opened the way to the late 19th-century revolution in physical chemistry.

Louis Pasteur and his philosophical opponent Charles Darwin, whose famous *Origin of Species* book was released in 1859. Then we will zero in on the revolution in physical chemistry that exploded at the end of the century, and the relentless attacks by the British on that revolution, to suppress it. Because, coming in the context of the enormous wave of industrial and scientific progress and nation-building worldwide following President Abraham Lincoln's victory over the British-sponsored Confederacy in the American Civil War of 1861-1865, this explosion in physical chemistry threatened to unleash a sweeping upward revolution for mankind, which would do away forever with the British imperial system. It was identical, in many respects, to the strategic challenge the Venetian Empire faced, after the Golden Renaissance of Nicholas of Cusa and his associates and followers had given birth to nation-states and to the systematic practice of physical science.

The Russian-Ukrainian scientist Vladimir Vernadsky captured the implications of this new, sweeping revolution in physical chemistry in one of his writings of 1938: "We are currently living through a period in which scientific thought is preeminent in the life of mankind. ... At present, scientists, under the influence of exceptionally important newly revealed facts, are creating new notions, which go far beyond the limits of previously existing ideas, beyond the limits of the boldest and most fantastical ideas and constructs of philosophical thought."


Copies of the Murray-Darling Basin Authority's *Guide to the Proposed Basin Plan,* burned by angry Australians at Griffith, NSW.

The entire Newtonian idea of the Universe—that which the British and the Venetians had foisted on the world for the previous three centuries—was being obliterated by these new breakthroughs, he emphasised. All of those previous Newtonian notions, Vernadsky wrote, "are being revised in the course of current scientific work, and are undergoing changes that radically transform our understanding of them. Among such concepts are time, space, energy, life, geometry, etc. In all of this motion that is occurring, the active source of the change in basic concepts is not philosophy or religion, but science."

As we shall demonstrate, the British not only responded to this sweeping revolution at the turn of the 20th century in a fashion similar to how Paolo Sarpi and the Venetians had reacted to Nicholas of Cusa, but they in fact explicitly modelled their response on what Sarpi had done then.

Reclaiming Theology for Mankind

So, the job for all of us over this weekend is to understand much more fully what this revolution in physical chemistry, which really took off in the 1890s, was all about, and how its destruction has left the world dominated by the putrid yellow pus of British Liberalism, a truly Satanic ideology. We are therefore going back to the great minds of that period, to reconstruct the creative processes of their minds within our own, and take up where they left off. And in doing so, we are going to *reclaim theology* for mankind—the realm of the human spirit beyond the narrow, animal-like confines of mere sense certainty. Because, as we shall see, the millennia-long battle between the oligarchs and the rest of mankind, between Aristotle and Plato, has been played out most explicitly in this realm of so-called "theology".

This is not "theology" as that subject is often misconceived, but an actual truthful understanding of the Creator, of the nature of His Creation, and of our own individual roles with respect to both. And if some of the theological issues I shall present in this opening presentation sound "unusual" or even somewhat shocking, that just tells you how much you have been brainwashed by British Liberalism, which pervades virtually every aspect of society today. We shall demonstrate, however, that there is no difference whatsoever between the truths of actual theology, and those of modern science, as that has been developed by Nicholas of Cusa, Leibniz, Riemann, Vernadsky and the others you will hear from. In fact, that current of modern science helps make what might seem abstract in theology, much more intelligible to mankind. The central issue in both cases is the immortality of the soul, located in the provable immortality of the human species, when the human individual consciously commits himself or herself to securing the future of that species.


Prometheus bound, for giving fire to man. Empires rule by preventing the knowledge or use of fire—of technology and of creative reason.

Prometheus vs. the Anthro-obscene Era

The conflict depicted by our friend Raphael was an old one even by the time of Plato and Aristotle in the fourth century B.C. The poet Aeschylus had portrayed this as the attempt of a ruling oligarchy to keep the secret of "fire" from mankind, meaning literal fire, as well as the fire of creative reason, to keep mankind enslaved. But Prometheus, whose very name means "forethought", intervened on behalf of man, unleashing processes of physical science and physical economy which the enemy has struggled to put back in the bottle ever since. Even today, the oligarchy casts the battle in those precise terms, as you see in the writings of Prince Philip's high priest of environmentalism in the post-World War II era, Max Nicholson, who is fortunately now dead, but who wrote long polemics against mankind's discovery and use of fire. And so we have here in Australia today, one Dr. Andrew Glikson of ANU, giving a lecture several days from now, on 26 July, whose title is "Homo Prometheus: from the discovery of fire by prehistoric humans to climate change". And guess whose side he is taking in this ancient struggle.

Glikson's lecture is part of a plot started by Max Nicholson's protégés and successors such as Will Steffen, the Executive Director of ANU's Climate Change Institute, and Jacques Grinevald, a supposed great champion of Vernadsky who wrote the introduction to the English-language translation of Vernadsky's book *The Biosphere.* This priesthood has now invented a whole new geological era in the Earth's history, which they call the "Anthropocene". Parroting and twisting Vernadsky's notion of the noösphere, they claim that man's mastery of fire allowed him to eat much more protein, which made his brain bigger, which enabled him to master the use of fossil fuels and drastically increase his population, and that the Earth has therefore now entered Stage three of this newly concocted Anthropocene era.

Depending on which kook you listen to, this new "human-centric" era started in the year 1800 or maybe a few millennia earlier. But now this "Stage 3" of the Anthropocene is characterised by massive and growing emissions of CO_2 which threaten to destroy the entire Earth unless a new system of "global governance"—their term—is established in order to control these emissions. Steffen has a video on YouTube on the Anthropocene era, better called the just plain Obscene era, if you want a good laugh. He also serves on Gillard's Climate Commission, as you might expect, headed by his mate and fellow high priest Tim Flannery.

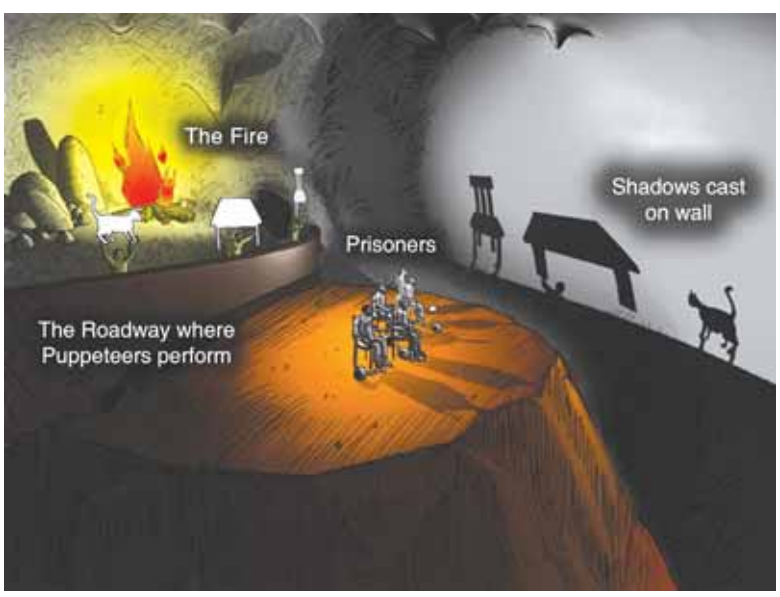
British-controlled green academics have declared the "Anthropocene"—a new geological era, in which mankind's development threatens Earth.

Plato vs. Aristotle: Battle for the Mind of Man

Returning to the mortal conflict portrayed by Raphael, Plato, like his predecessor Pythagoras and many of the great minds of Classical Greece, was trained for several years in the maritime astrogation-centred ancient culture of Egypt, while Aristotle, a priest of the Apollo Temple at Delphi, was trained in the anti-science, pro-oligarchy culture of ancient Babylon. The clearest point of reference for the battle between them, was their respective starting points for physical science. Coming from the astrogation tradition, Plato and the Classical Greeks saw clear evidence of the existence of a Creator, of *Mind* with a capital "M", in the beauty, the order, and the unending process of change in the created Universe, and they understood that the fundamental reality of that Universe lay in what they called *dynamis*, physical principles not knowable to sense certainty. This is the essence of Plato's famous metaphor of the cave, in his dialogue, *The Republic*.

There he depicts human beings as being chained, from birth, part way down a slope in a cave, so they can only look at the wall at the cave's bottom. Behind them are a series of figures, shadows of which are cast by a fire onto the walls of the cave. For those chained human beings, the shadows are the only reality they have ever known, and they are convinced therefore that those shadows *are* reality. If someone tried to bring them out of that world of shadows into the sunlight, they might vehemently protest.

What Aristotle and the Temple at Delphi did, was to try to make sure that that world of shadows was the only world mankind ever knew, or ever could know. One of their chief stooges in this project was Euclid, who recast the earlier, dynamics-centred discoveries of the Pythagoreans and of Plato and his school in *physical* geometry, from the standpoint of sense certainty. In his famous 13 books of geometry, *Elements*, Euclid purposely obscured the method which had created the discoveries he catalogued, and substituted a system of axioms. These were plausibly derived from the visual imagination of sense certainty, such as points, lines, planes, etc., and everything in the books was ostensibly deduced from this relative handful of axioms, postulates, and "common notions". But the trick was that you had to take those on faith.



Plato's metaphor of the cave. The typical empiricist knows only what he perceives by the senses. To these prisoners, the shadows on the cave wall are reality; they have no idea what creates them.

As Riemann was later to write in his famous 1854 habilitation dissertation, *On the Hypotheses Which Lie at the Foundation of Geometry*, "It is well known that geometry presupposes not only the concept of space, but also the first fundamental notions for constructions in space as given in advance. It gives only nominal definitions of them, while the essential means of determining them appear in the form of axioms. The relation of these presuppositions is left in the dark...."

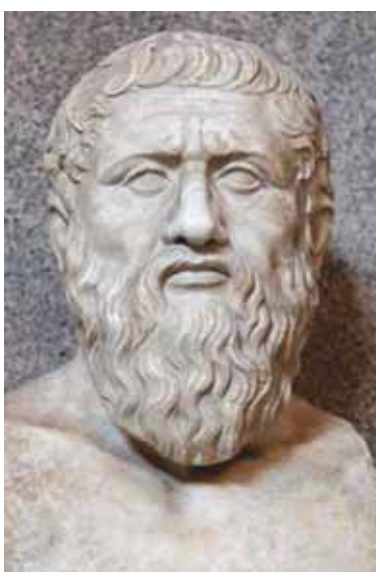
Riemann was being sort of kind there, because it is much worse than that, as he clearly knew. Because those axioms, those presuppositions, are self-contradictory even in their own terms. For instance, how can you build up a line, which has length, from a series of points, each of which is defined as having no length, no breadth, and no width? Or, how can you build up a plane, which has width, with such lines which have length, but no other dimensions? There are other severe problems, as well, among these axioms and postulates, such as the infamous "parallel postulate", about which Robbie [Barwick] will enlighten you. But the point is that all this is fantasy. Such points and lines, etc., have never existed in the real world of physical space-time; that real world, of which we receive only impressions through our sense organs, is shaped, is created, by *dynamics*, by actual physical principles, and not by formalisms such as imaginary points and lines.

Now when you look more closely, all of Euclid's method, and any similar method, begins with Aristotle's so-called method of formal *logic*, his "rules of thinking" which limit human thought to the processes of induction: drawing universal conclusions, starting from the self-evident "hard facts" of sense certainty; and of deduction, which starts with certain axioms, picked out of the blue of sense certainty and asserted to be general principles, and then descends via a chain of reasoning to establish the conclusions, the "facts on the ground".

The typical form of deduction is a syllogism. It starts with a major premise, followed by a minor premise, and then a conclusion. As an example: "All men have two arms and two legs. Aristotle has two arms and two legs. Therefore, Aristotle is a man." Of course, that particular conclusion was certainly wrong, given that Aristotle was, as they say, "of uncertain sexuality". But deduction is always wrong, even though the British tried to mass market it via the "brilliant deductions" of that notorious confirmed bachelor and dope addict, Sherlock Holmes. But whether you are inducted into the Sophistry Hall of Fame, or deducted from it (and Aristotle was supposedly a big enemy of sophistry), you still wind up in the same place, namely, the wilderness of shadows and mirrors known as sense certainty.

Mysticism vs. Physical Science

By contrast to that actual *mysticism*, let us look very briefly at Plato's method of physical science in his dialogue, the *Timaeus*, his account of the creation and development of the Universe. You may remember that he sets that account explicitly in the story told by Solon, the famous lawgiver of Athens in the sixth century B.C., about the previous 10,000 years of astrogation culture, as recounted to him by an old Egyptian priest of the Temple of Amon. The Universe, as Timaeus relayed the account to Socrates, was created by "the Composer": "Let me tell you, then, for what particular cause the Composer composed this creation and this Universe. He was good, and the good never has any envy for anything: being thus beyond envy, he willed all things to be created as like himself as possible. Whoever accepts this foremost and most pervasive principle of the creation and the Universe, when it is offered by thoughtful men, is accepting it most wisely."


Solon of Athens, the 6th-century B.C. lawgiver

And this Composer, Timaeus says, continually develops his creation to ever higher degrees of perfection, "deeming order to be in every respect better than disorder". Elsewhere, Plato calls the Composer, "the Good", and says that the Good gave birth to the Logos—the Word, the principle of universal creativity per se. The Logos, in turn, gives birth to the Universe, including mankind, but the Word remains the active essence of that Universe, its driving principle, whose emotional content Plato specifies as *agape*, or sacred love.

As for the nature of human beings, Timaeus continued, "And we must think as follows about the most dominant kind of soul within us, namely, that God gave each one of us a divine genius, that which, as they say, inhabits the highest part of our body in order to uplift us from the earth towards our heavenly kinsmen, since we are an offshoot not earthly but heavenly."

The highest power mankind commands is that which Plato called "hypothesising the higher hypothesis", individual human creativity, the power by which mankind participates in the divine, or in "the invariance of the invariant", as Mr. LaRouche has recently put it, and which makes human beings immortal. Timaeus concluded: "He who has eagerly pursued love of knowledge and true thoughts and he who, above all, trained himself to think thoughts immortal and divine, if he comes near the truth, must, to the extent human nature can share in immortality, himself be immortal."

Aristotle, by contrast, claimed that the Universe began with the "Prime Mover", who gave the whole thing a shove in order to get it into motion, but who was not needed after that first big push, that first Big Bang, and so he died. In other words, "God is dead." These same issues were taken up in an even more powerful way in Christianity. As Mr. LaRouche summarised the matter in his article from a decade ago, "Jesus Christ and Civilisation":

"Why must I now insist, that the Christianity which adopts and preserves the legacy of Classical Greece, be recognised as a revolutionary, divine intervention, one distinct from the best previously contributed by Plato et al.? … In Christian doctrine, the crucial difference, as stressed among the earliest Church Fathers, and by the legacy of Augustine for the West, is embedded within a single phrase of the Christian Creed, 'and from the Son'. … As I shall stress, without this specific quality of Christianity, none of the positive developments leading into the Fifteenth-Century Renaissance had been possible. … Without the revolutionary change in religious belief, created by Christ, and spread by the Christian Apostles and the martyrs, the creation of the modern sovereign form of nation-state would not have been possible. It was the passion embedded in Christianity which moved, and was unleashed by the Golden Renaissance."

Christianity: Man Created in the Image of God

We shall get to that question of the phrase called the *Filioque* in a minute, but the Temple at Delphi, along with the old Babylonian-descended priesthood of Mithra, which together constituted the inner ruling priesthood of the Roman Empire, viewed the rise of Christianity as a mortal threat to their rule. The essential issues of Christianity, including that of the *Filioque*, are captured in two locations, in particular: in the closing verses of Chapter I of the Judaeo-Christian Book of Genesis, and in the opening verses of the Book of St. John.


Flickr/Nick in Exsilio's

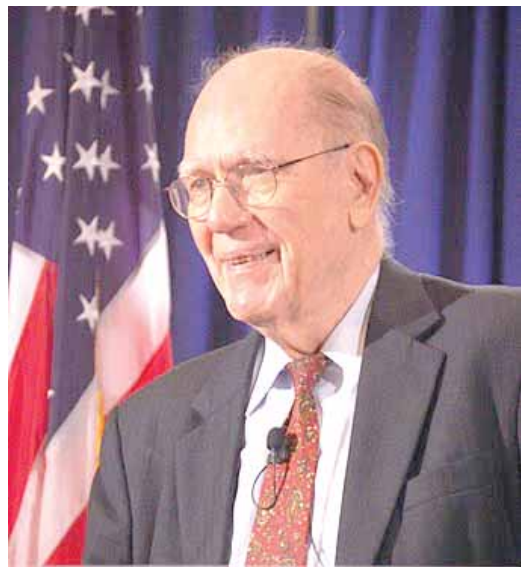
Nicholas of Cusa, statesman and philosopher of the 15th-century European Renaissance, and founder of modern science.

Genesis 1:26-28 reports that God created the Earth and heavens and everything within them, and that "God saw that it was good". "And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth. So God created man in his own image, in the image of God created he him; male and female created he them. And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth."

As Mr. LaRouche recently reflected back on this account from the standpoint of cosmic radiation, "For today's most profoundly bestirred, but often bewildered scientist, the first Chapter of Genesis becomes, more and more, an astonishingly precise statement of a prophetic quality of that chapter's seemingly unique accuracy." [1]

And, with Plato in the back of your mind, add to that account of Genesis the opening verses of the Book of St. John, the Apostle John who had been educated in the Classical Greek tradition of the Mediterranean littoral where Christianity was born: "In the beginning was the Word, and the Word was with God, and the Word was God. The same was in the beginning with God. All things were made by him; and without him was not anything made that was made. In him was life; and the life was the light of men. … That was the true Light, which lighteth every man that cometh into the world. He was in the world, and the world was made by him, and the world knew him not. He came unto his own, and his own received him not. But as many as received him, to them gave he power to become the sons of God, even to them that believe on his name: Which were born, not of blood, nor of the will of the flesh, nor of the will of man, but of God."

In his "Jesus Christ and Civilisation", Mr. LaRouche reflected on these verses: "The point, is to put on record the evidence, that the mystery of Christ, as set forth in the opening of the Gospel of John, is not a matter of blind faith, but a fully comprehensible fact of Reason, and thus knowable to all, Christians or not, who do not remain hysterically resistant to the influence of Reason. … In such a vision of Christ, there is no mumbo-jumbo, no blind faith." [2]


EIR/Stuart Lewis

Lyndon LaRouche writes that the mystery of Christ, according to the Gospel of John, is a fact of reason, not a matter of blind faith.

To that he added in his 2007 article, "For Today's Young Adults: Kepler and Cusa": "For the Christian in the tradition of the Apostle Paul, or Cusa, especially, the new view of the relationship between the Creator and mankind, which the personality and mission of Jesus Christ reflected and embodied, lifts mankind, theologically and scientifically out of a purblind spiritual childishness, to a new quality of personal responsibility, a quality actually congruent in practice with the scientifically provable instructions set forth in Genesis 1:26-31."

To further clarify the nature of God, and of man's relationship to him, the early Christians added the *Filioque* clause to the Nicene Creed, adopted at the Council of Nicaea in 325, in response to various Roman imperial attempts to reduce man's relationship to God to that of the typical slave, cringing before an all-powerful and invariably irrational Emperor. That is, Christianity defined God as *knowable*, as a Trinity of God the Father, God the Son (the Word), and God the Holy Spirit (Agape/Love), and proclaimed that God the Son (whose nature mankind shares) was fully equal to God the Father, in particular that the Holy Spirit (agape) proceeded equally from the Son, as from the Father. The Latin phrase is "*ex Patre Filioque*": "from the Father *and from the Son*".

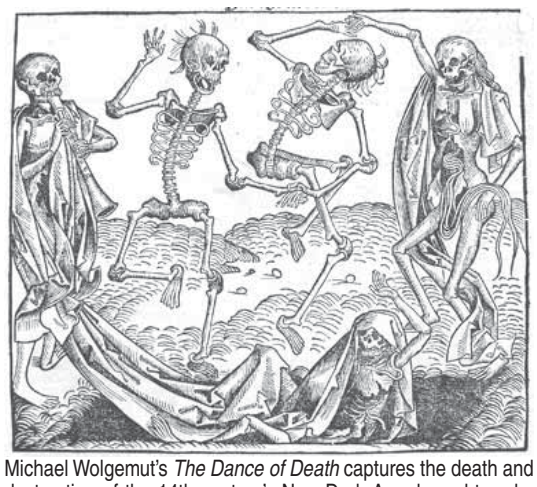
The Birth of Modern Science and the Nation-State

Fast forward now to the collapse and genocide of the 14th-century New Dark Age, brought on by Venetian imperialist monetarist rule. Plato had all but disappeared from Europe, with reportedly only one copy of the *Timaeus* extant in all Europe, and virtually none of his other writings. But, in the process of organising the Council of Florence of 1437-39, Nicholas of Cusa spent much time among the ancient libraries of Byzantium, where Plato's works had been preserved, even while they were lost in the West.

Nicholas himself reported that his great breakthrough in scientific method, embodied in his book *De Docta Ignorantia* (*On Learned Ignorance)*, came on the boat on his voyage back from those studies in Byzantium, in the context of profound reflection upon the issue of the *Filioque*, the central topic of the Council of Florence. The council had been called to reunify the Western and Eastern churches, which had split on the issue of the *Filioque* in 1054, because of Byzantine imperial opposition, stoked by the monks of Mt. Athos in Greece, the central headquarters for Orthodoxy then, and even still today.

That was the setting in which Nicholas of Cusa personally gave birth to the method of modern science, to the concept of modern nation-states, and also, through his influence on Christopher Columbus, to what would ultimately become the United States of America. Since it was Nicholas of Cusa who uniquely founded modern science—and not Aristotle, nor positivists such as Auguste Comte nor Darwin's friends in the X Club, nor Bertrand Russell and his ilk, who try to claim credit for it, all of whom you will hear from—we should examine his own account of his method, in his own words.


The voyage of Christopher Columbus to the Americas was inspired by Nicholas of Cusa, who urged Europeans to cross the oceans and break free of oligarchism.


Michael Wolgemut's *The Dance of Death* captures the death and destruction of the 14th century's New Dark Age, brought on by Venetian imperial rule.

Again, Christianity had developed the Platonic Greek concept of the Logos (the Word, Universal Creativity) in the opening of the Book of St. John: "In the beginning was the Word, and the Word was with God, and the Word was God. … In him was life; and the life was the light of men. … That was the true Light, which lighteth every man that cometh into the world." Individual men and women become the "sons of God" through their love of and participation in the Word, i.e. their participation in Universal Creativity itself, what Sky Shields called recently in his Rüsselsheim [Schiller Institute] conference presentation, "the ontology of mind". Nicholas of Cusa explains this process of filiation, of "sonship", in his short work, "On the Filiation of God". The word "*theosis*", which you will hear in this citation, means "knowledge of God and of the Word".

"This exceedingly wonderful participation in the divine power means that our rational spirit has this power in its intellectual force, as if the intellect itself were a divine seed, whose power in the believing is able to ascend so high that it extends to the *theosis* itself, that is, to the ultimate perfection of the intellect, that is, to the apprehension of the truth; of a truth which is not obscured as in this sensible world in figures and enigmas and various otherness, but rather as it is intellectually visible in itself. And this is the sufficiency itself, which our intellectual power, which is actualised among the believing through the excitation of the Divine Word, has from God. Who indeed does not believe, does not ascend at all, but rather, judges himself not able to ascend, whilst he himself obstructs the way; indeed one attains nothing without faith, which places the wanderer on his way at the beginning. Therefore, the power of our soul is able to climb upwards to the perfection of the intellect only insofar as it believes. Therefore, the ascent to the filiation of God is not prohibited, if faith is present."

"… that Word, through which the heavens are formed"

If you think that this matter of "faith" is merely arbitrary, wait until you hear from Max Planck! Continuing: "And since filiation is the ultimate of every power, our intellectual power can also not be exhausted this side of the *theosis,* nor does it attain in any steps that which is its highest perfection, this side of that repose of the filiation of perpetual light and of the life of everlasting joy. …

"In this world we study by means of the senses, which attain to only the particular. We are transferred from the sensible world of particular things to the universal art, which is in the intellectual world. Indeed, the universal is in the intellect and belongs to the intellectual domain. In this world our study is occupied with various particular objects, as with various books. In the intellectual world, there is only one object for the intellect, namely, the truth itself, in which it possesses universal mastery. For the intellect seeks nothing in this world by means of the senses in the various particular objects, except its life and the nourishment of its life, namely, the truth, which is the life of the intellect.

"And this is the mastery which it seeks in the study of this world, namely, to know the truth, indeed to have mastery of the truth, indeed to be the master of truth, indeed to be the art itself of truth, but it does not find the art itself, but

1. Lyndon H. LaRouche, Jr., "At the Brink of Confusion: When Governments Crumble", *EIR*, 20 May 2011.
2. Lyndon H. LaRouche, Jr. "Jesus Christ and Civilisation", *EIR*, 6 October 2000.

rather those particulars, which represent works of art. However, it is transferred from the school of this world into the domain of mastery and is made the master or the art of the works of this world.

"Therefore the study of life and perfection and every motion of the intellect will come to rest, when it discovers itself to be in the domain where the master of all workable works is, namely, the Son of God, that Word, through which the heavens are formed and every creature, and that it is similar to him. Indeed, when that art is in it, then the filiation of God is in it; indeed it itself is that divine Art, in which and through which everything is; *indeed it itself is God and everything,* in that manner in which it has acquired mastery. You will perceive this through attentive meditation." (Emphasis added.)

This is neither some mere "theoretical discussion", nor "just philosophy", but is Nicholas of Cusa's internal account of the process which his own mind has gone through, and one which he maintains is accessible to anyone, if only they have the intent, the faith, to pursue it.

Benedict XVI's Easter Message

This question of the Word, the Logos as the creative reason which is the fundamental reality of the Universe, was the subject of Pope Benedict XVI's beautiful Easter message earlier this year, on 23 April, which actually encompasses the entire theme of this conference, in particular the nature of actual science, as opposed to Delphic irrationality, including his simple, but profound refutation of that pathetic fool, Charles Darwin: "The central message of the creation account can be defined more precisely still. In the opening words of his Gospel, Saint John sums up the essential meaning of that account in this single statement: 'In the beginning was the Word.' In effect, the creation account … is characterised by the regularly recurring phrase: 'And God said ....' The world is a product of the Word, of the *Logos*, as Saint John expresses it, using a key term from the Greek language. 'Logos' means 'reason', 'sense', 'word'. It is not reason pure and simple, but creative Reason, that speaks and communicates itself. It is Reason that both is and creates sense. The creation account tells us, then, that the world is a product of creative Reason.

"Hence it tells us that, far from there being an absence of reason and freedom at the origin of all things, the source of everything is creative Reason, love, and freedom. Here we are faced with the ultimate alternative that is at stake in the dispute between faith and unbelief: are irrationality, lack of freedom and pure chance the origin of everything, or are reason, freedom and love at the origin of being? Does the primacy belong to unreason, or to reason? *This is what everything hinges upon in the final analysis.* As believers we answer, with the creation account and with Saint John, that in the beginning is reason. In the beginning is freedom. Hence it is good to be a human person. It is not the case that in the expanding Universe, at a late stage, in some tiny corner of the Cosmos, there evolved randomly some species of living being capable of reasoning and of trying to find rationality within creation, or to bring rationality into it. If man were merely a random product of evolution in some place on the margins of the Universe, then his life would make no sense, or might even be a chance of nature. But no, Reason is there at the beginning: creative, divine Reason. And because it is Reason, it also created freedom; and because freedom can be abused, there also exist forces harmful to creation. Hence a thick black line, so to speak, has been drawn across the structure of the Universe and across the nature of man. But despite this contradiction, creation itself remains good, life remains good, because at the beginning is good Reason, God's creative love. Hence the world can be saved. Hence we can and must place ourselves on the side of reason, freedom and love on the side of God who loves us so much that he suffered for us, that from his death there might emerge a new, definitive, and healed life." (Emphasis added.)

A Three-fold Universe

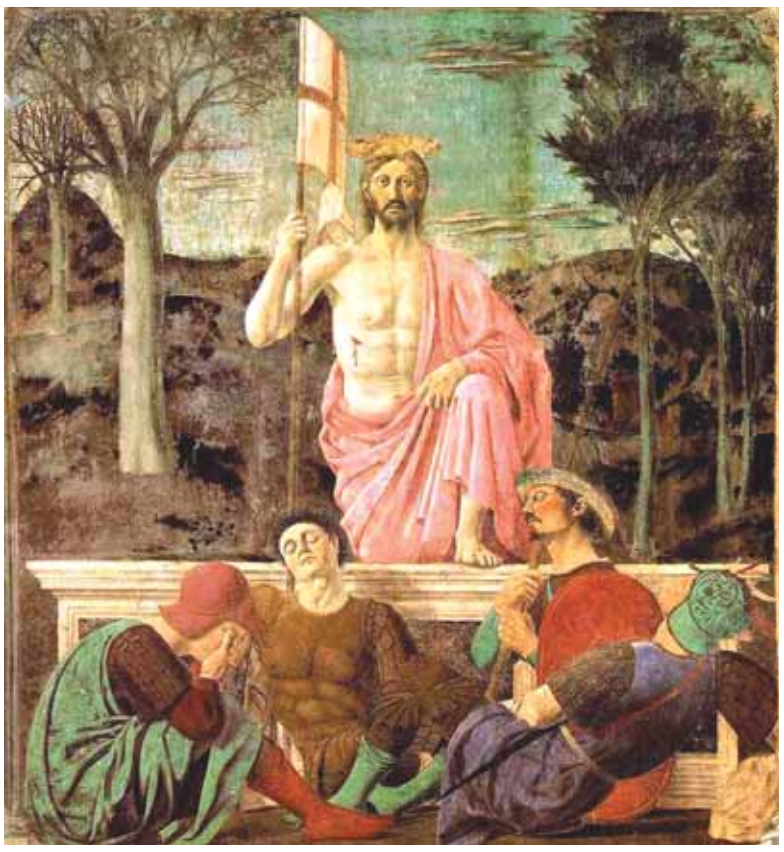
To understand anything of any importance in the Universe, here is where you must begin, with Universal Creativity. Nicholas of Cusa further specifies that Universal Creativity creates a three-fold physical Universe, composed of the abiotic, the biotic, and the noetic. He writes of this three-fold "communicable true being", as he calls it:

"[Communicable true being] is not absolute, as is [incommunicable] True Being [i.e., God], but is present in true beings. Now, we experience the being of true beings with respect to a three-fold gradation. For (1) some of them merely *exist*, whereas (2) others of them bear a more simple likeness to True Being, and their being is mightier because by virtue of the fact that they exist, they are *alive*; (3) still other beings bear a still more simple likeness to True Being, for because of the fact that they exist, they are alive and have *intellect*. Now, the more simple the being, the more mighty and powerful. And so, Absolute Simplicity, or Absolute True Being, is omnipotent."

Or, as he summarises these three distinct, but interacting principles in his work, *De Principio* (*On the Beginning)*: "Thus, *being itself* is a universal mode-of-being of the oneness that can be partaken of; and *life* is a more specific and more perfect mode-of-being of the oneness that can be partaken of; and *intellect* is a still more perfect mode-of-being [of the oneness that can be partaken of]."

And, at the very opening of *On Learned Ignorance*, Nicholas of Cusa polemicises against the idea that truth, or principles, can be found in the mere measurements of sense certainty. After noting that "it is self-evident that there is no comparative relation of the infinite to the finite", he continues: "And since we find degrees of equality (so that one thing is more equal to a second thing than to a third, in accordance with generic, specific, spatial, causal, and temporal agreement of difference among similar things), obviously we cannot find two or more things which are so similar and equal that they could not be progressively more similar *ad infinitum*. Hence, the measure and the measured—however equal they are—will always remain different.

"Therefore, it is not the case that by means of likenesses a finite intellect can precisely attain the truth about things. For truth is not something more or something less, but is something indivisible. Whatever is not truth cannot measure truth precisely. (By comparison, a non-circle cannot measure a circle, whose being is something indivisible.)"



Piero della Francesca's "The Resurrection of Christ", 1463. The breakthroughs in Renaissance art, inspired by the principles of Christianity spread by Nicholas of Cusa and his friends, allowed crucial concepts such as man's participation in God and in the passion of Christ, to be conveyed to the general population.

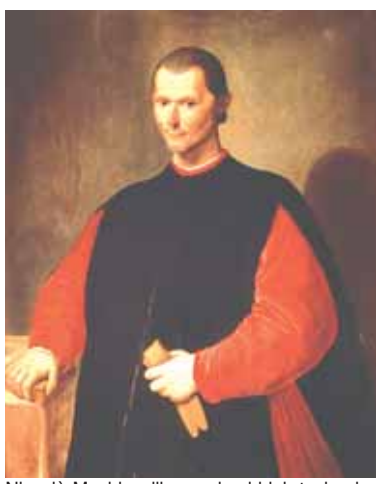
Venice: Destroy the Renaissance and Christianity

The rise of the nation-state, based upon the Christian Platonic outlook of the Renaissance, threatened the Venetian oligarchical system with extinction. A counterattack was launched against the scientific and political principles of the Renaissance, led by (left to right) Paolo Sarpi and his protégé Galileo Galilei, and assisted by conspirators in Britain such as William Cecil, who ran England as Secretary of State and Lord High Treasurer for Queen Elizabeth I (far right).

But, enter Paolo Sarpi.

This Christian Platonic outlook of the Golden Renaissance unleashed nation-states for the first time in history, states which surged forward upon the practice of modern science established by Nicholas of Cusa. This terrified the Venetians, and a fierce debate erupted on how to handle these new realities. The Old Venetian Party, or "Vecchi", as they were known in Italian, wanted to stick with the tried-and-true oligarchical weapons of brutal military crackdowns, and, for ideological control, to simply restore the traditional Aristotelian formalism which had dominated Europe until the Renaissance. This "hit 'em on the head approach" was typified by the Hapsburg Emperors (whose rise the Venetians had sponsored since the 13th century) and some of their allies in the Vatican. The opposing faction, the "Nuovi", or New Venetian Party, argued that that approach was a sure loser, particularly since new mass armies, made up of literate citizens armed with new technologies, could defeat the mercenary armies upon which the Venetians and Hapsburgs had relied for centuries. Machiavelli was the chief theorist for these new citizen armies, for which the oligarchy has hated and feared him to this day.

The issues between these two factions were fought out in the process of the mid-16th-century Council of Trent, a church council under Vatican authority. The nominal religious issue was whether the rising Protestant maritime powers (such as the Netherlands and England, both sponsored by Venice) could somehow be reconciled to the Catholic Church, as the Old Venetian Party intended. The Council ended in failure, whereupon Paolo Sarpi (1552-1623) emerged as the chief theoretician for the New Venetian Party. Sarpi was a priest, the head of the Servite religious order, and soon to become the state theologian of Venice. The New Venetians were centred upon the two most powerful families in Venice, the Contarini and Morosini. Their Morosini salon worked out the chief themes that would become known as the 18th-century Enlightenment: the dismissal of "religious superstition", meaning actual Christianity, in favour of a purely secular, and therefore supposedly "enlightened" outlook.



Niccolò Machiavelli organised high-technology military defences for the Italian states forming in opposition to Venetian oligarchical rule.

Sarpi's New Venetian Party

In the context of the Protestant/Catholic conflict orchestrated by the New Venetian Party, the Vatican slapped an interdict on Venice from 1606 to 1607, a kind of formal excommunication of nominally Catholic Venice. In this setting Sarpi emerged as a legendary figure across Europe, a fighter to uphold freedom of thought and religion, and the new practice of science as exemplified by his protégé Galileo, against the old Aristotelian obscurantism and tyranny of the Catholic Church.

The Vatican, remember, put Galileo—Sarpi's protégé—on trial for heresy. "Father Paul", as he was called in England, was worshipped as a champion of the Protestant cause in the Netherlands and England. With the help of the Cecil family, Venice's protégés in what soon became the British East India Company (BEIC), particularly William Cecil (1521-1598), the first Baron Burghley, who pretty much ruled England for decades as Elizabeth I's Secretary of State and Lord High Treasurer, the Venetians further consolidated their hold over England. In 1603 they installed King James VI of Scotland as King James I of England, the first of the Stuart line of kings. Burghley's nephew, a fellow named Sir Francis Bacon, rose to great power as Lord Chancellor and Attorney General of England.

At the direction of his Venetian masters, Bacon plagiarised Sarpi's works to become the founder of "modern scientific method": merely observing the facts of sense certainty, and then drawing inferences from those facts—the method of induction, wrapping the whole thing up in mathematics. Indeed, Bacon's personal secretary and homosexual lover, Thomas Hobbes, was personally instructed in mathematics by Sarpi's protégé Galileo. Fittingly enough, Bacon's method literally killed him. Without any hypothesis, but merely to see what would happen, he went out in a snowstorm to stuff a dead chicken with snow, caught pneumonia and died.

Venice orchestrated the so-called Glorious Revolution of 1688 to overthrow the Stuart monarchy, put William of Orange (William III) on the throne, and consolidate control of the British Isles.

When, however, the Stuarts refused over the ensuing decades to go to war against France as the Venetians wanted, and also insisted on maintaining the traditional Crown control of national finances, the Venetians organised the so-called Glorious Revolution of 1688, whose intellectual champion was another flat-out Sarpi plagiariser, John Locke. These two, Bacon and Locke, soon to be joined by Locke's buddy Sir Isaac Newton, emerged as the high priests of British culture from then until today.

But I would like to backtrack for a moment, to give more of a sense of where this modern British priesthood, typified by Bacon and Locke, came from, because the outlook and activities of this priesthood will emerge as a central issue throughout this conference. This Venice-spawned inner priesthood of the British Empire explicitly views itself as a priesthood, whose job is to create or revise ideologies for imperial control, as occasions demand over the centuries. It traces its roots back to Babylon.

Zorzi: Venetian Sex-Advisor to King Henry VIII

As you have heard from Mr. LaRouche many times, Henry VIII (1491-1547) was a sex-crazed lunatic. When the Vatican refused to grant his request for a divorce from his first wife, Catherine of Aragon (Aragon was the major component of Spain), so he could jump on a younger, more attractive and more fertile victim, Henry looked around to see who would give him a contrary verdict. The Venetians told him, "Look, Jewish rabbis have an older and more authoritative tradition in these matters than the Catholic Church", so Henry looked to the most prestigious Jewish community in the world, which just happened to be in Venice.

Two Venetians came to advise him: Francesco Zorzi, the preacher of St. Mark's cathedral in Venice, and his sidekick, Rabbi Marco Raphael. Typical of the long waves of history, Raphael's direct descendant would be Niels Bohr, a dedicated opponent of Max Planck and Albert Einstein, about whom you will hear later.

Zorzi was a bitter enemy of Nicholas of Cusa, and in fact wrote a fat tome in 1525 named *De Harmonia Mundi*, as a defining work to replace Cusa's method with numerical mysticism.

As the chief preacher of St. Mark's, he also sat on top of perhaps the greatest financial hoard in history, since St. Mark's was both a church and the biggest bank in Europe, just as the Temple at Delphi had been both a cult centre and a huge treasury. That tradition of combining monetarism with ideological control goes back to Babylon, and is the hard core of our enemy still today.

Several things happened in the process of Henry's divorcing Catherine of Aragon: first, he broke with the church at Rome, and that actually launched the Protestant Reformation; secondly, the previously allied powers of England and Spain became mortal enemies, setting off centuries of bitter warfare between the two, which often dragged in the rest of Europe. And when Henry confiscated the vast lands and wealth of the Catholic Church in England, in order to consolidate his power, he distributed them to a select group of families, including Bertrand Russell's ancestors, and so created the modern British oligarchy.

Francesco Zorzi (r.), a bitter enemy of Nicholas of Cusa and preacher at St. Mark's cathedral in Venice (far right), advised Henry VIII (l.) on divorcing Catherine of Aragon, unleashing the Protestant Reformation and conflict between England and Spain.

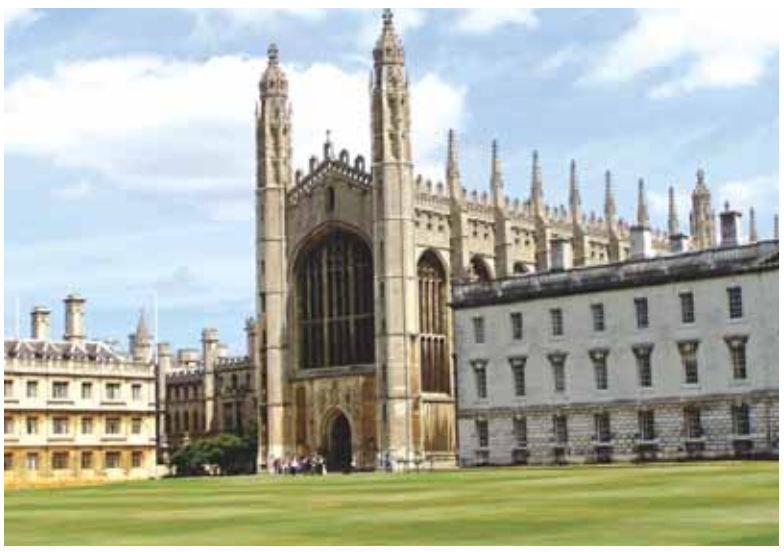
The Oligarchical Roots of Cambridge

No doubt also at Venetian direction, in 1546 he founded a new vehicle for ideological control, Trinity College at the University of Cambridge. The universities of Oxford and Cambridge had been founded in the 12th and 13th centuries, respectively, as training grounds for the church, first the Catholic Church, and then, after Henry's split with Rome and founding of a state church, for the Anglican Church, whose official head from then on was the Crown. And these two universities were actually *monasteries,* whose professors by law were all both priests and celibate, and this remained the case deep into the 19th century. So we are not exaggerating when we talk about a priesthood here, sodomy and all.

Cambridge was and is the more important of the two, composed today of 31 individual colleges, the largest and most wealthy of which was (and is) Trinity College. It is the college routinely attended by the future monarchs of Britain (recent graduates including King Edward VII; his grandson and the current Queen's father King George VI; and Prince Charles, among others), the top aristocracy and members of the financial elite (such as the Rothschilds). Reflecting the College's importance, the Master of Trinity is an appointment of the Crown, and Trinity is reportedly the fourth or fifth wealthiest land owner in Britain after the Royal Family's Crown Estate, the National Trust, and the Church of England. Typically, Cambridge produces the "thinkers", while Oxford produces the "doers", such as the Oxford-centred late-19th-century and 20th-century Round Table movement associated with Cecil Rhodes.

Some essential history of Cambridge, of its inter-relationship historically with the Cecil family, perhaps the single most powerful family in Britain for centuries, and the difference between Cambridge and Oxford, was sketched by Paul Johnson in the British magazine, *The Spectator*, 28 June 2008:

"Most really powerful interests go largely unrecorded, precisely because they successfully get across the view that they represent national or majority opinion. An outstanding case was the 'Cambridge Interest' of the mid-16th century, which was Protestant, but not Calvinist, humanist, but still Episcopalian and royalist, and was intelligently led for nearly half a century by William Cecil, Lord Burghley. … The Church of England was essentially created and installed by this Cambridge faction. It is notable that Cambridge has been notably more successful than Oxford as a lobby or interest, not only in the mid-16th century, but in the early 19th century, under that prince of lobbyists, Charles Simeon of King's College [the man who chose all the missionaries for the British East India Company, and was to found the modern evangelical movement typified by the BEIC's William Wilberforce, the opium addict and phony anti-slavery crusader], and again between the wars, thanks to the Cavendish Laboratory and the clever men who worked there. These were all quiet, even stealthy, operators. It is often good policy for lobby-leaders not to make too much noise. … Oxford was not the home of lost causes for nothing: there was too much clanging of bells from those dreaming spires."



Designed as a monastery, Cambridge University promoted Venetian ideology in England, training generations of its priesthood in Venetian methods.

The BEIC's Reforms

Working through the BEIC to reshape Britain as the new headquarters of a world-ruling empire, the Venetians sponsored two seemingly opposite kinds of "reforms" in Britain in the late 18th and 19th centuries, about which you will hear more from Ann Lawler. There was the overt crusade to replace theology with the new creed of pleasure and pain, pushed by Adam Smith and Jeremy Bentham, among others, and then there were various reforms ostensibly *within* religion. One of the chief of these latter was the evangelical movement, whose leaders were the heads of the BEIC and the Bank of England. William Wilberforce was their front man, and they also set up a campus branch at Cambridge under the BEIC's Rev. Charles Simeon, who was both a Cambridge professor and the Rector of Holy Trinity Church in the town of Cambridge. "Evangelicalism" was actually just an old Bible-thumping cult the Venetians had founded against the Renaissance. It taught that man was a hopeless sinner, a pathetic wretch who could only grovel before an unknowable God, as in Wilberforce's hymn, "Amazing Grace". And Wilberforce, by the way, personally chose all the ministers for the new colony of New South Wales, including the notorious "flogging parson" Samuel Marsden—a typical evangelical.

To make a long story short, the evangelical leader Simeon, the one who chose the missionaries for the BEIC, sponsored Sunday night "conversations" at Cambridge, called by their Italian name, *conversazione* (singular) or *conversazioni* (plural), and a group of his protégés set up the Cambridge Conversazione Society in 1820. It was a secret society limited to 12 in number, who called themselves the "Apostles", which is how they are still known today. Seven of the Apostles' original 12 members actually became priests, some taking up strategic intelligence posts throughout the British Empire in the wake of the defeat of Napoleon and the 1815 Congress of Vienna, which consolidated British imperial power. As the 19th century wore on, the Apostles became ever less "religious", and more overtly Satanic.

Elites for the Empire

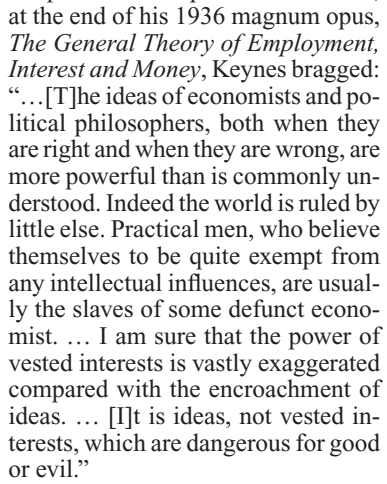
Thus Cambridge was the elite university in Britain, Trinity College was the elite college within Cambridge, and the Apostles were the elite within Trinity. Their members were recruited from either the very brightest of undergraduates, or from the ranks of the Empire's ruling families; in either case, before his recruitment, each candidate was carefully vetted and had to *prove* his degeneracy before admittance. Typical of such priesthoods, by the time of Bertrand Russell in the late 19th century the Apostles avowed their adherence to what they called the "Higher Sodomy".

Anti-slavery campaigner William Wilberforce of Cambridge's evangelical movement aimed to replace theology with Adam Smith's and Jeremy Bentham's creed of pleasure and pain.

The Apostles became the inner priesthood of the British Empire, and invented or revised the ruling ideologies of that empire, including environmentalism, and Green Fascism. It was they who invented the cult doctrines of "ecology" and "eco-systems", while the founding father of eugenics, Sir Francis Galton, although not formally an Apostle, was a Trinity College mathematician. Charles Darwin's older brother was also an Apostle.

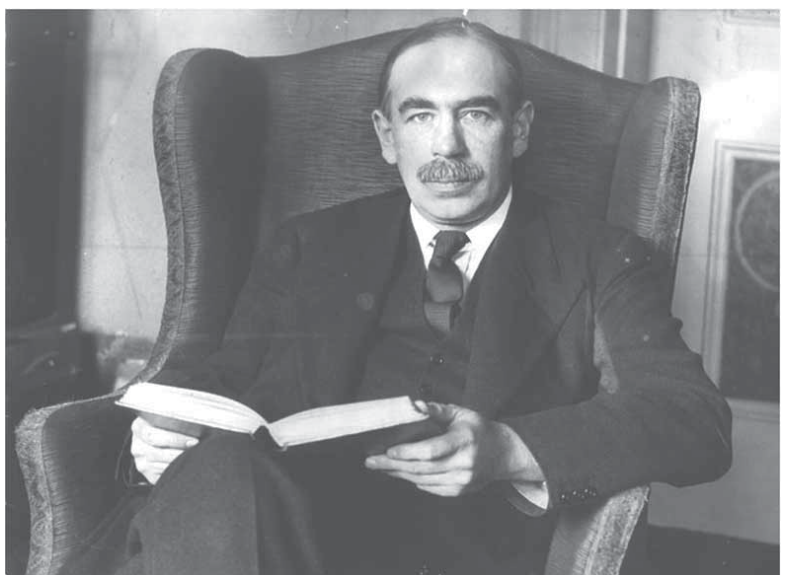
Among numerous other doctrines, the Apostles also founded: Fabian socialism; logical positivism, directed specifically against physical chemistry; most of modern psychoanalysis; all modern economics doctrines, including Keynesianism and post-World War II "mathematical economics"; modern digital computers and "information theory"; and systems analysis. They also founded the world-famous Cavendish Laboratory as the controlling priesthood for science, to attack Leibniz, Gauss, and Riemann, in particular, as part of which they produced the first English-language translation of Riemann's 1854 habilitation thesis, the one still in circulation today.

John Maynard Keynes, a leader of the Apostles and, for decades until his death in 1946, a top official in Britain's Eugenics Society, traced the intellectual traditions of the Apostles back to John Locke and Isaac Newton, and, through Newton, back to the ancient priesthood of Babylon. As for the power of this priesthood's ideas, at the end of his 1936 magnum opus, *The General Theory of Employment, Interest and Money*, Keynes bragged: "…[T]he ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. … I am sure that the power of vested interests is vastly exaggerated compared with the encroachment of ideas. … [I]t is ideas, not vested interests, which are dangerous for good or evil."



The Cambridge Apostles became an elite within the Cambridge elite of Trinity College, with their members drawn from the brightest students and best families.

So that's the Apostles. Though evangelicals and oh-so-holy, upon induction all their early members took a ritual pilgrimage to Venice, which was still then the notorious sinkhole of vice in all of Europe.



Economist John Maynard Keynes, an Apostle, boasted that even those who think they are independent "are usually the slaves of some defunct economist".

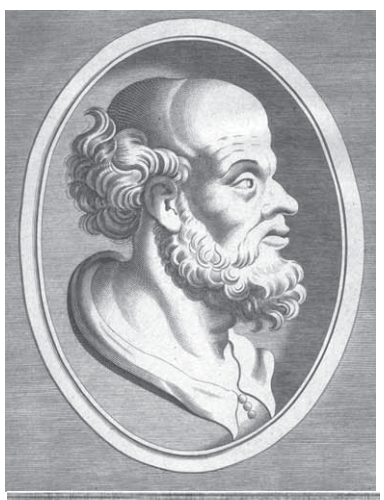
Paolo Sarpi: A Devil in Priest's Robes

Let's go back to the great-grand-daddy of the Apostles—whom they recognised as such—Paolo Sarpi. Only one of Sarpi's books was published in his own lifetime, *The Art of Thinking Well*, which John Locke very liberally copied. Sarpi confided his most intimate thoughts to a series of three private notebooks, his *Philosophical and Scientific Thoughts*, his *Medical and Moral Thoughts* (he was trained as a physician, among other things), and the most important of all, his *Thoughts on Religion*. These were so scandalous, that the Venetians only published them in 1969, under the auspices of the elite Cini Foundation of Venice. Fittingly, the Cini Foundation was founded by a one-time cabinet minister of Mussolini, Vittorio Cini, perhaps the most famous modern apostle of "universal fascism"—now known as "globalisation", "good governance", etc., as opposed to the merely national and inadequate fascisms of Hitler and Mussolini. A professor associated with the Cini Foundation, Vittorio Frajese, wrote a book featuring a useful summary of these in 1994, *Sarpi the Sceptic: State and Church in Venice between 1500 and 1600,* from which I will quote.

You can see why the Venetians had not published Sarpi's works in all these centuries, from the appraisal given by the raving British imperialist Lord Acton, the famous guy whom "absolute power corrupted absolutely", and one of the few people ever allowed to read them. Acton was a co-conspirator of Bertrand Russell and Alfred North Whitehead and was no damn good, but as a liberal Catholic (which is actually no Catholic at all, of course), he professed shock upon reading Sarpi's works, and proclaimed that Sarpi, the state theologian of Venice, had in fact "despised the doctrines which he taught, and scoffed at the mysteries which it was his office to celebrate. Therefore, his writings must have been composed in order to injure, not to improve, the religion he professed to serve. … [He was] the most consummate tactician in modern polemics, a sceptic and an absolutist at heart, who sought to encompass his evil ends in Church and State alike by assailing the authority of the Holy See."

The "Father of Lies"

Let's take a closer look at Sarpi, who gives the Devil a good run for his money for the title "Father of Lies", and particularly at his creation of the modern statistical/mathematical method that has almost ruined world civilisation over the past decades and even centuries.



Two degenerate imperial Roman philosophers, Epicurus (top) and Sextus Empiricus (bottom) are the granddaddies of "Epicureanism" and "empiricism". Modern empiricism and positivism disavow universal principles, relying instead on statistical-mathematical deductions, which are no more scientific than spinning a roulette wheel.

William of Ockham, medieval nominalist

Sarpi was, of course, a degenerate personally, as well as politically. Even among the notoriously homosexual Venetian patriciate (of which the "theologians" were the most notorious), Sarpi was known as "La Sposa"—"the Bride"—a choice of sex shared by many in his international network, such as the swinish Bacon and his lover, ol' Hob, along with the Cambridge Apostles a bit later. All of Sarpi's imperial projects, whether of creating interminable religious warfare like the 1618-1648 Thirty Years' War, or of obliterating Nicholas of Cusa's founding of the method of modern physical science, were anchored in his systematic efforts to destroy Christianity, and for the same reasons as had the Roman Empire centuries earlier: because Christianity was, in Sarpi's words, "socially subversive".

To create modern empiricism and positivism, he took a lot of his ideas from two degenerate imperial Roman philosophers, Epicurus and Sextus Empiricus, the grand-daddies of "Epicureanism" and of "empiricism", respectively, as their names imply. But the key figure he used was William of Ockham, a leader in Venice's crusades against Christianity, and against the Vatican in particular, in the early 14th century. Sarpi's explicit intent in resurrecting these three damned souls out of Hell was to "halt the increase of man's mastery over nature".

Sarpi adopted Epicurus' maxim that the purpose of life is to "simply live", that seeking pleasure (and avoiding pain) is the chief aim of life. The "good" is what is pleasurable, and the "bad" or "evil", what is painful. In Frajese's summary of Sarpi's polemic: "Present pleasures must be taken in, since the present is the only thing within our grasp, the future being nought but imagination. Thus the present time is enjoyed not through anticipation of death [i.e., the prospect of immortality] but rather as a complete resolving of the imagination within the present, free of projection into the past or future. … Sarpi develops with great rigor the notion that living in the present, is the only thing within our power, [even denying] that recalling past pleasures might also be pleasurable."

Frajese concluded, describing Sarpi's thinking: "To state that the end of man is to live meant, in reality, to remove it entirely from the Church's domain" (i.e., from the domain of the actual truth embodied in Christian theology), in favour of the "civil power", i.e., the power of Venetian monetarist imperialism. Sarpi's slogan that the end of man is merely to live according to pleasure and pain, said Frajese, "leaves no space for duality of aim [i.e., no actual Christianity]. It assimilates the end of man to the purpose of every other living thing, *leading to the affinity of man and beast as its theoretical conclusion*." (Emphasis added.)

Thomas Aquinas

The Aristotelian, Ockham

Who was William of Ockham, whom Sarpi spent so much time studying, during the same years in which he was poring over the works of Nicholas of Cusa? The cornerstone of Sarpi's work, and his deployment against Cusa's scientific method, came from Ockham.

The Venetians had had a problem in the 13th century. Although Plato was basically unknown in Europe, key Christian philosophers, most importantly St. Thomas Aquinas (1225-1274), had "revised" Aristotle from an actually Christian standpoint, thus destroying the usefulness of that Delphic priest for their purposes. So they imported a counter authoritative interpretation of Aristotle from a famous 12th-century Islamic philosopher in Spain, Averroes, in particular Averroes' "Doctrine of Two Truths": that there is a truth of science, which is knowable by reason, i.e., by the logic of Aristotle, and a truth of religion which, because it can not be known by reason, i.e., by the logic of Aristotle, must simply be *believed*. The oligarchy has sponsored this fake "religion vs. science" dichotomy over the centuries, down until today, as you will see throughout the course of this conference. Perhaps you saw on LPAC-TV the very short interview which Sky Shields conducted with Prof. Sergei Pulinets at the end of the recent conference in Rüsselsheim, Germany, were Dr. Pulinets said that nowhere in the world had he found anybody "unifying science and the soul", outside of the LaRouche movement.

The crux of the issue was whether or not "universals", that is, principles or dynamics, exist above and outside the realm of mere sense certainty, and determine it. The two medieval factions were the actual Christians (in alliance with some Islamic philosophers such as Avicenna), known as the Realists, who maintained that knowable universals did indeed exist and were primary, both in religion and in science, and the Nominalists, who maintained that universals did not exist, that universals were merely nominal; they were only "names". To give you a sense of how much more sane things were in those days, an early leader of the Nominalists, Ockham's own teacher, in fact, was Duns Scotus, whose denial of universals was so universally scorned as absurd, that it gave rise to the word "dunce".

The Venetian Calculators

Ockham had a famous school of followers at Oxford University, who were known as "The Calculators", which gave birth to the modern formal mathematical/statistical tradition. Following on from Ockham's own updating of Aristotle's book, *Physics*, his Oxford followers reduced everything to mathematical calculations, the mathematics itself being derived from formal logic, as Aristotle had done, and as Bertrand Russell was to do later. They mathematised *everything*, including theological issues. As one minor example, if an abbot told one of his novices that he had to pray "night and day", the Calculators would try to figure out what would be the minimum possible time that would satisfy that instruction, or the maximum time which would still be insufficient to satisfy it. Real fruitcakes. You wonder what they were doing with the rest of their time.

Creative Commons/Conor Ogle

The island of San Giorgio Maggiore in Venice is home to the Cini Foundation.

Filippo Brunelleschi discovered the universal principle of the catenary and used it to construct the dome of Santa Maria del Fiore, in Florence, which was completed in 1436.

But there was a Venetian then studying at Oxford, known as Paul of Venice, who later became one of the most famous philosophers in Venetian history, and he took the Ockhamite Calculators' method back to Venice. There it became a cornerstone of the University of Padua, Venice's state university and the foremost school of the "natural sciences" from the early 15th to the mid-17th centuries, when Cambridge took over. By comparing the Calculators' original manuscripts with those of Galileo, scholars in the last 20 years or so have now proven that Galileo, who idolised Sarpi as "the prince of mathematicians" of Europe, simply copied some of his most famous work, such as his work on acceleration, directly from the Calculators. Another thing the Calculators emphasised, as had Aristotle himself, was that *money* is a fundamental instrument of measurement and relation. The leading figures of the Italian Renaissance ridiculed the hell out of the Oxford Calculators, scornfully calling them *i britanni*, "the Brits". Things haven't changed much, have they?

Sarpi against Universals

Let's go back to Sarpi and his evil theology. Although Sarpi privately argued that "the idea of God is irrational" because the idea of an "infinite perfect being" is self-contradictory, and therefore that there was no God, Sarpi the official theologian maintained that God must exist because matter was by its very nature unformed, and therefore infinite, and if there exists a finite world, finite bodies, etc., then some Being must have limited and arranged matter in this ordering—the old Aristotelian argument. Following Ockham, however, Sarpi argued that the chief attribute of this God was *power* (despotic rule); that He could do whatever He liked; and that He was unknowable by man. Man was just a sinful worm, whose fate was predestined, just like everything else in the physical world. Since every event or body had a cause, and that cause in turn had been caused by something else, and so on *ad infinitum* back to the "eternal cause" (or causes), then all was mechanistically predetermined.

Even in gnostic Venice, Sarpi was notorious for his denunciations of the Christian Trinity already at an early age. He particularly hated the Sermon on the Mount, because it proposed a universal code of moral conduct, "universal principles" for all mankind. On the contrary, he said, "Do not do to others what you would not have done to you, cannot be a good principle because … it leads to countless absurdities due to caprice. … Do not do to others, etc.: if you understand it in absolute terms, it goes against nature, as preserving oneself is impossible without destroying others." For Sarpi, Christ was the ultimate "authoritarian personality". And since there was no such thing as discoverable truth, he proclaimed that "reason can not be made the rule for natural law".

There is no such thing as the "common good", he said, because everyone has different opinions. Therefore, "Let your habitual distraction be found only in yourself, one can like many things but do not espouse others than yourself. For that, you need be founded only upon yourself."

For public consumption, as in his building up the Protestant cause (the better to unleash religious warfare and to destroy actual Christianity, for which purposes the Venetians had created it in the first place with the help of that self-professed nominalist Martin Luther), Sarpi promoted "primitive Christianity", as it had existed before "neoplatonic philosophical speculation" introduced the notion of the Incarnation of the Word, the divinity of Christ. Christ, he said, was merely a great prophet, along the lines of Jewish thought.

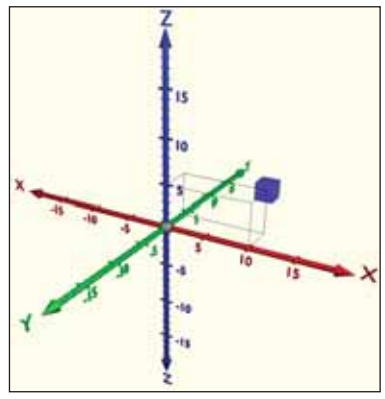
For Sarpi, the soul was nothing but the "arrangement of matter according to number, shape and place", and is therefore (if it be anything at all) "born of nothing, when it is made, and which, when it is no longer, returns to nothing." The functioning of the mind is two-fold says Sarpi, following Epicurus. As Frajese summarised Sarpi: "The external sense [i.e., the senses] is passive, does not err, is the same in all men, makes external objects to be perceived in the same way; the internal is active, fallible and differs from one people, or one individual, to another. There exists no necessary deduction between the external and the internal, and consequently, neither does there exist a universal natural law."

This "internal sense" therefore gives rise to "opinion", not truth. Therefore, since there is no truth, don't be suckered by anything which *claims* to be truth: "Do not follow opinion that wears the title of truth, but rather opinion that wears the title of pleasure or usefulness."

As for natural science, Sarpi held that (again as summarised by Frajese) "the matter of natural things is nothing else than extended body understood, as being what persists through transformations and never ceases to be. The body is indefinite extension, which, delimited by surface, line and point, assumes a shape. It constitutes, of itself, an infinite and unordered continuum upon which infinite orderings and infinite figures may impress themselves." There can be no souls or substantial forms, since such a substance "could only be Being, and Being separated from the body cannot be." Sarpi explicitly ruled out all "metaphysics", and limited "cause" to percussive action.

Continuing with Frajese's summary, "Universals [physical principles, dynamics] … have no existence whatsoever. What do exist are bodies, extended and shaped, which determine and cut into matter so as to make up individual (objects) which man may perceive through external, passive senses, and matched to one another depending upon how they resemble one another, thanks to an active and internal sense…" (Locke, copying Sarpi, called this "reflection".) The essence of these bodies is simple linear extension, and this "matching", or "comparing", though Frajese does not quite say so directly, is carried out through mathematics, in particular *statistics* (the which are derived from Sarpi's studies of the probabilities in casino card games), so that the future is nothing but the statistical, "foreseeing future events based upon constant repetition of events past."

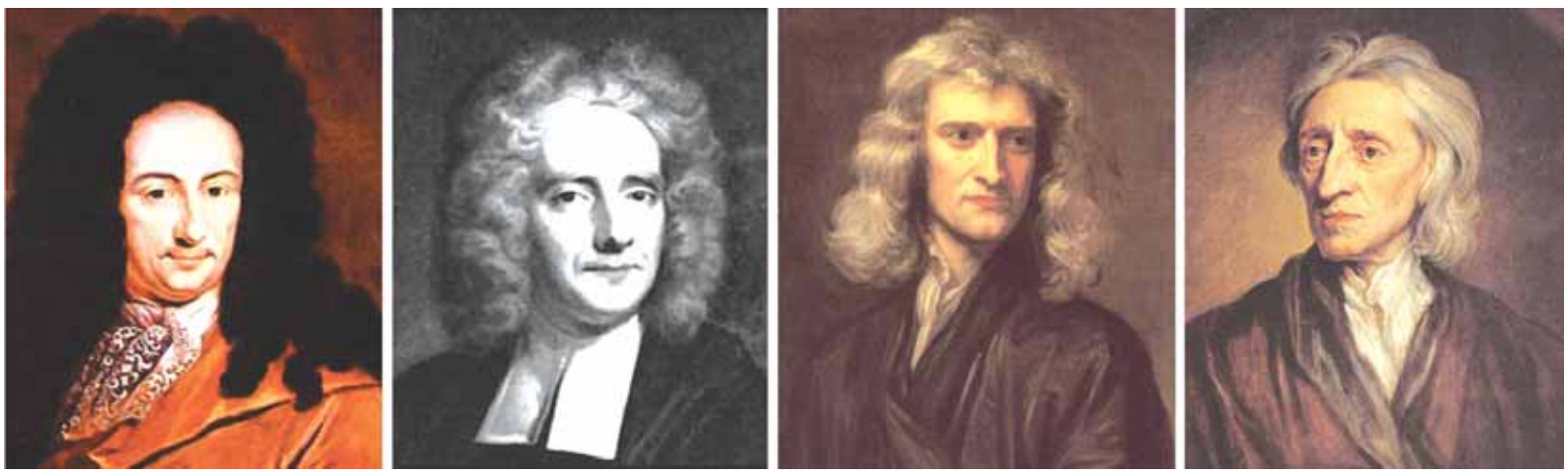
All of this was adopted by the Venetian agent René Descartes (1596-1650), and you are no doubt familiar with his contention—as opposed to the great breakthroughs of Kepler—that extended matter, moving around in empty space and empty time, could explain everything in the physical world, as in his famous "Cartesian coordinates system".



René Descartes (1596-1650) and his famous "Cartesian coordinates".

Leibniz's Principle of Sufficient Reason

But in the 1690s the universal genius Gottfried Wilhelm Leibniz (1646-1716) utterly destroyed Descartes in a series of famous polemics, which founded the new science of *dynamics*. Desperate, the Venetians and their stooges at Trinity College, Cambridge invented Isaac Newton, an English-language Descartes. They based their Newton project on the tried-and-true methods of Sarpi and Ockham, as is clear from the title of the tome this Venetian cabal issued under Newton's byline: *The Mathematical Principles of Natural Philosophy*.



Left to right: Gottfried Wilhelm Leibniz, Samuel Clarke, Sir Isaac Newton and John Locke. Leibniz's *dynamics* devastated the methods of Paolo Sarpi's followers. The Leibniz-Clarke correspondence, begun when Newton's alter ego Clarke attempted to discredit Leibniz, demonstrates this fundamental conflict. Both Newton and Locke were members of the Socinian cult, and had day jobs at the British East India Company.

The essence of this work is its "Four Principles of Reasoning", which were an expression of Ockham's doctrines, pure and simple, and everyone knew it. Rule IV, for instance, was an obvious blast against Leibniz's Platonic method of hypothesising the higher hypothesis: "In experimental philosophy we are to look upon propositions collected by general induction from phenomena as accurately or very nearly true, notwithstanding any contrary hypotheses that may be imagined, till such time as other phenomena occur by which they may either be made more accurate, or liable to exceptions. This rule we must follow, that the argument of induction may not be evaded by hypotheses."

Thus, Newton was created by a Venetian cabal in response to the explosion of scientific breakthroughs unleashed by Leibniz, especially dynamics. A leader of this cabal was the evil Venetian priest Antonio Conti, who used to eat dinner with Newton sometimes three times a week, and who built up Newton's reputation across Europe. As part of his plot to discredit Leibniz, Conti in 1715-1716 orchestrated an exchange of letters between Leibniz and Newton (through Newton's alter-ego, the unreverent Reverend Samuel Clarke) on the subject of scientific method. Nine letters passed between Leibniz and Clarke before Leibniz died in 1716. I want to summarise this debate, in which Leibniz devastated Newton, and which encompasses all the fundamental issues in science which will echo throughout this conference.

The Leibniz-Clarke Correspondence

Leibniz opens his very first letter with a statement of fundamentals:

"1. Natural religion itself seems to decay in England very much. Many will have human souls to be material; others make God himself a corporeal being.

"2. Mr. Locke and his followers are uncertain at least whether the soul be not material and naturally perishable.

"3. Sir Isaac Newton says that space is an organ which God makes use of to perceive things by. But if God stand in need of an organ to perceive things by, it will follow that they do not depend altogether on him, nor were produced by him.

"4. Sir Isaac Newton and his followers have also a very odd opinion concerning the work of God. According to their doctrine, God Almighty needs to wind up his watch from time to time; otherwise it would cease to move. He had not, it seems, sufficient foresight to make it a perpetual motion."

Just those first four points give you the essence of the story: that God is a corporeal being, as are human souls; that both God and man function solely on the basis of sense certainty; and that the Universe is winding down. This last point is what later became known as the Second Law of Thermodynamics, or the doctrine of entropy.

Several other points emerge in the course of the letters, but the most essential is Leibniz's principle of sufficient reason, on which hangs the whole debate: "that nothing happens without a reason why it should be so rather than otherwise". And that this is true for God, as for man; in fact, this principle serves as the very ability of man to know God to begin with, and to discover the principles ordering God's creation, principles which are not "physical" in the sense of being knowable to sense certainty, but *meta*physical, *beyond* the mere sense certainty of physical appearance, such as the least-action principle derived from Leibniz's study of the catenary—a *physical* curve, as opposed to a merely mathematical one.

Although Newton and Clarke were forced nominally to admit the principle of sufficient reason—otherwise they would have looked like complete idiots—they in fact denied it, and were repeatedly caught by Leibniz in doing so. Contrary to this principle, Newton argued that God is all-powerful and can do whatever he likes for any reason or for no reason, and therefore He is, of course, unknowable by man. Man therefore can not know the physical principles of God's creation—because that would mean discovering the "why" of causation, as opposed to the "what" of sense certainty. Man can only know such purely formal *mathematical* principles as are seemingly evident to sense certainty, as stated in the title of that unreadable tome, *The Mathematical Principles of Natural Philosophy*, which Conti trumpeted all over Europe, and which centuries of fools have worshipped ever since.

As an example of where these two opposing lines of thought lead, Newton, following mathematics (sense certainty), argues for absolute space and absolute time. After all, if you look out into space, it looks pretty empty, right? Just a great big empty box with some particles plunked into it. But, following his principle of sufficient reason, Leibniz maintained that space and time are not absolute nor empty, but merely relative, because if all places in time and space were the same, because they were equally empty, then one moment of time or one place in space would be just like any other, and therefore there would be no *reason* why God would create things in such a Universe in one order or one place versus another (or in one time versus another). Thus, there must be no empty space (nor empty time), but a plenum.

As for Locke, who had come to England in one of William of Orange's flagships in the Great Invasion of 1688, aka the Glorious Revolution, his philosophical works were so scandalous that even Clarke was forced to admit that, yes, well it did look like, from some of his writings, the soul was material.

Locke and Newton: Magic and Money

So, who were these two great founders of the "British intellectual tradition", Locke and Newton, really? Leaving aside that Newton was a crazy cabalist, who spent most of his time working on alchemy and black magic, both he and Locke, as Leibniz charged in these letters, were members of a fiercely anti-Trinitarian cult known as the Socinians, which the Venetians had founded in the mid-16th century as part of organising the Reformation. Locke and Newton had to keep their anti-Trinitarian beliefs secret, however, since you still could be put to death in the early 18th century for denying the Trinity.

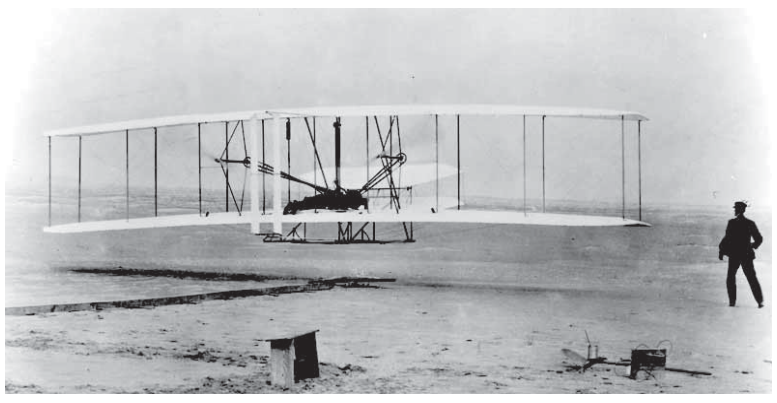
But it turns out that both Newton and Locke had day jobs, as well—working for the British East India Company. Newton for many years was the Master of the Mint, in charge of minting coins and the overall money supply of Britain, which he manipulated by overvaluing gold relative to silver, so that the BEIC could scoop up as much silver as possible for their trade with the East. And the BEIC's trade with India, China, Persia, etc., depended almost entirely upon the supply of silver they could put their hands on, because that was the main thing their Eastern trading partners would accept in return for silk, spices, precious jewels, etc. Among their other scams, Locke and Newton organised a great (and destabilising) recoinage right in the middle of a war with France in the 1690s, in order to free up more silver for the BEIC.

Those two were crucial figures in what was called at the time "the invasion of Dutch finance", from 1688 on, which included the establishment of the first permanent national debt of England; setting up the Bank of England; setting up a stock market centred on speculation; and seizing control of national finances from the Crown and handing them to the Parliament, which was just a front for the great Whig families who organised the Glorious Revolution aka the Glorious Invasion. One of the so-called "Immortal Seven" oligarchs who issued the letter pleading for William to invade was Edward Russell, Earl of Orford, Bertrand Russell's direct ancestor.

Newton-based "Laws"

Newton's clockwinder problem, the supposition that the Universe is inevitably running dow-w-w-w-n, was recast in the mid-19th century, in more fancy terms, by the German positivist Rudolf Clausius, and then amplified a bit by the British Lord Kelvin, after whom the Kelvin temperature scale is named. They took some earlier, valid and valuable work on heat-powered engines, done by the late 18th- and early 19th-century statesman and genius Lazare Carnot, and applied those limited, very specific principles of abiotic machinery, which basically say that machines run down unless you constantly add new energy to them, to the Universe as a whole. That is, they claimed that the Universe, just like any simple machine, will also inevitably run down, without the input of new "energy". And since we're talking about the whole Universe here, there is obviously nowhere else to get that new energy from. This inevitable running down is known as the principle of entropy.

Like Newton before them (and putting aside the *actual* nature of abiotic matter, which is not at all "dead"), the positivists simply ignored the reality that the Universe also includes the principles of life and mind, both of which are clearly characterised by ever-increasing organisation and complexity, i.e., *not*-entropy. The Universe is "winding up", not down. Following Newton, but now with more fancy mathematics, the positivists argued, and they still maintain, that if all the isolated particles in the Universe keep banging into each other for zillions of years, they will all eventually come to the same temperature, which means no more ability to conduct "work", which means equilibrium, which means no more action. This state they called "heat death", or maximum entropy, or maximum disorganisation. Lord Kelvin was also famous for another of his dictums in physics: that "man will never fly". Eight years after he pronounced this, the Wright Brothers took to the air at Kitty Hawk, North Carolina. So, maybe there is hope for the Universe after all.



The Wright Brothers take flight in Kitty Hawk, North Carolina 1903. Just eight years earlier, Lord Kelvin (left) decreed that man would never fly!

Foundations of Science

At this point Craig Isherwood invited Robert Barwick to present some essential elements of the past four centuries' scientific disputes on the nature of Universe.

Bernhard Riemann

In 1854 Carl Gauss' student Bernhard Riemann presented his famous habilitation dissertation, entitled, "On the Hypotheses which Lie at the Foundation of Geometry". This paper revolutionised not just geometry, but also mathematics, and, most fundamentally, physics.

Riemann began by addressing the assumptions of geometry: "It is well known that geometry presupposes not only the concept of space but also the first fundamental notions for constructions in space as given in advance. It gives only nominal definitions of them, while the essential means of determining them appear in the form of axioms. The relation of these presuppositions is left in the dark."

This is a description of Euclidean geometry. It is noteworthy that at the age of eleven Bertrand Russell learned the shocking truth that Euclid's axioms couldn't be proven, and it reduced him to tears.

Riemann proposed a general method for determining the truth of a set of assumptions, such as Euclid's axioms: "These [Euclid's] facts are, like *all* facts, not *necessary* [Leibniz's necessary and sufficient reason] but of a merely empirical certainty [they seem right, to our senses]; they are hypotheses; one may therefore inquire into their probability, which is truly very great *within the bounds of observation*, and thereafter decide concerning the admissibility of protracting them outside the limits of observation, *not only towards the immeasurably large, but also towards the immeasurably small*."

In conclusion of his paper, Riemann wrote three paragraphs that overturned Euclidean space forever (don't be confused by the obligatory polite nod to Newton, whose entire system Riemann is demolishing here): "Now however the empirical notions on which spatial measurements are based appear to lose their validity when applied to the indefinitely small, namely the concept of a fixed body and that of a light ray; accordingly it is entirely conceivable that *in the indefinitely small the spatial relations of size are not in accord with the postulates of geometry*, and one would indeed be forced to this assumption as soon as it would permit a simpler explanation of the phenomena.

"A decision upon these questions can be found only by starting from the structure of phenomena that has been approved in experience hitherto, for which Newton laid the foundation, and by modifying this structure gradually under the compulsion of facts *which it cannot explain*. Such investigations as start out, like this present one, from general notions, can promote only the purpose that this task shall not be hindered by too restricted conceptions, and that progress in perceiving the connection of things shall not be obstructed by the *prejudices of tradition*.

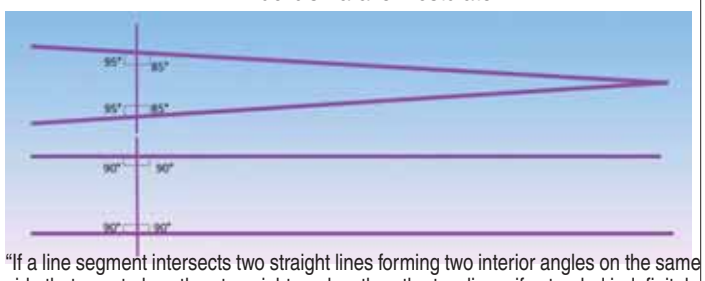
"This path [meaning the path of formal mathematics, the subject of his dissertation] leads us out into the domain of another science, into the realm of *physics*, into which the nature of this present occasion forbids us to penetrate." (Emphasis added in these quotations of Riemann.)

Riemann thus defines a method of investigation, which requires leaving the domain of mathematics, which is hindered by restricted conceptions, and going into the realm of *physics*, that is, the study of the physical Universe, without the formalist assumptions which are typical of any and all mathematics per se.

The Parallel Postulate

Let's look at one example that gets right to the heart of what Riemann revolutionised. Among the axioms, definitions, and postulates of Euclid is the famous fifth postulate, known as the parallel postulate **(Fig. 1)**. "If a *line segment* intersects two straight *lines* forming two interior angles on the same side that sum to less than two *right angles*, then the two lines, if extended indefinitely, meet on that side on which the angles sum to less than two right angles."

FIG.1



"If a line segment intersects two straight lines forming two interior angles on the same side that sum to less than two right angles, then the two lines, if extended indefinitely, meet on that side on which the angles sum to less than two right angles."

The postulate is written in this convoluted way, in an attempt to make this unprovable assumption plausible. That is, the statement that if the interior angles are right angles, the two lines will never meet (or will meet at the theoretical infinity), can not be proved, because you could never test it at infinity. This formalist sleight-of-hand is typical of the entire Euclidean system.

But if we leave the domain of Euclidean geometry, and look at this postulate in the real Universe, but also outside the domain of our sense perception, in the very large, as Riemann directs, what do we discover? First, let's look at lines on the surface of a sphere: take as a line segment, the equator of the Earth **(Fig. 2)**. Notice how it intersects the straight lines going north and south, which are known as longitude lines or meridians. The angle of intersection is 90 degrees; these are right angles. According to the parallel postulate, those parallel meridian lines should stay apart, always separated by the same distance between them. But, do they? No, they all meet at the North Pole and the South Pole. It is the Earth's *curvature* that shows you that the parallel postulate is wrong.

Where in the Universe is there not curvature?

Think about space: could you draw a straight line from one planet to another? **(Fig. 3)**. You might think that you could, and you might have a mental picture of space with straight lines connecting planets, but try it in the real world. Even if you could travel at the speed of light while you are drawing your line, by the time you get to the next planet, it will have moved. If your line is straight, you'll miss the target. All lines between planets will be curved. All "straight" lines on the surface of the Earth are curved. The "straightest" line connecting two points on the Earth's surface is known as a great circle **(Fig. 4)**.

FIG.2

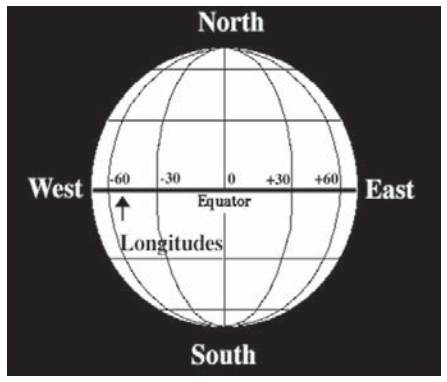


FIG.3

FIG.4

Riemann's New Geometry

Riemann launched a new concept of *physical* geometry, based on the real Universe: actually a never-ending, unfolding series of higher-order physical geometries, not limited by the axioms of straight-line space. Under Riemannian geometry, physics, that is, physical action in the Universe, defined the geometry. It wasn't simply a case of replacing the axioms of straight-line space with new axioms of curved space. Riemann did away with axioms altogether.

After Riemann's breakthrough, geometry is determined by physical reality. New actions create new dimensionalities that determine new geometries. Following in the footsteps of Leibniz and his dynamics, Riemann had overturned Euclid, and thereby destroyed the fundamental assumptions, typified by the Cartesian coordinates system **(pictured on page 14)** that lay in the background of all science as practised by the oligarchy's priesthood. Pierre Curie, Einstein, and Vernadsky, as we shall see, built directly on Riemann's concept of physical space. Lyndon LaRouche called his own method of economic forecasting the LaRouche-Riemann method, and its unparalleled accuracy—no pun intended—is due to its basis in Riemann's emphasis of the primacy of physical reality, as opposed to linear projections within a Cartesian coordinate system.

With that background, and guided by Riemann's method, let's now briefly look at some natural phenomena that are fundamental to the Universe: the visible radiation called light, and other types of radiation. We'll touch on them here, to provide a foundation for the upcoming presentations.

Visible Radiation: Light

Is there a natural phenomenon more primary in the Universe, than light? The major creation stories start with the creation of light. To the empiricists, light was once considered to be instantaneous; that is, it didn't travel, but filled space all at once. Of course, they had no concept of its immense speed.

In 1676 Danish astronomer Ole Rømer was the first to prove that light travelled at a finite speed, rather than instantaneously. Rømer measured how long it took the moon Io, as it orbited Jupiter, to disappear behind Jupiter and reappear again, as seen from the Earth. Rømer found discrepancies in how long Io was out of sight, between readings taken at different times of year (he used 40 different readings).

FIG. 5

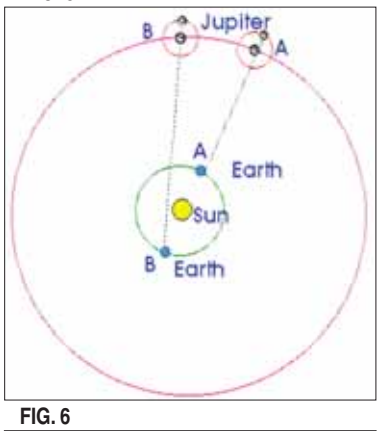


FIG. 6

This he explained by the facts that distance between Earth and Jupiter varied, as each planet moved in its orbit around the Sun **(Fig. 5)**, and that light was taking different lengths of time to traverse the different distances. In the course of refuting objections from Cartesian astronomers, who insisted that these findings must be due to physical variations in Io's orbit, Rømer even used two particular readings to calculate a speed of light—as the cause for why the light seemed to "hesitate", as Rømer put it—which was remarkably close to the modern measurement of 300,000 km/sec.

Isaac Newton, "the last of the magicians", as John Maynard Keynes lauded him, lent his adored reputation to examining the nature of light, and he insisted it was composed of particles, or "corpuscles", as he called them. Newton deduced this from his assumptions about space, the assumptions which were otherwise on display in the Leibniz-Clarke correspondence: that space is Euclidean, characterised by straight lines, and empty, and that matter comes in the form of hard balls. Because the space between one hard ball—the Sun—and the Earth was a vacuum, Newton deduced that light could not be a wave, because it was thought that a wave could not propagate in a vacuum; it needed a medium. Furthermore, and still rooted in his Euclidean view of absolute space, Newton claimed that light travelled in straight lines, as particles were presumed to do.

Newton's view was opposed by the great Dutch scientist Christiaan Huygens, a close collaborator of Leibniz. Huygens focussed on physical attributes of light that could not be explained by the particle theory. One was diffraction, evidenced in the fuzzy edges of shadows **(Fig. 6)**. Diffraction is the phenomenon of light's behaviour when it encounters an obstacle. For example, light passing through a small hole in a surface can be seen to spread out, on the other side. Huygens explained this with the insight that light travels as a wave, which is bent by the edges of the hole through which it passes, the way a wave in water is deflected when it encounters an object. The bending of the waves, seen as their spreading out, accounted for the fuzzy edges of the shadow. If light were composed of particles, then it shouldn't spread out in that way, upon passing through the hole, and the edges of the shadow should be sharp **(Fig. 7)**. Huygens was initially ignored, simply because his idea was at odds with Newton, the high priest of science. You can appreciate the difference in method: Newton's deductive logic vs. Huygens' exploration of actual physical phenomena.

FIG. 7

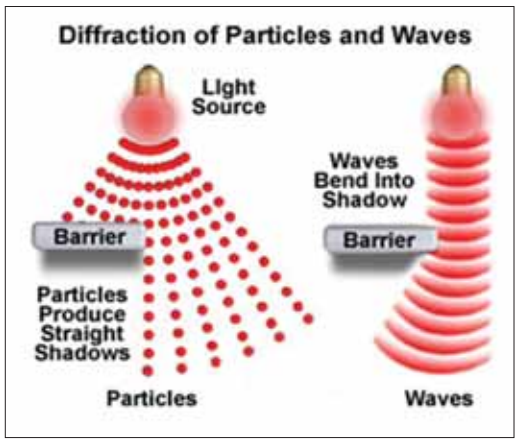
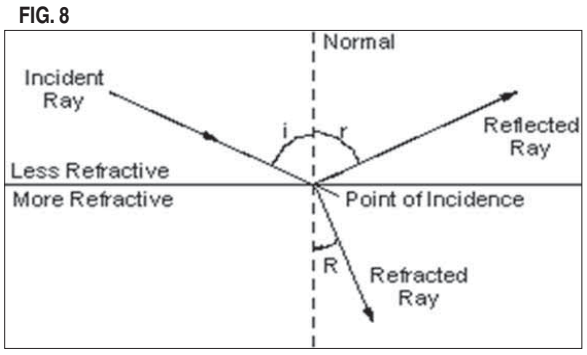


FIG. 8

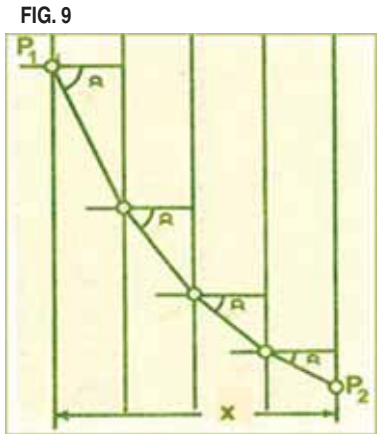


Huygens Demonstrates Refraction

Huygens then demonstrated his theory with another example: refraction. When light passes from one medium to another, such as from air to water, it bends, or refracts, as it goes. But not all of the light goes into the new medium; some is reflected. Huygens demonstrated that this partial reflection is the property of a wave, and that if you measure the amount of light reflected and the amount refracted, it adds up to that of the original light wave **(Fig. 8)**.

Newton's comeback to this was pathetic: sticking with his particles, he claimed that when the particles reached the new medium, some of them had a fit, like a toddler throwing a tantrum, and refused to travel through. Amazingly, even though this outburst showed Newton to be the kook he was, it didn't cause his idea to be ditched in favour of Huygens' insight, until a brilliant English scientist named Thomas Young, followed by the equally brilliant French scientist Augustin-Jean Fresnel, demonstrated that the interference property of waves applied to light. The zombified Newton-worshippers in the British scientific establishment bitterly attacked Young.

FIG. 9



Huygens's friend Pierre Fermat made an even more profound discovery from experiments on refraction, which is that when the light bends, it follows the path of *least time*. In Euclidean geometry, the shortest distance between two points is a straight line; in the actual Universe, the shortest distance for the light is not a straight line. Leibniz's friend Johann Bernoulli showed that if light were passed through a succession of increasingly dense media, the successive refraction bends would follow the path of a cycloid curve **(Fig. 9)**.

Anticipating Riemann by more than 150 years, these experiments showed that for light, the shortest distance was

a curve. Fermat posed the question, "How does light know to take the path of least time?" This sent the Newtonians into conniptions, because it destroyed their notion of a Universe determined by hard balls, acting and reacting kinetically in straight lines, and pointed to a Universe where physical action is governed by "intention"—something that seemingly is not physical, but metaphysical.

Light is central to pretty much all areas of scientific investigation—you could say it throws light onto every subject (pun intended). Light is used both to measure the Universe, and to open a window into microscopic, nuclear, and quantum processes, all of which will feature in the presentations this weekend.

Invisible Radiation

Now, let's look at radiation phenomena that cannot be perceived as readily as visible light, but are equally fundamental to the Universe. Before I do, let me point out a little oligarchical trick.

Newton rejected Huygens's evidence that light moves as a wave, because he insisted on the formalism of Aristotle's deductive logic, and on Euclidean assumptions about space. After 100 years, when Thomas Young's work finally broke down the last defences of Newton's kookery in Britain—but only with regard to light—the highest levels of the British oligarchy, operating through the degenerate Cambridge University Apostles, set out to turn the wave theory of light and related discoveries of electromagnetism, *into a new formalism*. In other words, they tried to reduce the discoveries to mathematical formulas, serving as the basis of new rules, which they solemnly declared to be *laws*.

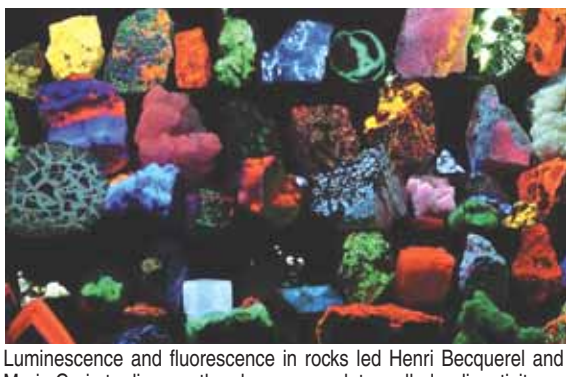
But, remember what Riemann had said: "[F]acts … are not necessary, but of a merely empirical certainty." That is, reducing physical reality to simple mathematical formalism removes the causes by which things happen in such and such a way, and not otherwise.

In the case of electromagnetism, the Apostles installed their member James Clerk Maxwell as the first head of Cambridge University's Cavendish Laboratory. Maxwell took all the discoveries of light and electromagnetism by Ampère, Gauss, Riemann, and others, and formalised the physical realities, established by their experimental work, to just a series of mathematical equations—Maxwell's Laws of Electromagnetism. The cornerstone of these new formal laws was that electromagnetism, which included light, must travel in waves, and waves only. As you will see in the work of Max Planck and Albert Einstein, the physical reality is much more complex. And it is probably a sign of the Creator's sense of humour, that some of the key discoveries in radiation, which turned this new formalism on its head, would be made in the Cavendish Lab.

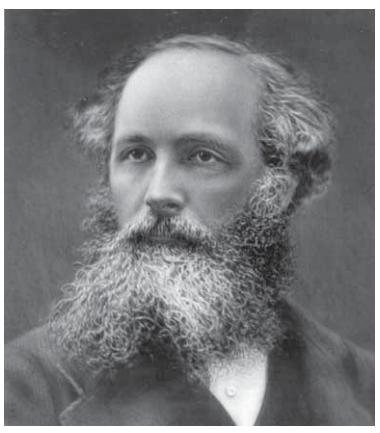
Let's go through the basics of how other types of radiation were discovered, to set the scene for the upcoming classes. A word of caution: understood properly, the terms we use are not things, but concepts.

Cathode Rays

In the 1880s and 1890s many scientists were focussed on what happens to gases in glass tubes when most of the air is sucked out and an electrical charge passed through them. The charge would pass between electrodes at each end of the tube: the negatively charged cathode, and the anode at the other end. Strangely, this produced a fluorescent beam of light, the colour depending on what kind of gas was in the tube. Even more strangely, this beam of light could be deflected by a magnet—unlike any normal light beam. This was called a cathode ray, and the tube became known as a cathode ray tube, the technology that gave us television **(Fig. 10)**.



Luminescence and fluorescence in rocks led Henri Becquerel and Marie Curie to discover the phenomenon later called radioactivity.

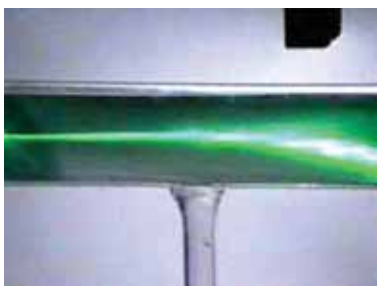


Cambridge Apostle James Clerk Maxwell tried to undermine the discoveries in light and electromagnetism by reducing them to mathematical equations.

In 1886 German scientist Eugen Goldstein discovered that when he played with a cathode ray tube, in which the cathode was placed in the middle of the tube, instead of the end, other rays besides the cathode rays shot out of the back of the cathode, in the opposite direction. Because they came out of little channels drilled in the cathode, Goldstein called them canal rays. They, too, were found to be deflected by a magnet, but in the opposite direction to the cathode rays. **(Fig.11)**. These experimental results were a clue to the concept of opposite *charges*.

Ten years later, in 1896, a scientist at the Cavendish Laboratory named J. J. Thomson experimented with cathode rays and electrified plates. He showed that the rays were deflected by an electric field, as well as a magnetic field. Thomson hypothesised that the rays were in fact negatively charged electrified particles. This was the first time something smaller than an atom had been conceived. In 1898 Wilhelm Wien in Aachen, Germany, showed that canal rays were also particles, but carrying a positive charge. The electrical charge that particles carry is known as ionisation.

FIG.10



Through experimentation with the strength of the electrical fields, compared with the degree of deflection, it was discovered that the cathode ray was over 1,000 times smaller than the canal rays. The positive canal rays became known as protons, while the much smaller, negative cathode rays became known as electrons, the elementary particle of negative electricity. Much later, it was discovered that electrons, whilst they were particles, were also waves.

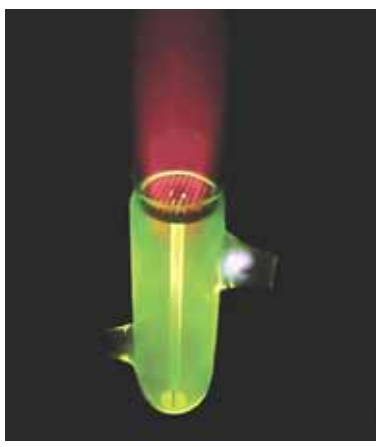
Röentgen's X-rays

Back in 1895, just before Thomson discovered electrons, Wilhelm Röentgen in Germany discovered a third type of ray emitted by cathode ray tubes. These rays lit up a fluorescent screen, but also could penetrate many materials. In a paper on this discovery, Röentgen called them Radiation X, or X-rays. They also became known as Röentgen rays.

This discovery sparked an explosion of further discoveries in physical chemistry. Each new discovery led to a cascade of still more discoveries. Röentgen's X-rays inspired French scientist Henri Becquerel to apply his knowledge of fluorescence, which was a key part of the Röentgen discovery, to discover that uranium rocks also emitted rays, which became known as Becquerel rays.

And then Marie and Pierre Curie applied a special machine Pierre had invented, the electrometer, which could accurately measure small amounts of ionisation, or charge, to discover that the Becquerel rays from uranium rocks (ore) were coming from different elements, which Marie Curie then identified. She named the ionising rays they produced, *radioactivity*.

FIG.11



Finally, working with the Curies and using their electrometer, New Zealand scientist Ernest Rutherford showed that there were different types of radioactivity, distinguished by their penetrating power. One type of radiation, which he called alpha rays, could be stopped by a single sheet of paper. Another type, beta rays, could penetrate up to a dozen sheets of paper; these turned out to be high-speed electrons. Still another type had very great penetrating power, and could only be stopped by lead or concrete. These were called gamma rays.

Needless to say, these breakthroughs opened up an entire new era for mankind, beginning with the mastery of nuclear fission. Soon it will encompass nuclear fusion, the process by which the Sun produces energy, if we fund the work adequately. That physical changes so immense and dramatic could emerge from discoveries in the immeasurably small, is a fulfilment of Riemann's method.

Cosmic Radiation

FIG. A

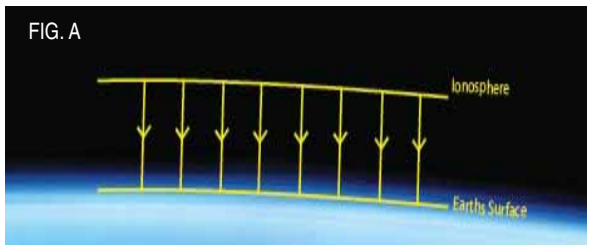


FIG. B

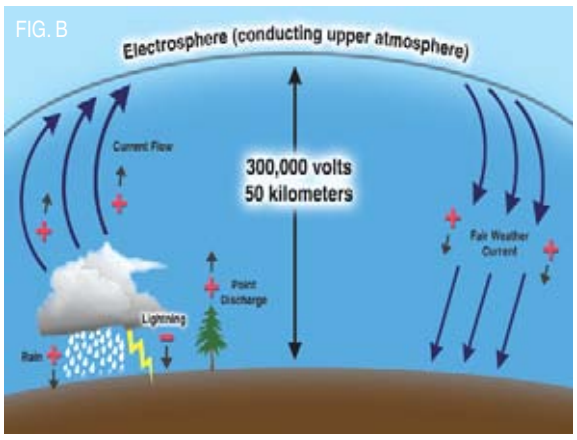


FIG. C

Craig Isherwood resumed the keynote presentation at this point.

Far from being the void of Newton's Absolute Empty Space, real space is a massive, universal system of cosmic radiation, of all kinds of frequencies and all kinds of characteristics. Space, in fact, is a continuity of cosmic radiation, coming from all parts of the Universe, including out from Earth, from adjacent planets, from the Sun, and so forth. So, now I want to take a few minutes to give you a sense of what this cosmic radiation is.

Cosmic radiation can be divided into three categories:

* the various fields (electric, magnetic, gravitational, morphogenetic—radiation emitted from living cells);

* the domains of the electromagnetic spectrum (radio, microwave, infrared, visible, ultraviolet, X-ray, gamma ray, etc.);

* and so-called energetic particles (cosmic rays, radioactive decay products, etc.). They are "so-called" because their nature has not really been determined.

I will go through each of these briefly, to give you a sense of how jam-packed our Universe is.

The Electrosphere

We live in an electric field, caused by the difference in charge between the ionosphere and the surface of the Earth **(Fig. A)**. The ionosphere is a shell of electrons and electrically charged atoms and molecules that surrounds the Earth, stretching from a height of about 50 km to more than 1,000 km. It owes its existence primarily to ultraviolet radiation from the Sun. The Earth, at the same time, is rich with electrons due to its physical matter.

This creates an electrical potential difference of some 300,000 volts. Because the atmosphere is not a perfect insulator, there is a leakage of electricity into the atmosphere from the surface of the Earth, at a rate of 2,000 amperes at any given moment **(Fig. B)**. At this rate the Earth's charge would dissipate in less than an hour. However, lightning recharges the Earth's surface. There are about 2,000 thunderstorms taking place around the world at any one time, producing about 30 to 100 ground flashes each second, or five million flashes a day.

Seen from space, the Earth's electrosphere is one large humming and glowing mass of electrical energy, which helps govern living organisms' sense of time, among other things **(Fig. C)**. There is a special issue of *EIR* magazine titled "The Extended Sensorium" which gives an overview of these processes. (*Executive Intelligence Review,* Vol. 38, No. 5, 4 February 2011).

The Magnetosphere

The next field we have is the magnetosphere **(Fig. D)**. Now, a lot of people think about the magnetic fields around the Earth as being uniform and concentric. Such an image matches the notion of a Universe in which there is almost no action—as if space were empty. In reality the magnetosphere is not much of a sphere at all, but rather is a region of magnetic fields that are incredibly distorted by the Sun's plasma and wind **(Fig. E)**. The magnetosphere shields the Earth from the majority of the Sun's radiation, thereby allowing life to survive this intense radiation. The magnetosphere changes, and such events as a magnetic pole reversal, which means a shift of the north magnetic pole to the south magnetic pole, and vice versa, would be involved in an extinction event such as those which have wiped out over 95 per cent of all the living species which ever existed. During the shift the magnetosphere is greatly weakened, letting through vastly larger amounts of cosmic radiation. The effect may be more or less intense, depending on the position of our solar system in the galaxy.

Homing pigeons, which have small magnetic pellets in their beaks, like a small compass, would not survive. How would they get home? Sockeye salmon, which use the magnetosphere, the magnetic fields, to find their original spawning grounds,

FIG. D

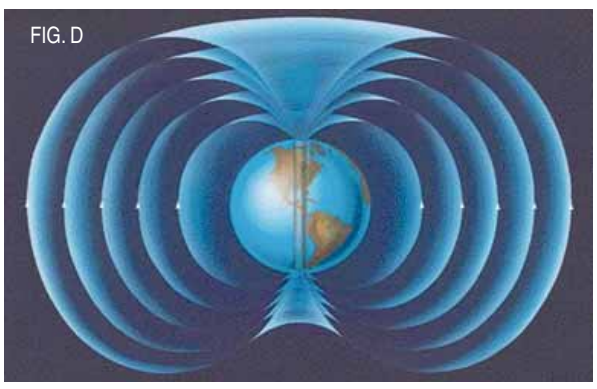
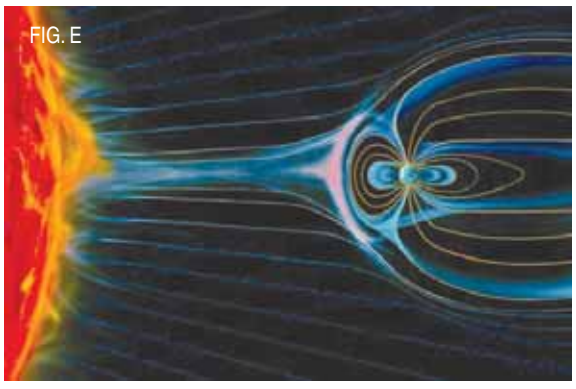


FIG. E



would get lost at sea.

Any abrupt changes to the Earth's magnetic field have a profound effect on living organisms.

Earth's Gravitational Field

We are used to having both feet on the ground in a gravitational field, the average strength of which is 9.8 m/sec^2 of acceleration. This field is not uniform over the surface of the Earth. Here is a rotating model of the different surface gravitational fields of the Earth **(Fig. F)**. You can see on the map where gravity is the strongest (Indonesia, orange and red) and the weakest (India, green and blue). The differences occur because of the different mass densities of various parts of the surface of the Earth. Mountains do not necessarily have the greatest mass.

In **Table 1**, you can see the variation of gravity at various places on the surface of the Earth. Thus, having done away with Absolute Space and Absolute Time, you can also say that there is no such thing as Absolute Gravitation. Looking at the other planets and the Sun **(Table 2)**, you can see the enormous variations in the gravitation fields on each planet.

Again, we have evolved in this unique gravitational field of the Earth, and this raises concerns about what will happen when we are taken outside of it, for example during space travel.

Russian biologist Alexander Gurvich (Gurwitsch) studied mitogenetic radiation in plants.

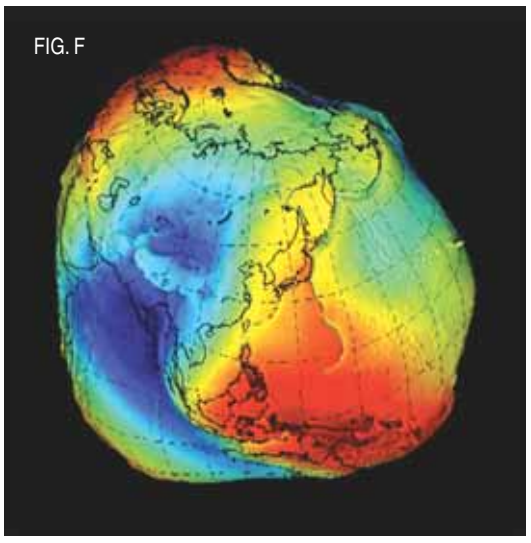
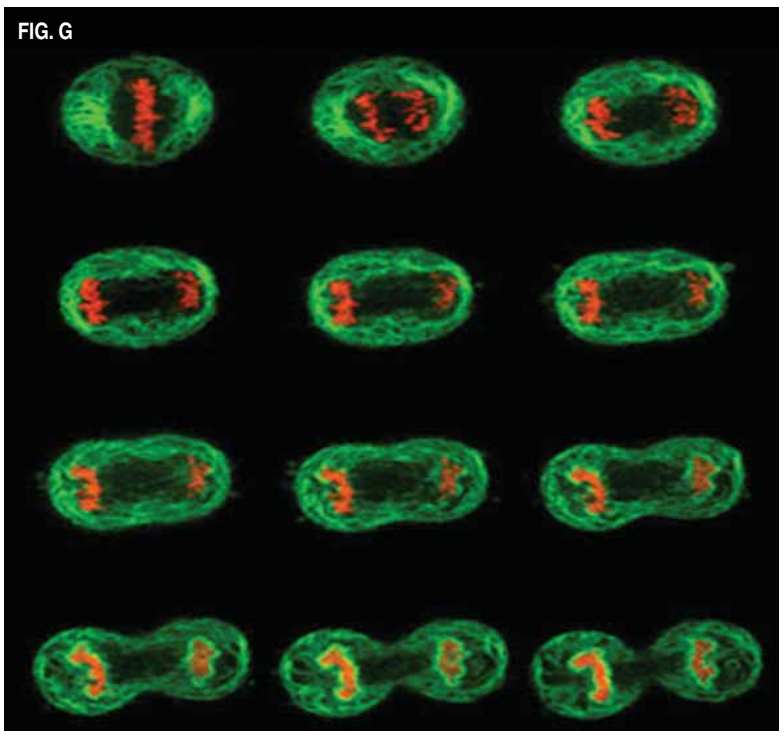


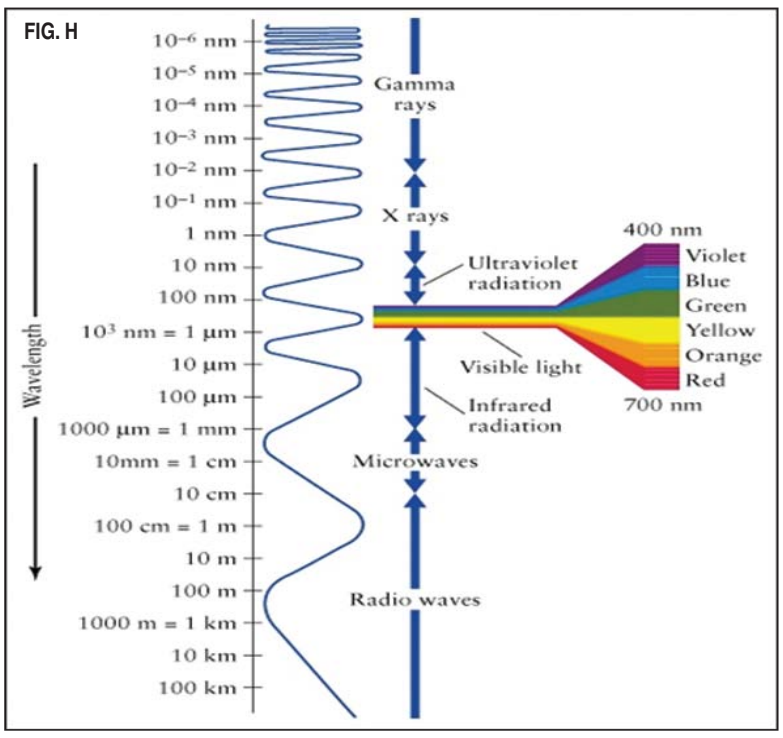
TABLE 1.

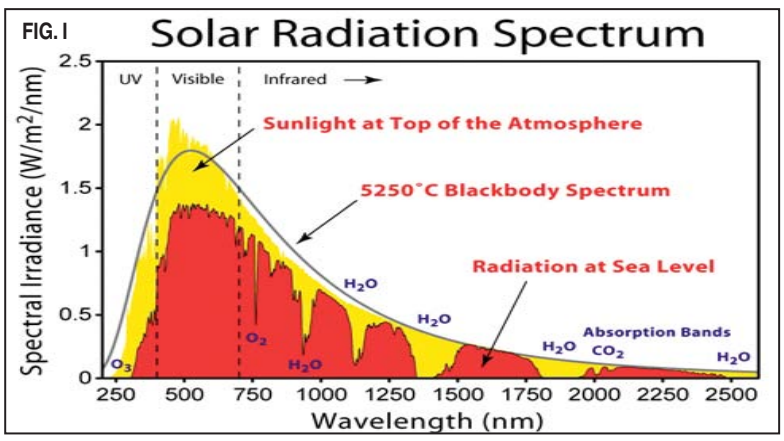
Location	Acceleration in m/s^2
Athens	9.800
Auckland	9.799
Bangkok	9.783
Calcutta	9.788
Chicago	9.803
Copenhagen	9.815
Sydney	9.797
Helsinki	9.819
Jakarta	9.781
London	9.812
Los Angeles	9.796

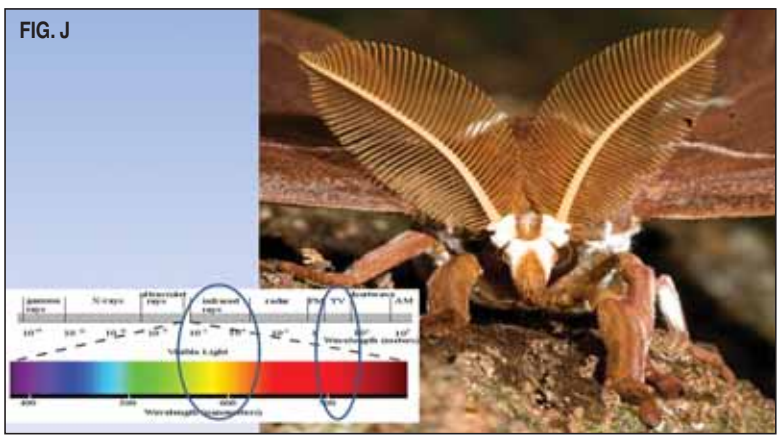
TABLE 2.

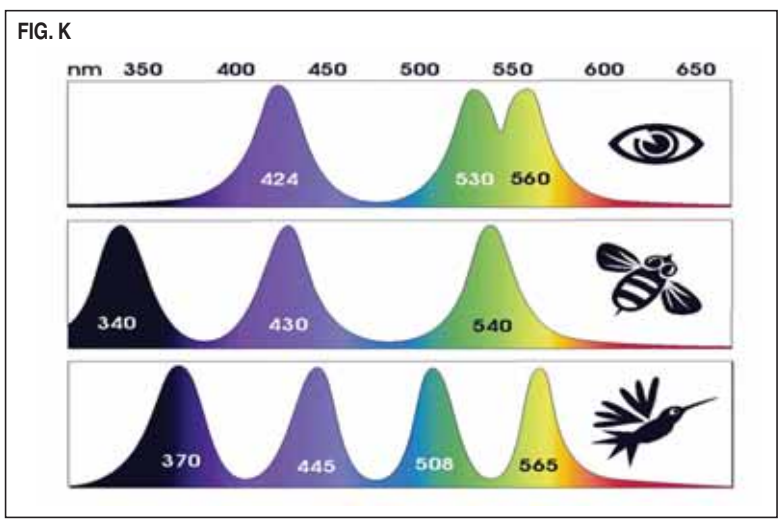
Body	Multiple of Earth's Gravity	Acceleration in m/s^2
Sun	27.9000	274.10
Mercury	0.3770	3.70
Venus	0.9032	8.87
Earth	1.0000	9.82
Moon	0.1655	1.63
Mars	0.3895	3.73
Jupiter	2.6400	25.93
Saturn	1.1390	11.19
Uranus	0.9170	9.01
Neptune	1.1480	11.28
Pluto	0.0621	0.61

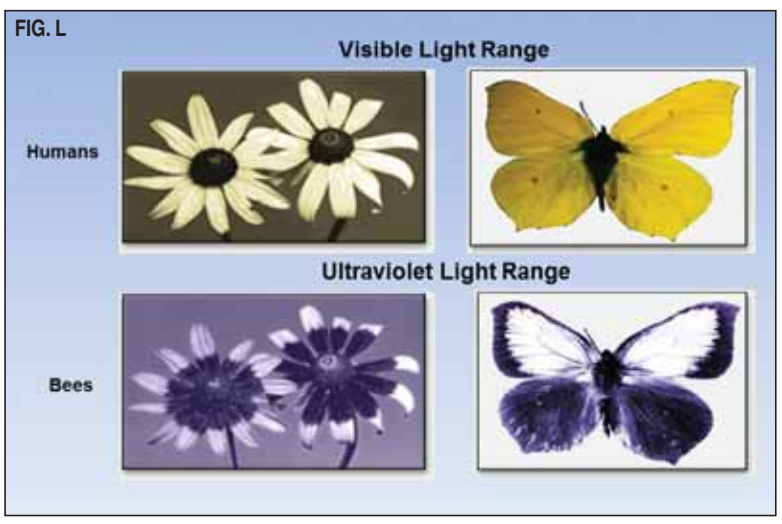


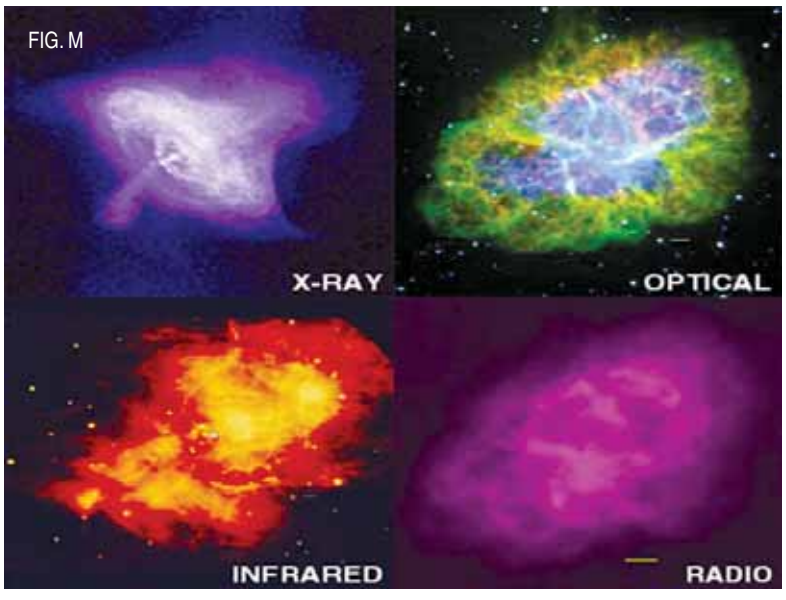












Morphogenetic Fields

Morphogenetic fields, or weak radiation from living cells, have not been studied well. The Russian molecular biologist Alexander Gurvich (Gurwitsch) demonstrated that mitosis (cell division) during the development of an organism can be induced amongst other cells in the active mitosis phase **(Fig. G)**. He found that this effect is caused by radiation from one cell to another, which he called "mitogenetic radiation", or M-rays. Their energy levels are in the lower range of those characteristic of UV light radiation (which range from 3 electron-volts up to over 100 eV for extreme high-frequency UV). Other experiments have indicated the possibility that cosmic rays, under the right conditions and in water, could emit what is called Cherenkov radiation, which has characteristic energy levels of four or five eV, right in the same range as the M-rays that could induce cell division.

Electromagnetic Radiation

Our biosphere is constantly being bombarded by energy in the form of what we call electromagnetic radiation. This radiation takes the form of waves with different frequencies, wavelengths, and amplitudes. From the chart in **Fig. H**, you can see all sorts of electromagnetic radiation striking us. From the bottom upwards, the frequency gets higher, and the wavelength shorter. At the top are the powerful X-rays and gamma rays, which contain a huge amount of energy. In the middle is the small band we call visible light.

The largest portion of this radiation comes from the Sun, but, fortunately, because of the actions within the biosphere, and specifically our upper atmosphere, much of the more harmful radiation is filtered out, and we are left with only specific wavelengths of radiation reaching the surface of our planet. In **Fig. I** the yellow area of the graph measures total radiation from the Sun, including every possible wavelength of radiation, and the red areas show the wavelengths of radiation that actually strikes the Earth: infrared, visible light, and ultraviolet. In the ultraviolet region towards the left of the graph, you can see that a lot of the more harmful, higher-energy UV radiation is blocked out by our atmosphere.

The various types of radiation play crucial roles in insect life. For example, the antennae on this male Hercules moth **(Fig. J)** are tuned to sense pheromones released by female moths, which vibrate at "infrared" frequencies. TV aerials tune in to a different section of the electromagnetic spectrum.

Different organisms have developed their visual sense to maximise various parts of the electromagnetic spectrum. **Fig. K** compares three of them. The human eye is sensitive to certain parts of the electromagnetic spectrum, allowing trichromatic (three-colour) sensitivity, whereas bees and birds have different sensitivities to different areas. Birds have developed four-colour sensitivity, up into the ultraviolet range, so they can see things we don't. The range of colours/radiations that we visualise overlaps what a bee would see. Thus bees, which generally have poor sight, rely on sharp contrasts within images in the ultraviolet range. **Fig. L** shows what a flower and a butterfly would look like to a bee; you can see a more distinctive bullseye than what we see, and contrasts on the wings of the butterfly that are invisible to us. Flowers have developed the most intensely reflective colours that attract the most insects.

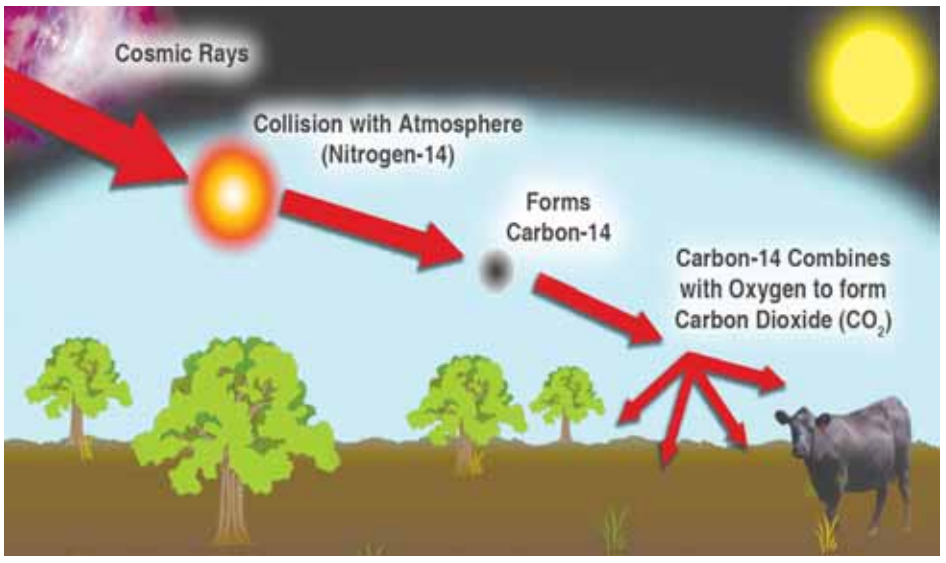
Electromagnetic radiation, such as X-rays, infrared, radio waves, and gamma rays, originates from the farthest reaches of the galaxy, from sources such as supernovae, or exploding stars. The Crab Nebula **(Fig. M)** is a supernova remnant that emits a vast array of high-energy electromagnetic radiation which reaches Earth.

FIG. N

TABLE 3.

Reaction Products of Secondary Cosmic Rays and their Lifetime Reaction	
Tritium	12.3 years
Beryllium-7	53.3 days
Beryllium-10	1,600,000 years
Carbon-14	5730 years
Sodium-22	2.6 years
Sodium-24	15 hours
Magnesium-28	20.9 hours
Silicon-31	2.6 hours
Silicon-32	101 years
Phosphorus-32	14.3 days
Sulfur-35	87.5 days
Sulfur-38	2.8 hours
Chlorine-36	300,000 years
Chlorine-38	37.2 min
Argon-39	269 years
Krypton-85	10.7 years

FIG. O



Cosmic Rays

One of the most important forms of cosmic radiation is cosmic rays. They are cosmic particles that strike the Earth individually, and not really in the form of a ray or beam of particles as visualised in 1950s sci-fi movies of cosmic ray guns.

All incoming cosmic ray particles are discrete packets of energy, related in a characteristic way to their electromagnetic source. Various particles have different levels of energy associated with them. For example, over 90 per cent are high-energy protons or hydrogen atoms, fewer than 9 per cent are helium nuclei. Another, very high-energy cosmic "ray" is the gamma ray photon, though they are quite rare; they go through anything in their path.

When cosmic rays enter the Earth's atmosphere they collide with molecules, mainly oxygen and nitrogen, to produce a cascade of lighter particles, a so-called air shower of secondary particles, as shown in **Fig. N**. These secondary particles, listed in **Table 3**, cause various reactions within the Earth's biosphere. An important one of these yields is carbon-14, a radioactive isotope. Generated in the upper atmosphere, it is found on the surface and in the crust of the Earth, and can be used to determine the age of archaeological material through so-called "carbon dating" **(Fig. O)**. When cosmic rays enter the upper atmosphere, they hit atoms and molecules, which release "neutrons". These neutrons combine with nitrogen, changing it into carbon and releasing a hydrogen atom. The carbon then forms into molecules such as carbon dioxide, which Julia Gillard calls pollution, and finds its way into the food cycle of plants and animals. As carbon-14 breaks down, or decays, at a known rate, the relative amount of carbon-14 remaining in, for example, excavated material, can be measured to determine its age.

The amount of cosmic radiation striking the upper atmosphere evidently correlates with cloud-formation (**Fig. P**). It may well be that an increased amount of cosmic radiation causes regularly greater cloud cover to occur, and hence cooler temperatures and ice ages are possible on the Earth.

The position of our solar system within the galaxy **(Fig. Q)** determines the amount of cosmic radiation we are exposed to, a radical fluctuation whose effects can be seen in extinction cycles on Earth. Of all living species ever to have existed on Earth, 95 per cent have died out **(Fig. R)**. The LaRouche PAC website (www.larouchepac.com) and our publications, such as the *Australian Alert Service*, have covered this subject extensively, and I encourage you to look there and learn more.

Our solar system is now moving out of the relative "protection" of its position in our Milky Way galaxy, into a new position, above the plane of the galaxy. This exposes the Earth to more radiation than we have been used to, since man has been on the planet. We face the threat of mankind becoming extinct, unless we enact a Glass-Steagall two-tier banking reorganisation, and start a crash science-driver programme to figure out how to deal with this reality.

FIG. P

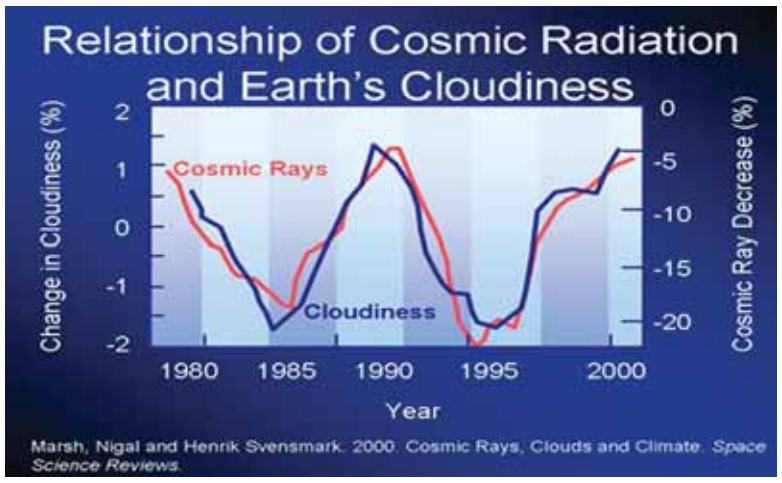
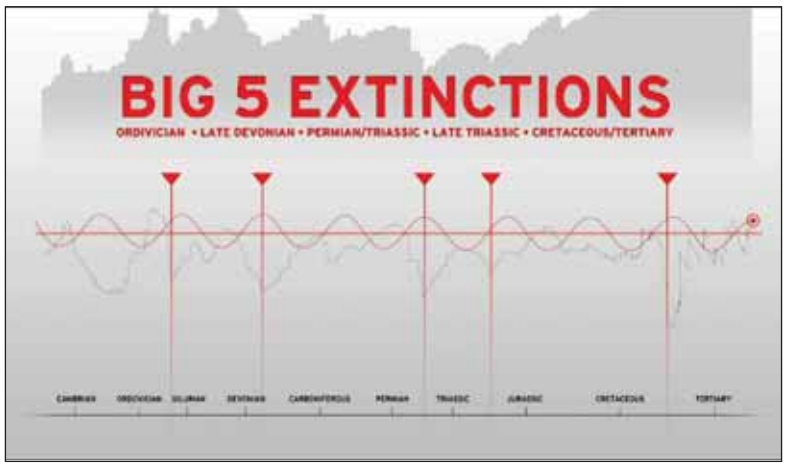


FIG. Q

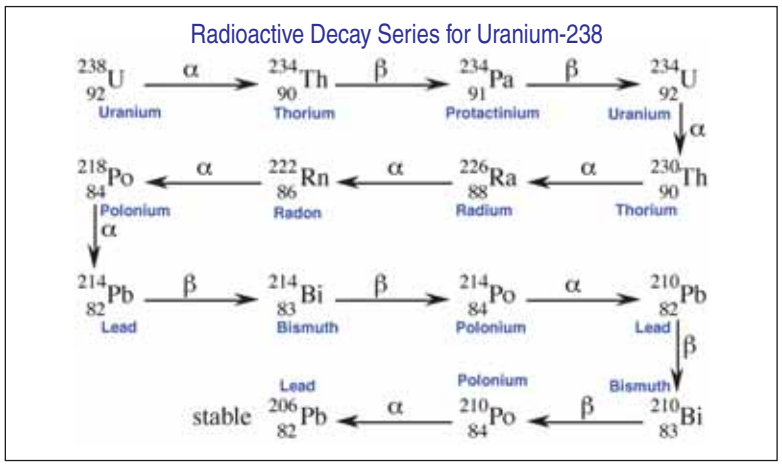
Our Milky Way galaxy moves through the Universe face-on, not edge-on like a frisbee. As the solar system moves above the galactic plane, it is "out front" of the moving galaxy, and the Earth is exposed to a greater density of cosmic radiation.

FIG. R



Mass extinctions coincide with our solar system's movement to galactic "north", above the plane of the galaxy (horizontal orange line), every 62 million years. It's been some 65 million years since the last one.

FIG. S



Radioactive uranium-238 emits alpha and beta radiation as it undergoes 15 steps of radioactive decay to become the stable element lead-206.

FIG. T

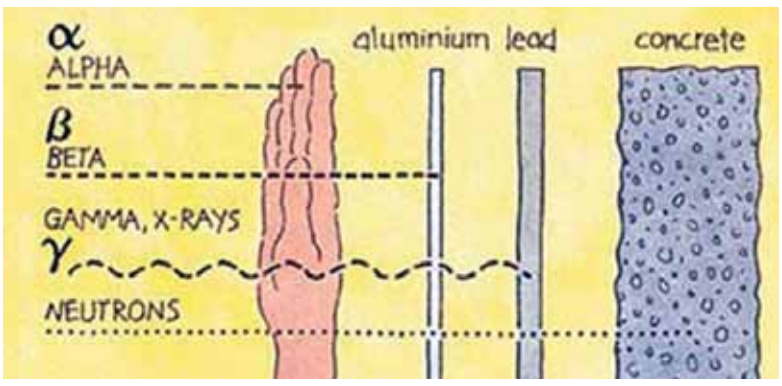
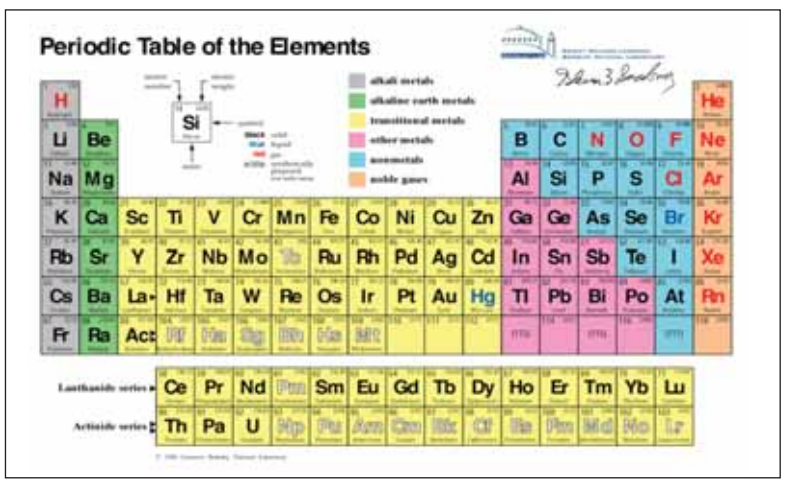


FIG. U



Radioactive Processes

The last form of cosmic radiation we have to look at is radioactive processes. Radioactivity, or radioactive decay, is the process whereby certain elements transform themselves into new elements by releasing energy. This energy can come as discrete particles or wave energy, but what actually happens is not known with certainty. **Fig. S** is a chart of the radioactive decay process of uranium, which becomes a more stable element, lead. It takes approximately four and a half billion years for half of the uranium to convert to stable lead, but some of the individual transformation steps only take fractions of seconds. The Greek letters alpha (α) and beta (ß) represent the type of radiation that is given off, which can be determined by its physical effects. The third type of radiation, gamma (γ) rays, is not shown here, on this graphic.

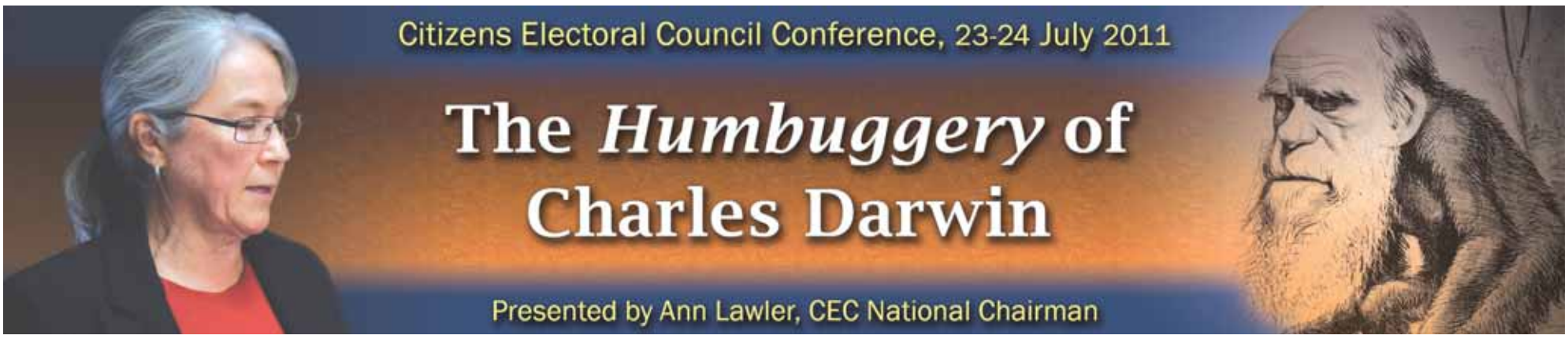
Alpha particles are relatively slow and heavy, and have what is called a low penetrating power. They can be stopped by a single piece of paper. These alpha particles have a high ionising power, which means that when they collide with atoms or molecules in the atmosphere, they can knock off negatively or positively charged particles, creating a charged form called an ion. The changed electrical effects can be measured using various types of sensitive instruments such as the Geiger counter.

Beta particles have medium penetrating power, they can be stopped by an acrylic substance like Perspex. Beta radiation has less ionising power than alpha radiation.

Gamma radiation, often described as high-energy waves, or bursts of photons, has a high penetrating power, so it takes a lot of concrete or lead sheeting to stop it. Gamma rays do not have great ionising power, but they may cause other atoms to emit particles which ionise their surrounding molecules. **Fig. T** shows the different penetrating powers of the different forms of radioactive emissions.

Over the billions of years that cosmic rays have been interacting with our Earth, they have hugely influenced the development and arrangement of the elements, which we conceptualise in Dmitri Mendeleyev's Periodic Table of Elements, on our planet **(Fig. U)**.

From what I have laid out in this summary form, showing the enormously powerful fields in which we live, the vast array of different electromagnetic radiations with which we live, and also these highly charged particles called cosmic rays, and radioactivity, I think you can begin to see that space is far from empty!



Charles Darwin is the acclaimed granddaddy of the entire environmentalist movement, that is, of today's plague of Green Fascism. Who can tell me what he is famous for?

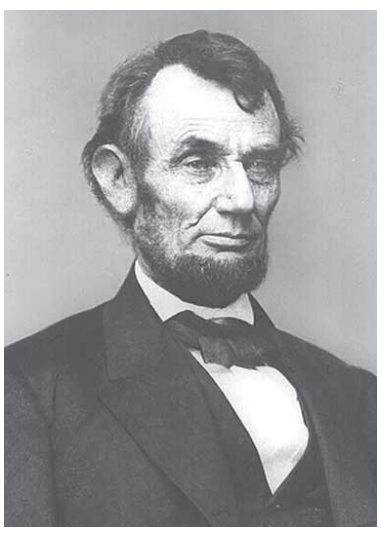
[Answers from the audience: "the theory of evolution"; "the 'survival of the fittest' and 'natural selection' as the method of evolution"; "the 'Tree of Life': that all existing species arose from one primitive life form, via 'transmutation of species' "; "that man descended from apes, so man is just another animal, and therefore just another part of Nature, not its master".]

Yes, all that is true, but Darwin himself credited his so-called discovery of evolution to Parson Thomas Malthus (1766-1834), who claimed that mankind faces "scarce, limited resources", and that human population growth will sooner or later outgrow those fixed resources. Darwin emphasised his dependence on Malthus right in the introduction to his 1859 book *The Origin of Species,* whose full title is *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life:*

"[T]he Struggle for Existence amongst all organic beings throughout the world … inevitably follows from their high geometrical powers of increase…. This is the doctrine of Malthus, applied to the whole animal and vegetable kingdoms. As many more individuals of each species are born than can possibly survive; and as, consequently, there is a frequently recurring struggle for existence, it follows that any being, if it vary however slightly in any manner profitable to itself ... will have a better chance of surviving, and thus be *naturally selected."* This Malthusian process, Darwin claimed, is the "origin of species".

Darwin proclaimed repeatedly that Malthusianism held true for mankind, as well as animals. The British oligarchy had made Malthus a great hero already by the mid-19th century, so Darwin well knew that Malthus had proposed *mass murder* as a "solution" to mankind's "overpopulation":

"All the children born beyond what would be required to keep up the population to this level, must necessarily perish, unless room be made for them by the deaths of grown persons. … therefore, we should facilitate, instead of foolishly and vainly endeavouring to impede, the operations of nature in producing this mortality; and if we dread the too frequent visitation of the horrid form of famine, we should sedulously encourage the other forms of destruction, which we compel nature to use. … But above all, we should reprobate specific remedies for ravaging diseases; and those benevolent, but much mistaken men, who have thought they were doing a service to mankind by projecting schemes for the total extirpation of particular disorders."


Abraham Lincoln's victory over the British in the U.S. Civil War, 1861-1865, unleashed astonishing nation-state building around the world.

Malthus and the British East India Company

Malthus was not just any old country parson, but the official chief economist for the British East India Company (BEIC), the largest monopoly the world had ever seen, with an army in the late 18th and early 19th centuries that was larger than that of the British government itself. In fact, the slave-trading and dope-pushing BEIC *was* the British Empire. And when the BEIC set up its Haileybury College in 1805 to train its officials, they appointed Malthus as the very first professor of political economy in Britain, actually in the world. Malthus' students over the next several decades became the BEIC's administrators, and systematically applied his policies of genocide to keep the native populations under control. They killed tens of millions in India alone, including by forcing them to grow opium instead of food, which opium the BEIC then used to poison the Chinese.

It is likely that the BEIC promoted Malthus precisely *because* he was a reverend, to justify the kind of mass murder which most even nominal Christians would find objectionable. Darwin and his gang attacked Christianity because its fundamental tenets were a stumbling block to British imperial rule. In particular, the notions of *imago Dei,* as expressed in the Book of Genesis: that man was created in the "image of God" to be fruitful, multiply, and have dominion over the earth; and of *capax Dei,* as expressed in the opening verses of the Book of St. John: that man "is capable of God", capable of participating in the Creator of the Universe (the Word, the Logos), and can thereby become a wilful co-creator in God's continuing process of creation.

There is nothing mystical about this, as Craig summarised in his opening presentation, and as will become amply clear during the course of this conference. It is all fully accessible to man's creative reason, whether you happen to be a professing Christian, or not. But this reality can never be understood through mere sense certainty, nor through the impotent formal logic of induction/deduction, so beloved of the British oligarchy and its stooge Charles Darwin. On the very first page of his *Origin of Species,* Darwin approvingly quoted Sir Francis Bacon, the so-called founder of the "modern scientific method" of induction, which is no method at all, but just sense certainty-based brainwashing. Throughout his life, Darwin maintained, correctly, that his *Origin* was based upon Bacon's method. The perpetuation of the British Empire depends on controlling how people think, that is, to make sure that they *don't* think. That was the whole point of the Darwin project—to convince human beings that they are mere animals, without a divine spark of creativity.

H. G. Wells: Fabianism, Imperialism and Eugenics

Thus Parson Malthus was Darwin's hero. But to situate the importance of this Malthus/Darwin duo in British imperial ideology, let's listen to H.G. Wells (1866-1946) in his 1901 book, *Anticipations of the Reaction of Mechanical and Scientific Progress Upon Human Life and Thought,* upon which he later said that his entire life's work was based.

Wells was at the very centre of the British imperial priesthood: he had been a prize student of the man known as "Darwin's bulldog", T. H. Huxley; he co-founded the Fabian Society with Bertrand Russell and the Webbs; he was a fierce advocate of eugenics, like Russell and the rest of the Fabians; and, along with Julian Huxley and a couple of others, he personally invented the modern cult of "environmentalism". If you understand Wells, you understand the real import of Charles Darwin and of today's cult of environmentalism.

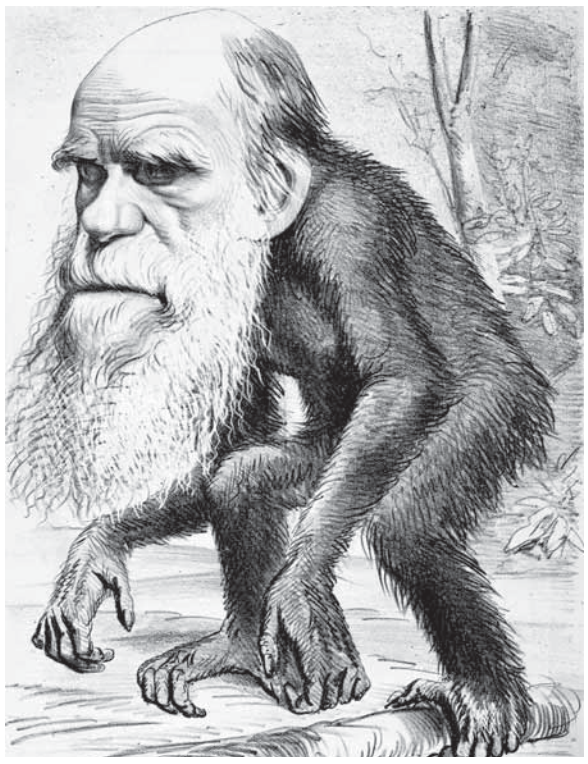
In his book's first chapter, "Locomotion", Wells lamented that the American Revolution had caused a worldwide explosion of railways, and that this "had changed the intellectual life of the world". Lincoln's victory over the British-backed Confederacy in the U.S. Civil War of 1861-65 had unleashed an astonishing growth of nation-states in Germany, Russia, Japan, and elsewhere, who copied the "American System" methods of public credit, intercontinental railways, the advocacy of science and technology, and the creation of a literate citizenry. World population growth surged. Anchored on transcontinental railways, all of this posed a strategic threat to the British *maritime* world empire. The British responded by unleashing World War I, and by proposing to murder entire sections of the world's population via the new doctrine of eugenics.

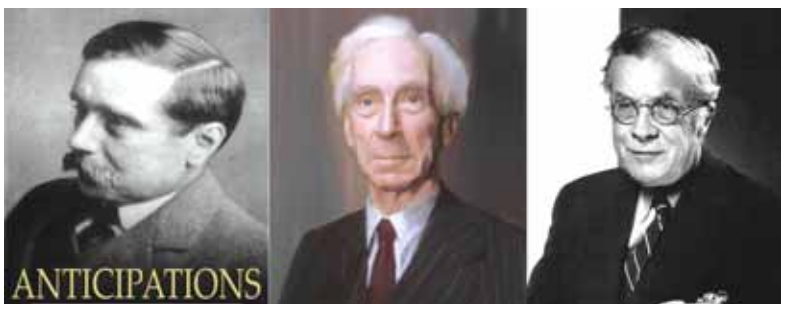
Malthus/Darwin: "Ethical Reconstruction"

Wells exulted that the influence of Malthus and Darwin by the end of the 19th century had virtually destroyed Christianity, paving the way for the "ethical reconstruction" of mankind. This "revaluation of all values" would usher in what Wells called the "New Republic", as the foundation for the coming "world state"—the total triumph of the British Empire worldwide, through what today is called "globalisation", and the "global governance" of Green Fascism.

Wells wrote: "Now, so far as the intellectual life of the world goes, this present time is essentially the opening phase of a period of ethical reconstruction, a reconstruction of which the New Republic will possess the matured result. Throughout the nineteenth century there has been such a shattering and recasting of fundamental ideas, of the preliminaries to ethical propositions, as the world has never seen before. …

"The first chapter in the history of this intellectual development, its definite and formal opening, coincides with the opening of the nineteenth century and the publication of Malthus' *Essay on Population.* Malthus is one of those cardinal figures in intellectual history who state definitely for all time, things apparent enough after their formulation, but never effectively conceded before. He brought clearly and emphatically into the sphere of discussion a vitally important issue that had always been shirked and tabooed heretofore, the fundamental fact that the main mass of the business of human life centres about reproduction. … Probably no more shattering book than the *Essay on Population* has ever been, or ever will be, written. … [I]t made as clear as daylight that all forms of social reconstruction, all dreams of earthly golden ages must be either futile or insincere or both, until the problems of human increase were manfully faced."


Charles Darwin



Fabian society founders H.G. Wells and Bertrand Russell, together with Julian Huxley (left to right), invented the modern cult of "environmentalism".

And, Wells emphasised, Malthus begat Darwin (and also Alfred Wallace, who supposedly "co-discovered" evolution with Darwin, and who also based his discovery of evolution on Malthus). The work of Malthus, said Wells, "awakened almost simultaneously in the minds of Darwin and Wallace, that train of thought that found expression and demonstration at last in the theory of natural selection. As that theory has been more and more thoroughly assimilated and understood by the general mind, it has destroyed, quietly but entirely, the belief in human equality which is implicit in all the 'Liberalising' movements of the world [meaning, in this case, those in sympathy with the American Revolution]. … It has become apparent that whole masses of human population are, as a whole, inferior in their claim upon the future, to other masses, that they cannot be given opportunities or trusted with power as the superior peoples are trusted."

The "New Republic": Mass Murder

Mankind was *not* created *imago Dei,* "in the image of God", Wells crowed, but has always been merely a part of nature, and therefore Christianity is just a myth: "And as effectually has the mass of criticism that centres about Darwin destroyed the dogma of the Fall upon which the whole intellectual fabric of Christianity rests. For without a Fall there is no redemption, and the whole theory and meaning of the Pauline system is vain."

And since the "Pauline system" (that is, St. Paul's—Christianity) has now been discredited, there are no stumbling blocks to simply murdering large portions of mankind, as "overpopulation". The men of the New Republic "will not be squeamish" about killing, Wells wrote, because "They will have an ideal [eugenics] that will make killing worth the while." Demanding, "And how will the New Republic treat the inferior races? How will it deal with the black? how will it deal with the yellow man? how will it tackle that alleged termite in the civilised woodwork, the Jew?", he answered, "Well, the world is a world, not a charitable institution, and I take it they will have to go."

This overt commitment to mass murder was not just an "accidental" result of Darwin's "value-free scientific work", but is why "Darwinism" was created in the first place. Darwinism was not a scientific theory, but a witting project of cultural warfare, to take the Christ out of Christianity, to wipe out Christianity both in Britain and worldwide, with the avowed intent to secure British imperial rule over the globe. Darwin's theory was a war launched against the notions of *imago Dei* and *capax Dei,* of the divine potential within all human beings.

Even in an England still dominated by the Anglican Church, Darwin's new "theory" would hit like a bombshell, and he knew it. He wrote in his private notebooks that his creed of "evolution" was "like confessing a murder". After all, he was killing God, and that's exactly how he saw it. That was why he left a note for his wife with his preliminary 1844 essay on "natural selection", instructing her to publish it, "in case of my sudden death", but why he did not dare publish it until others had laid some preliminary groundwork.

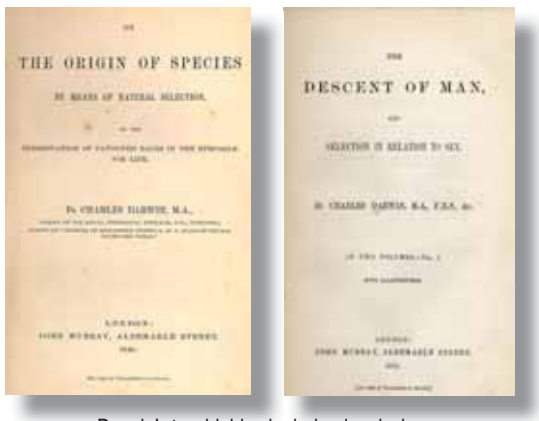
But what about eugenics? Was that just an accidental outcome of "Darwinism"?

Darwinism Gives Birth to Eugenics

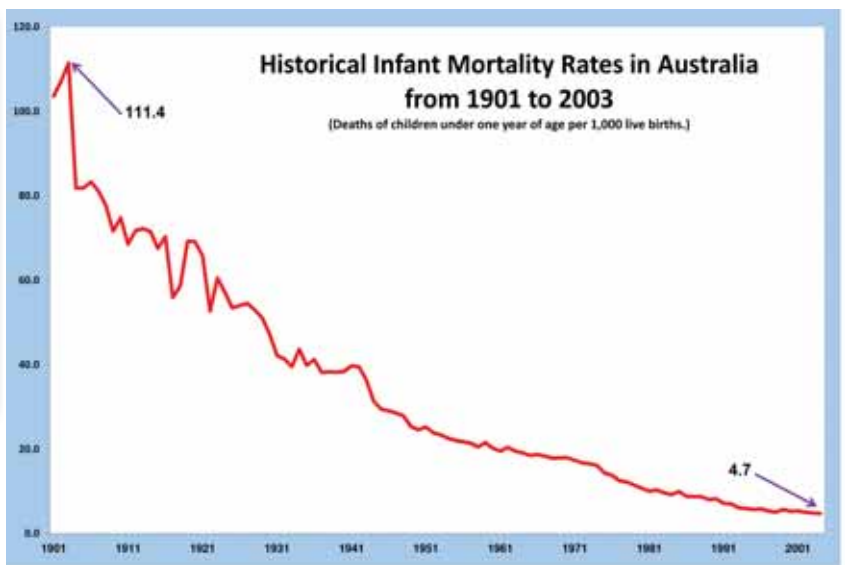
If you have read even a few of the endless books written about Darwin, as I have unfortunately had to, you will have quickly discovered that there is a big debate about whether Darwin "accidentally" gave birth to eugenics, or "Social Darwinism"—the supposedly inevitable struggle of groups of people or nations against each other.

But when you look into Darwin just a little bit, including what he himself wrote, it is astounding that anyone could ever maintain that Darwin did *not* push eugenics. It pervaded his work right from the early days of his voyage to Australia, when he wrote in Chapter 19 of his book, *The Voyage of the Beagle:* "The varieties of man seem to act on each other in the same way as different species of animals—the stronger always extirpating the weaker." It was also implicit in his first book, *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life* (note the subtitle), when he had to be a bit cautious, given the cultural environment of the time, but in his second major book, his 1871 *The Descent of Man and Selection in Relation to Sex,* he came out of the closet and wholeheartedly endorsed the Founding Father of eugenics, his first cousin Sir Francis Galton, together with other raving eugenicists.

In this second book, where he extended his conclusions about natural selection in the animal kingdom to mankind, he cited the work of three "authorities" upon whom he relied implicitly: "I have hitherto only considered the advancement of man from a semi-human condition to that of the modern savage. But some remarks on the action of natural selection on civilised nations may be worth adding. This subject has been ably discussed by Mr. W. R. Greg, and previously by Mr. Wallace and Mr. Galton. Most of my remarks are taken from these three authors."



Darwin's two highly plagiarised emissions.



Darwin promoted infanticide as a means of population control. He would have preferred infant mortality rates here in Australia to be at the 1900 level!

Darwin's Cousin Galton, the Founder of Eugenics

Galton had coined the name "eugenics" from a Greek term meaning "well-born", and already in 1869 had written a book, *Hereditary Genius,* which argued that mental qualities are biologically inherited; that the white race is the biologically best endowed to dominate the world; that the English are the cream of the white race; and that the Darwin family itself is living proof of this principle. (That last one is pretty funny, when you consider that the Darwin clan, both then and now, are a bunch of real fruitcakes.) Upon reading the book, Darwin wrote to Galton, "I do not think I have ever in all my life read anything more interesting and original. ... I congratulate you on producing what I am convinced will prove a memorable work."

Galton proclaimed that "Jews are parasites"; that "the worth of an individual should be calculated at birth, by his class"; and that the "unfit" should simply be eliminated. Moreover, he wrote that "I cannot doubt that our democracy will ultimately refuse consent to that liberty of propagating children which is now allowed to the undesirable classes". He was knighted by King Edward VII in 1909, for founding eugenics as a new ruling British imperial doctrine.

W. R. Greg, a rabid free trader, is often considered the "co-founder of eugenics" with Galton. Greg was already notorious for his 1851 book, *The Creed of Christendom,* in which he attacked the New Testament as "the foundation of doctrines repugnant to natural feeling or to common sense". In the words of a contemporary, writing not long after his death, Greg "was one of the chief assailants of the Christian faith in his day". Based on eugenics, Greg demanded that the British Empire rule the globe. In his 1872 *Enigmas of Life* Greg said Britain, "owes her world-wide dominion and … the wide diffusion of her race over the globe, to a daring and persistent energy with which no other variety of mankind is so largely dowered. … At all events it is … the STRONGEST and the fittest who most prevail, multiply, and spread, and become in the largest measure the progenitors of future nations."

Darwin approvingly quoted Greg on eugenics in his 1871 book, *The Descent,* typified by the following passage, which, despite protests, he kept in later editions:

"A most important obstacle in civilised countries to an increase in the number of men of a superior class has been … that the very poor and reckless almost invariably marry early. … Those who marry early produce … many more children. … Thus the reckless, degraded, and often vicious members of society, tend to increase at a quicker rate. … Or as Mr. Greg puts the case: 'The careless, squalid, unaspiring Irishman multiplies like rabbits: the frugal, foreseeing, self-respecting, ambitious Scot, stern in his morality, spiritual in his faith, ... passes his best years in struggle and in celibacy, marries late, and leaves few behind him. Given a land originally peopled by a thousand Saxons [e.g., Lowland Scots] and a thousand Celts [e.g., Irish]—and in a dozen generations five-sixths of the population would be Celts, but five-sixths of the property, of the power, of the intellect, would belong to the one-sixth of Saxons that remained. In the eternal 'struggle for existence', it would be the inferior and *less* favoured race that had prevailed—and prevailed by virtue ... of its faults'."

Darwin: "Murder the Poor"

What to do about this alarming situation? Darwin parroted Malthus: "With savages, the weak in body or mind are soon eliminated; and those that survive commonly exhibit a vigorous state of health. We civilised men, on the other hand, do our utmost to check the process of elimination; we build asylums for the imbecile, the maimed, and the sick; we institute poor-laws; and our medical men exert their utmost skill to save the life of every one to the last moment. There is reason to believe that vaccination has preserved thousands, who from a weak constitution would formerly have succumbed to small-pox. Thus the weak members of civilised societies propagate their kind. No one who has attended to the breeding of domestic animals will doubt that this must be highly injurious to the race of man. It is surprising how soon a want of care, or care wrongly directed, leads to the degeneration of a domestic race; but excepting in the case of man himself, hardly any one is so ignorant as to allow his worst animals to breed."

Darwin also lauded other measures to limit the population: "The greater death-rate of infants in the poorest classes is also very important; as well as the greater mortality, from various diseases, of the inhabitants of crowded and miserable houses, at all ages." Yet even those are not sufficient: "Malthus has discussed these several checks [war, famine, etc.] but he does not lay stress enough on what is probably the most important of all, namely infanticide, especially of female infants, and the habit of procuring abortion. … Licentiousness may also be added to the foregoing checks."

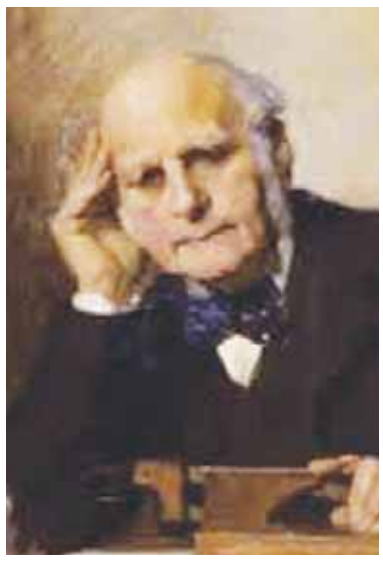
Trumpeting eugenics, Darwin proclaimed that different races have different "mental faculties".

Moreover, parroting both John Locke and W. R. Greg, Darwin championed the rich over the poor in the "struggle for survival", because the rich possessed *property:* "Man accumulates property and bequeaths it to his children, so that the children of the rich have an advantage over the poor in the race for success, *independently of bodily or mental superiority.* … But the inheritance of property by itself is very far from an evil; for without the accumulation of capital the arts could not progress; and it is chiefly through their power that the civilized races have extended, and are now everywhere extending their range, *so as to take the place of the lower races."* (Emphasis added.)

How in the world could anyone argue that it is "unclear", whether or not Darwin really intended eugenics?

Darwin was blatant on the subject, as was his infamous bulldog, Thomas Huxley. Bulldog Huxley continually wailed that "overpopulation was destined to be the world's gravest problem", and even tried to establish a Population Question Association to solve this "true riddle of the Sphinx of History", while Huxley's prize students H. G. Wells and Henry Fairfield Osborn became two of the most notorious eugenicists of the 20th century, and his grandson Sir Julian Huxley served as the long-time President of the British Eugenics Society, and co-founded the World Wildlife Fund (WWF) with Prince Philip and Prince Bernhard in 1961.

As for Darwin's own family, his son, Major Leonard Darwin, was chairman of the British Eugenics Education Society from 1911 until 1928, and its Honorary President until his death in 1943. Leonard also chaired the First International Eugenics Congress in 1912, while Darwin's other sons, George Howard, Francis, and Horace, were all members of the Cambridge Eugenics Society, and George Howard's son Charles Galton Darwin was Life Fellow of the Eugenics Society, and its vice-president in 1939 and president from 1953-59. A real nice bunch. It's enough to make you agree with the eugenicists about how degeneracy runs in families.

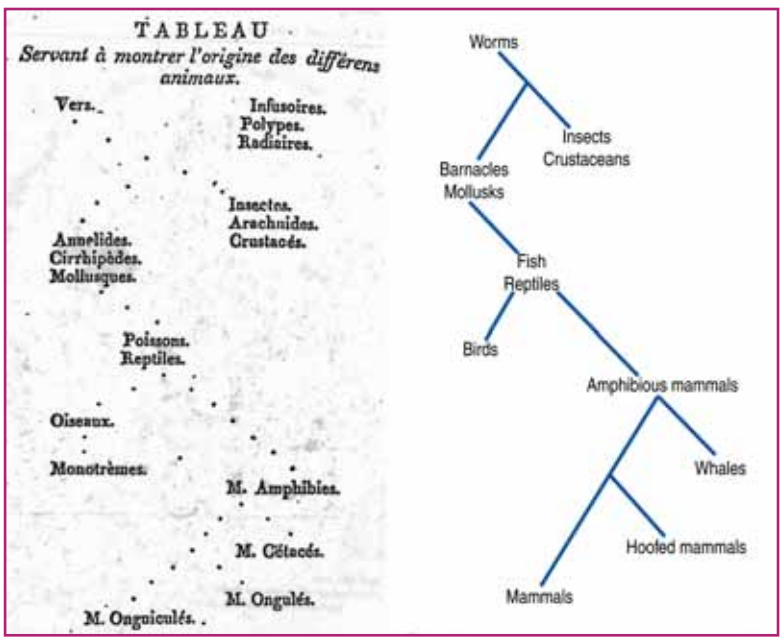


Trinity College, Cambridge Fellow Francis Galton was knighted by King Edward VII in 1909 for founding the "science" of eugenics.

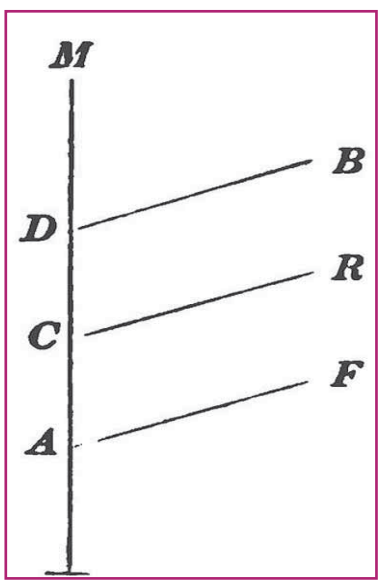
Darwin: Not a Man, but a *Project*

Thus the debate over whether Darwin intended to push eugenics is as much a fraud as Darwin himself. Because Darwin, a neurotic hypochondriac who rarely left his house, was not a man, but a *project,* a figurehead for the cultural warfare that was run top-down by the Privy Council of the British Crown, one of whose members was Darwin's bulldog, Huxley; the British East India Company and its network of salons and front-groups; and the elite men's clubs of London, including the X Club of so-called scientists, which Huxley founded to ram through Darwinism. Darwin himself discovered nothing, and took all the key axioms of his so-called "theory of evolution" from others. In fact, he wrote in amazement at the end of his life about a person with such modest intellect as himself having had such a dramatic impact on history.

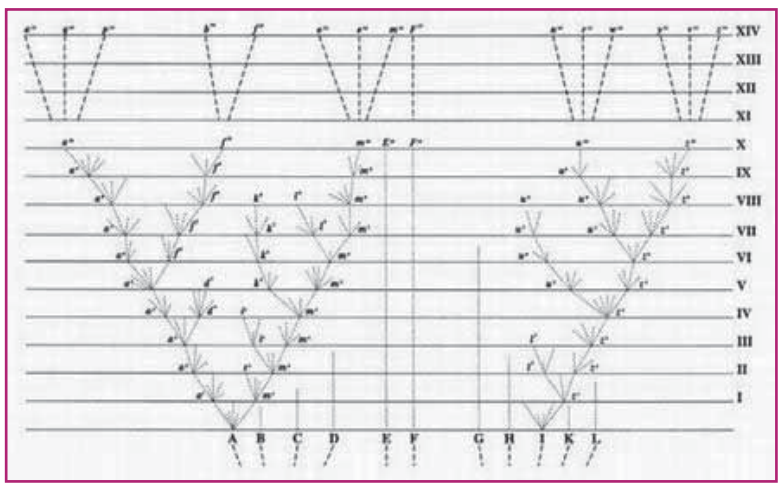
The very notion of "evolution", which he supposedly invented, had already been proposed by others. His grandfather Erasmus Darwin, for instance, had proposed "common descent" in his 1794 book *Zoonomia,* while Darwin's famous Tree of Life diagram, showing "common descent", with all species being derived from one or a handful of original primitive species, had already been published in a less elaborate form in a famous 1844 book by Robert Chambers, *Vestiges of the Natural History of Creation.* As for the idea that one species evolves into another species due to small changes in individuals within a species, that idea of "transmutation of species" was put forward by the French naturalist Jean-Baptiste Lamarck in his famous 1809 book, *Philosophie Zoologique.* The theory of "natural selection", the presumed engine of evolution, had been presented to the Royal Society in 1813 by Dr. William Charles Wells, who fled America for England at the outbreak



This evolutionary tree, with the branches pointing downwards, was the first such "tree" published. It appeared in French naturalist Jean-Baptiste Lamarck's *Philosophie Zoologique* in 1809.



This diagram from *Vestiges of Creation* by Robert Chambers (1844) shows fish (F), reptiles (R), and birds (B) as branches from a path leading to mammals (M).



Darwin's famous Tree of Evolution was not an original idea; others had already proposed it.

of the American Revolution, whilst one Patrick Matthew in 1831 had also propounded natural selection in a published book.

"The Great Liberal Party"

Darwin and his co-conspirators called themselves members of the "great liberal party" of the 19th century, which crusaded openly to wipe out Christianity worldwide, including even such small shards of it as still existed in Britain itself at the time. You have heard LaRouche repeatedly and rightfully denounce Liberalism as a cultural pus that is rotting society away today, and threatens to plunge the world into the worst Dark Age in the entire known history of mankind. Darwinism is a key episode in the creation of that anti-human doctrine of Liberalism.

This "great liberal party" had been forged by one man, in particular: William Petty-FitzMaurice, the 2nd Earl of Shelburne (1737-1805), one of the wealthiest and most powerful men in Britain, and the uncrowned king of the British East India Company for decades. Among many other things, Shelburne was the single most important individual in deciding to found Australia as a British imperial outpost, as we documented in our Australian History *New Citizen* [October 2009]. In addition to his personal promotion of Malthus, Shelburne sponsored the work of three other individuals, whose notions became dogma for British imperial policy:

Adam Smith. Shelburne assigned him to write *The Wealth of Nations* as a weapon of the new British imperial warfare doctrine of free trade, following upon Smith's earlier work *The Theory of Moral Sentiments,* which denied the existence of human creativity and instructed mankind to live by pleasure and pain alone. The entire doctrine of "economics", as taught in almost all universities worldwide today, is based upon Smith and Malthus.

Edward Gibbon. Shelburne assigned him to write *The History of the Decline and Fall of the Roman Empire* to determine why the glorious Roman Empire had ultimately failed, so that the British Empire would not fail, but would rule forever. Gibbon argued that "glorious Rome" fell because of the rise of Christianity.

Jeremy Bentham. He was the author of the felicific calculus, the arithmetic calculation of pleasure and pain to determine all human actions, and the founder of utilitarianism. He also wrote *Defence of Usury* and an essay defending pederasty. Bentham founded the British Foreign Office in 1782.

Thomas Malthus

Although each and all of these creatures were crucial in founding modern Liberalism, I will zero in on Charles Darwin's hero, the BEIC's very-reverend genocidalist Thomas Malthus, and the how and why of his coming up with population theory.

The Unholy Rev. Thomas Malthus

Malthus is famous for his 1798 book, *An Essay on the Principle of Population,* the same which H. G. Wells was so fond of, and which every man and his dog cites so knowingly, but which almost nobody has ever actually read.

Because of the war Britain had launched against France in 1793, by the mid-1790s Britain was suffering a deep depression, food riots were common, and rioters even attacked the King's own carriage in 1795. Subsidising the poor was costing a lot of money, even with the miserably inadequate welfare system of the day, known as the Poor Laws, so Shelburne's stooge Prime Minister William Pitt (The Younger) asked Malthus to write a tract to justify cancelling those laws. More importantly, Shelburne and Pitt assigned him to attack the deeper principles of humanity, upon which the United States had been founded, in particular those of the General Welfare and the right to "life, liberty and the pursuit of happiness", which principles still had an enormous influence in Europe, even in Britain itself and certainly with the Irish next door, who had militarily defeated the British in 1782.

As for population policy itself, Malthus plagiarised his major arguments from the Venetian priest Giammaria Ortes. Ortes had written a book attacking American founding father Benjamin Franklin's beautiful 1751 pamphlet *Observations Concerning the Increase of Mankind,* in which Franklin had foreseen and welcomed a doubling of the American population every 25 years—a terrifying prospect to the Venetian oligarchy and their British protégés. Malthus took his "sanctity of property" argument from another Venetian agent, John Locke, while his views on the Public Good were lifted wholesale from Bernard Mandeville's *The Fable of The Bees*—that the only pathway to Public Virtue, or the Public Good, was through untrammelled, individual Private Vice.

The Arithmetical/Geometrical Hoax

Ortes argued that population grows geometrically, but food supplies only grow arithmetically. This is typical statistical hocus-pocus, conjured up out of the blue with no proof; in fact, all of human history had proved precisely the opposite. But Malthus claimed that the larger the population was, the greater the misery, and that therefore genocide was God's will. Copying Ortes, Malthus wrote: "Population, when unchecked, increases in a geometrical ratio. Subsistence increases only in an arithmetical ratio. … This implies a strong and constantly operating check on population from the difficulty of subsistence. This difficulty must fall somewhere; and must necessarily be severely felt by a large portion of mankind."

Three imperial rogues sponsored by Lord Shelburne: Adam Smith, Edward Gibbon, and Jeremy Bentham (left to right).

Or, to jazz the matter up in scientific-seeming statistics: "Taking the population of the world at any number, a thousand millions, for instance, the human species would increase in the ratio of—1, 2, 4, 8, 16, 32, 64, 128, 256, 512, &c. and subsistence as—1, 2, 3, 4, 5, 6, 7, 8, 9, 10, &c. In two centuries and a quarter, the population would be to the means of subsistence as 512 to 10; in three centuries as 4096 to 13; and in two thousand years the difference would be almost incalculable, though the produce in that time would have increased to an immense extent."

The Real Target: the American Republic

Fortunately, the "difficulty of subsistence" would kill a lot of people and keep the population in check. The rest of Malthus' essay was, like Ortes' original, one long rant against the physical economic and moral principles of the young American republic, which held that the general welfare could only be provided for through a productive physical economic policy based on building infrastructure and industry, driven by technological and scientific progress. These policies raise living standards; eliminate poverty, disease, and want; and elevate the minds of the people as the population grows.

Malthus particularly attacked manufacturing—which Franklin had championed in his 1751 pamphlet—claiming that it helped nothing, since all wealth comes from the land. He even claimed that "the principal causes of the increase of pauperism" included the increase of the manufacturing system, and of its labour force.

Malthus attacked the principle of the General Welfare, the very cornerstone of the U.S. Constitution, which he termed "benevolence" (that is, the Christian notion of *agape*), as a sham: "The substitution of benevolence as the master-spring and moving principle of society, instead of self-love, is a consummation devoutly to be wished. ... The whole is little better than a dream, a beautiful phantom of the imagination. These 'gorgeous palaces' of happiness and immortality, these 'solemn temples' of truth and virtue will dissolve, 'like the baseless fabric of a vision,' when we awaken to real life and contemplate the true and genuine situation of man on earth."

And, perhaps plagiarising from Adam Smith (who likely also took his essential ideas from Ortes), Malthus snorted: "Benevolence indeed, as the great and constant source of action, would require the most perfect knowledge of causes and effects, and therefore can only be the attribute of the Deity. In a being so short-sighted as man, it would lead into the grossest errors, and soon transform the fair and cultivated soil of civilised society into a dreary scene of want and confusion."

Instead of the General Welfare, Malthus protested: "It is to the established administration of *property,* and to the apparently narrow principle of *self-love,* that we are indebted for all the noblest exertions of human genius, all the finer and more delicate emotions of the soul, for every thing, indeed, that distinguishes the civilised, from the savage state". (Emphasis added.)

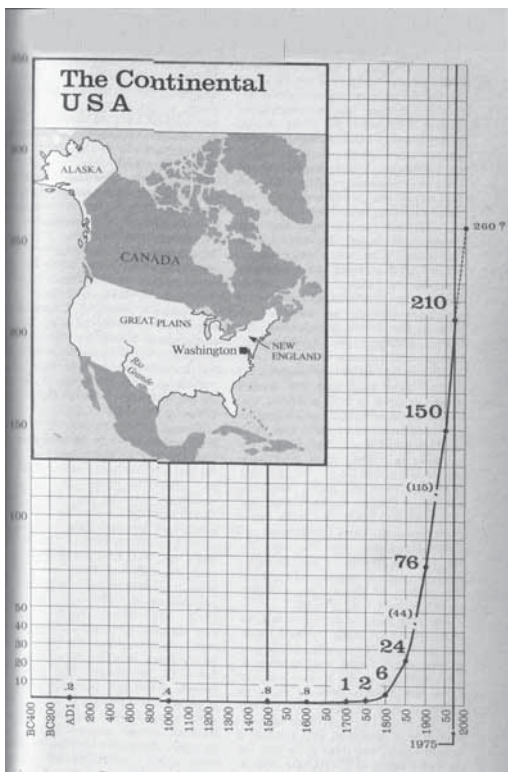
"Evil is Necessary, the Soul is Mortal"

As for these "finer and more delicate emotions of the soul", Malthus wrote: "Locke, if I recollect, says that the endeavour to avoid pain rather than the pursuit of pleasure is the great stimulus to action in life: … [I]t is by this exertion, by these stimulants, that mind is formed. If Locke's idea be just, and there is great reason to think that it is, *evil seems to be necessary to create exertion;* and exertion seems evidently necessary to create mind." (Emphasis added.)

Malthus basically claimed that the human soul was material, composed of matter, but that: "It could answer no good purpose to enter into the question whether mind be a distinct substance from matter, or only a finer form of it. The question is, perhaps, after all, a question merely of words. … [I]t cannot appear inconsistent either with reason or revelation, … to suppose that God is constantly occupied in forming mind out of matter and that the various impressions that man receives through life is the process for that purpose." Elsewhere in the same book, Malthus wrote, "The idea that the impressions and excitements of this world are the instruments with which the Supreme Being forms matter into mind, … seems to smooth many of the difficulties that occur in a contemplation of human life…."

Here you have the typical refrain of the oligarchy, that everything in the Universe, including life and the creative powers of mind, emerges from the abiotic, what they claim to be mere dead matter. As I said, and as was widely known at the time, much of the rest of Malthus' *Essay* was simply copied from the early 18th century degenerate Dutchman, the Venetian stooge Bernard Mandeville, who argued for population control, and said that the Public Good of society emerged through letting Private Vice run rampant.

The *New Citizen* special report "The True History of the Founding of Australia" (Oct./Nov. 2009) revealed the role of British imperialist Lord Shelburne's drive against the impact of the American Revolution.



America's industrial might and population skyrocketed after the Civil War (1865-1875), terrifying the British Empire.

Alexander von Humboldt's *Real* Science of Nature

Those were the wittingly evil origins of Darwin's *Origin.* This moral dimension aside, all of Darwin's supposed scientific work, as such, had been discredited even before he issued it, such that the British establishment did not dare publish it until the truly great scientific thinker and naturalist, Alexander von Humboldt, was laid to rest in 1859. Unlike Darwin, Humboldt (1769-1859) was a true scientific genius. He was the master of dozens of scientific disciplines and was recognised internationally as the acknowledged authority on Nature, as well as being an ardent supporter of the young American Republic.

Humboldt demonstrated in his 1848 masterwork *COSMOS: Sketch of a Physical Description of the Universe*, that Nature was far from being a brutal war of each against all. He wrote: "Nature considered *rationally,* that is to say, submitted to the process of thought, is a unity in diversity of phenomena; a harmony, blending together all created things, however dissimilar in form and attributes; one great whole animated by the breath of life. The most important result of a rational inquiry into nature is, therefore, to establish the unity and harmony of this stupendous mass of force and matter."

In other words, there are knowable physical *principles,* including the fundamental principle of life itself, which guide the upward development of Creation, as opposed to a presumed random interaction of individual particles leading downward to equilibrium, or a supposed steady state, as Darwin and the British argued. Today their same notion is packaged under the pseudoscientific term, "sustainable".

For Humbolt, the laws of the "sphere of intellect", of the creative human soul, are of a higher order than those of Nature, the latter being characterised merely by "a progressive development of vegetable and animal life on the globe". Humboldt concluded his masterpiece with the following words, emphasising that *mind* rules nature:

"From the remotest nebulae and from the revolving double stars, we have descended to the minutest organisms of animal creation, whether manifested in the depths of ocean or on the surface of our globe, and to the delicate vegetable germs which clothe the naked declivity of the ice-crowned mountain summit; and here we have been able to arrange these phenomena according to partially known laws; but other laws of a more mysterious nature rule the higher spheres of the organic world, in which is comprised the human species in all its varied conformation, its creative intellectual power, and the languages to which it has given existence. *A physical delineation of nature terminates at the point where the sphere of intellect begins, and a new world of mind is opened to our view."* (Emphasis added.)

Humboldt's *Cosmos* was received with universal acclaim, outselling all books other than the Bible in his native Germany, and was immediately translated into nine other languages.

Alexander von Humboldt

"Survival of the Fittest"

Whilst Humboldt's intention was to elevate mankind to seek out, understand, and participate in the creative laws governing the Universe, the Darwin project aimed to deny mankind's knowledge of any such universal principles, along with any notion of a creative God. It wasn't just the idea of who man is that they were attacking; they intended to overturn the way people thought about virtually everything connected to reality. If successful, their method would degrade the sciences of theology, philosophy, biology, and physics to a mere statistical hocus-pocus, free of causality. If applied to society, and in particular to economics, it would establish Liberalism as the new God. That would mean freedom to do as one pleases, and to cheat and steal at will, because that's how God made nature, and man is just a part of nature.

The Darwin project was fundamental to the Empire's agenda, but it was less the work of Darwin, than of two of his lifelong associates, the social scientist Herbert Spencer (1820-1903), and Thomas H. Huxley (1825-1895), the man who invented the idea of "agnosticism" as part of his war against the Creator.

The Pathetic Herbert Spencer

Not surprisingly, both Spencer and Huxley were pathetic personalities. Spencer was so neurotic that, like Darwin, he rarely dared appear in public. A hypochondriac, he consumed heavy doses of the BEIC's opium for his endless array of never-diagnosed "ills". He was beset by constant mental aberrations which he called "the mischief", and would wear earplugs to avoid overexcitement, particularly when in danger of losing an argument. Huxley suffered from depression most of his life, for which he also periodically took big doses of opium, and his family was riddled with insanity.

Like Darwin, Spencer and Huxley were members of the networks set up by the BEIC and Privy Council to remould the cultural, scientific, and religious philosophy in England for imperial rule. Spencer helped engineer Darwin's thoughts while Huxley, Darwin's bulldog, became the mouth organ for the new science of evolution.

Herbert Spencer was one of the most famous philosophers of the 19th century. One million copies of his works were sold in numerous languages. Darwin worshipped Spencer,

British East India Company intelligence chief John Stuart Mill.

and wrote that "he will be looked at as by far the greatest living philosopher in England; perhaps equal to any that have lived."

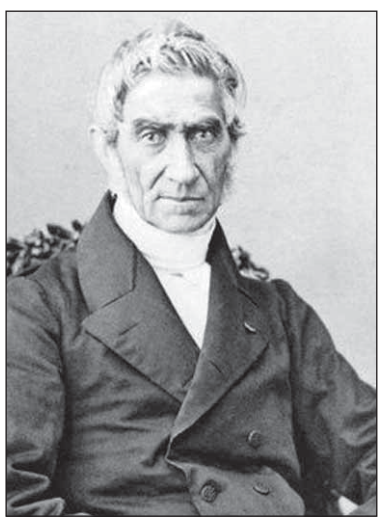
Spencer, even more than Darwin himself, is recognised as the inventor of Social Darwinism—the application of Darwin's supposed discoveries in nature, to human society. He was a disciple of BEIC intelligence chief John Stuart Mill; an employee of *The Economist* magazine which the BEIC set up to propagandise for free trade; and the man who coined the term "survival of the fittest". For an arch right-winger, such as he was known to be, he had some curious friends: Fabian Society founder Beatrice Webb began life as his private secretary, was his intimate friend throughout his life, and then served as the Executor of his estate when he died. So much for the difference between "left" and "right" in the British Empire.

Spencer maintained that man's only knowledge comes through his senses. Observations and statistics provide the only proof of what is happening. He said mankind couldn't possibly know actual reality, or the Divine, and he relentlessly attacked Christianity as being the "impiety of the pious". There were no universal principles or dynamics, but only "statistical probabilities", because: "Those complex influences underlying the higher orders of natural phenomena ... *work in subordination to the law of probabilities."* (Emphasis added.)

Spencer was so obsessed with statistics, that he named an 1850 book, in which he formulated Social Darwinism, *Social Statics,* and he seized on the fraudulent Second Law of Thermodynamics of Rudolf Clausius and Lord Kelvin as the basis of his ideas of nature and society. Spencer preached that the Universe is entropic, winding down. He said that there is a "persistent force" which constantly acts upon the unshaped, unformed matter, causing it to become separated, differentiated, and more complex over time—his "theory of evolution"—and that this force runs out when the interactions of matter reach an equilibrium. He applied this so-called law both to the physics of inanimate particles and to human society, as the Law of Equal Freedom. For human society this "law" stipulated that all human beings must have "equal freedom" to cheat, steal, and speculate, and this anarchy would converge on the desired "equilibrium":

"[T]he injunctions of the moral law, as now interpreted, coincide with and anticipate those of political economy. Political economy teaches that restrictions upon commerce are detrimental: the moral law denounces them as wrong... . Political economy says it is good that speculators should be allowed to operate on the food-markets as they see well: the law of equal freedom (contrary to the current notion) holds them justified in doing this, and condemns all interference with them as inequitable. Penalties upon usury are proved by political economy to be injurious: by the law of equal freedom they are prohibited as involving an infringement of rights."

In another section of *Social Statics,* he propounds eugenics outright. "Natural selection", he says, is a result of:



"...the continuance of the old predatory instinct ... [which] has subserved civilisation by clearing the earth of inferior races of men. The forces which are working out the great scheme of perfect happiness, taking no account of incidental suffering, exterminate such sections of mankind as stand in their way, with the same sternness that they exterminate beasts of prey and herds of useless ruminants."

Thomas Huxley: Darwin's Bulldog

Now let's look at the other driver of the Darwin project, Thomas H. Huxley, the grandfather of Prince Philip's WWF co-founder Julian Huxley and the personal mentor of H. G. Wells, whom Huxley proclaimed to be one of his two or three best students ever. To introduce Darwin's bulldog, it is revealing to look first at the kooky Belgian Adolphe Quetelet (1796-1874).

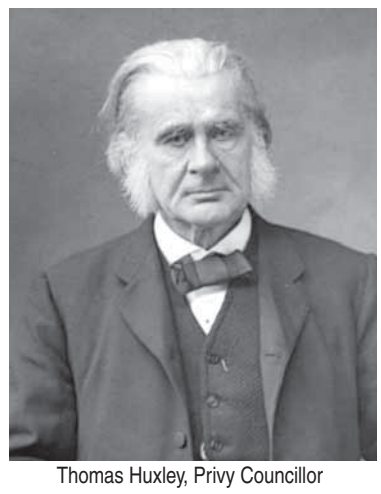
Quetelet was a statistician, a disciple of Pierre-Simon Laplace (the "French Newton"). The latter believed that, "all the effects of nature are only mathematical results of a small number of immutable laws." Quetelet insisted that statistical laws be applied to human society to create what he called a "social physics", which Herbert Spencer basically copied and renamed "social statics".

Quetelet's method was to make ceaseless measurements of the human body, to determine what he called the "average man", as well as social measurements, such as rates of crime, births and deaths, marriages, and suicides, in order to predict statistical trends for society as a whole. In his book Quetelet extensively quoted Malthus, and most likely that is how Darwin, who owned Quetelet's book, happened to "open Malthus for amusement" in the first place, triggering his so-called discovery of evolution.

It was well known already at the time, that Darwin applied Quetelet's statistical method to species evolution in exactly the same way as Maxwell used it for gases: to cover up his inability to find the cause of individual changes, by statistically predicting the probabilities of overall changes. Cambridge Apostle James Clerk Maxwell relied on Quetelet as well. He tried to use Newton's mechanics to work out the physical behaviour of individual molecules of gases, but he finally gave up, declared that to be impossible, and then used Quetelet's statistics to calculate probabilities, which became the basis for the Second Law of Thermodynamics. Galton, as Darwin's advisor on statistics, was in regular contact with Quetelet, and used his statistical methods as the basis of his new science of eugenics.

One recent author observed: "Darwin's cousin Francis Galton saw that, as natural selection was basically a statistical theory, natural variation within a species could be tamed by Quetelet's error law. Galton's investigation of the statistical distributions of human features and behaviour led him to conclude that there was 'better' and there was 'worse'—that such a distribution implied that men are not 'all of equal value, as social units, equally capable of voting, and the rest.' It was then but a short step to the idea

Herbert Spencer, fruitcake



Thomas Huxley, Privy Councillor

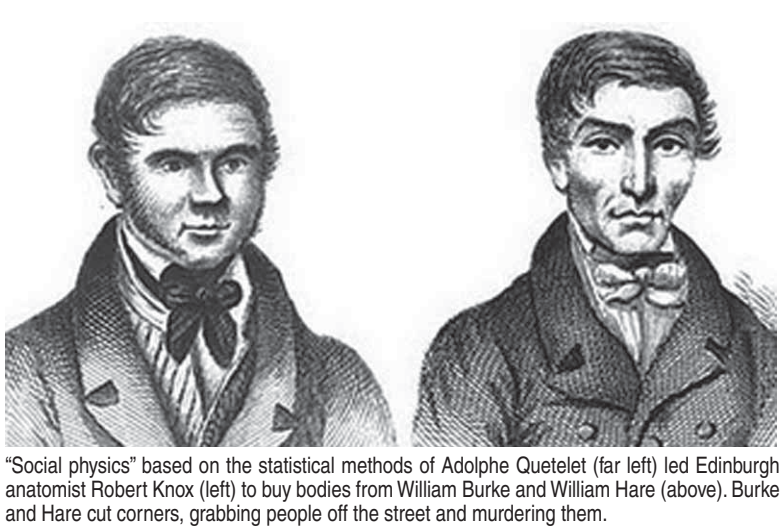
of selective breeding to improve the distribution, as he argued in *Hereditary Genius* (1869). Galton's insistence on the need for statistics in studies of inheritance led him to establish the central mathematical basis of biometrics, the measurement of biological variation."

It is well known that some of the pioneering work in statistical theory in the 20th century was done by rabid eugenicists, originally looking, like Galton, for statistical patterns in large populations.

Quetelet's method also led directly to one of the most infamous criminal scandals of 19th-century Britain. Robert Knox, a famous Edinburgh anatomist, was influenced by Quetelet's idea that anatomical features such as the size and the shape of the brain determined moral behaviour, so he performed dissections on human corpses to prove this so-called science of "moral anatomy". The supply of corpses in Edinburgh couldn't keep up with Knox's quest, however, so he deployed his assistant to buy bodies from two locals, William Burke and William Hare. Burke and Hare cut corners, simply grabbing people off the street and murdering them to sell for dissection; they were eventually charged with the murders of at least sixteen people, and became so notorious that even today to "burke" someone means to kill them. Knox's assistant, Thomas Wharton Jones, was, fittingly enough, the teacher of Thomas Huxley. As LaRouche has always said, statistics leads to mass murder.

Thomas H. Huxley himself was made a Fellow of the Royal Society at the age of only 25, and at 26 a member of its ruling council. Later on his Royal Society sponsors got him inducted into the Privy Council, the ruling body of the Empire. Since Charles Darwin virtually never spoke in public, Huxley became his mouthpiece, his self-proclaimed "bulldog".

Huxley is portrayed as a deep thinker and rationalist, who was committed to overthrowing the "superstitions" of Christianity, in favour of a commitment to pure science. In reality he was the opposite—a lifelong crusader against actual scientific method, as well as against Christianity. He rampaged against Mosaic Judaism and Christianity in hundreds of pages of writings based upon the work of the medieval irrationalist William of Ockham **(see page 13)**, who had argued, from sense certainty, that neither truth nor causal physical principles exists, because they can't be seen, touched, or smelled, and therefore reality consists of mere agglomerations of particular things. Huxley created "agnosticism", based on Ockham's doctrine of the Two Truths. Agnosticism says that, while God may exist, that cannot be proven by formal logic; on the other hand, it can't be strictly proven that He *doesn't* exist, so I won't take a position on the matter. It's real sophistry, since Huxley at the outset ruled out the method of thinking by which the Creator *can* be known.



"Social physics" based on the statistical methods of Adolphe Quetelet (far left) led Edinburgh anatomist Robert Knox (left) to buy bodies from William Burke and William Hare (above). Burke and Hare cut corners, grabbing people off the street and murdering them.

Huxley was a leading figure in the so-called Working Men's Movement, which was actually founded by the elite of Cambridge University, just like its successor of a couple of decades later, the Fabian Society. He lectured to these early socialists on Darwinism and "modern scientific method". His actual affection for the "masses" is captured in the following passage: "The great mass of mankind have neither the liking, nor the aptitude, for either literacy, or scientific, or artistic pursuits; nor, indeed, for excellence of any sort." And in any case, he said, the "great mass" was doomed to Malthusian poverty due to overpopulation: "What profits it to the human Prometheus", he demanded, "if the vulture of pauperism is eternally to tear his very vitals?"

Huxley issued a compilation of his working-man lectures in 1863, as the book *Evidence as to Man's Place in Nature*, to attack the traditional Christian notion of Genesis 1:28, that man is made in the image of the Creator (*imago Dei*) and that man's purpose is to continue God's creative work (*capax Dei*). Huxley took up two major arguments in that book. First, he argued that all life originated in the non-living; and second, that the only true scientific method was induction/deduction based on sense certainty. On the first point, in his third lecture, "The Method by Which the Causes of the Present and Past Conditions of Organic Nature Are to Be Discovered – The Origination of Living Beings", Huxley asserted that there is no real difference between living and non-living matter:

"Thus we come to the conclusion, strange at first sight, that the Matter constituting the living world is identical with that which forms the inorganic world. And not less true is it that, remarkable as are the powers or, in other words, as are the Forces which are exerted by living beings, yet all these forces are either identical with those which exist in the inorganic world, or they are convertible into them; I mean in just the same sense as the researches of physical philosophers [such as Cambridge Apostle James Clerk Maxwell] have shown that heat is convertible into electricity, that electricity is convertible into magnetism, magnetism into mechanical force or chemical force, and any one of them with the other, each being measurable in terms of the other—even so, I say, that great law is applicable to the living world. … [S]o that we come to the broad conclusion that not only as to living matter itself, but as to the forces that matter exerts, there is a close relationship between the organic and the inorganic world—the difference between them arising from the diverse combination and disposition of identical forces,

and not from any primary diversity, so far as we can see."

Louis Pasteur's work forced Huxley to deny "spontaneous generation", or to pretend to, so he said that, while that of course doesn't happen these days, it is indeed how life started "in the beginning", thus denying the whole point: the principled difference between the abiotic and the biotic. For instance, he gave a lecture in 1870, while he was President of the British Association for the Advancement of Science, entitled "Biogenesis and Abiogenesis". He cited Pasteur approvingly, but then added, "if it were given to me to look beyond the abyss of geologically recorded time… I should expect to be a witness of the evolution of living protoplasm from not-living matter."

Huxley's buddy Darwin clearly agreed with him. In February 1870, the year before his second book, *The Descent of Man*, was released, Darwin wrote a letter to his good friend Joseph Hooker, suggesting that the original spark of life may have begun in "some warm little pond, with all sorts of ammonia and phosphoric salts, lights, heat, electricity, etc. present, … [where] a protein compound was chemically formed ready to undergo still more complex changes".

Huxley and Darwin: "Man is an Animal"

But Huxley reserved his real passion for the question of scientific method, that is, for his conception of the nature of man: is man capable of creativity, of acting as a co-creator of the Universe, or is he just another animal, shuffling along by pure sense certainty? Huxley argued for the latter, maintaining that whereas many people say that the so-called scientific method of sense certainty-based empiricism started with Darwin's hero Sir Francis Bacon, on the contrary: "[I]t would be entirely wrong to suppose that the methods of modern scientific inquiry originated with him, or with his age; they originated with the first man, whoever he was; and indeed existed long before him, *for many of the essential processes of reasoning are exerted by the higher order of brutes as completely and effectively as by ourselves."* (Emphasis added.)

And that was precisely the same as the core of Darwin's argument in *The Descent of Man.* He devoted all of Chapters II and III of that book, both entitled "Comparison of the Mental Powers of Man and the Lower Animals", to show "that there is no fundamental difference between man and the higher mammals in their mental faculties."

Although, with his working-men cover, Huxley polemicised for "good ol' common sense", his knowledge of the real issues went much deeper. For instance, he launched a tirade in the pages of the popular *Nineteenth Century* magazine in April 1887, titled, "Scientific and Pseudo-Scientific Realism", where he denounced "the men of the Renaissance" (foremost of whom was Nicholas of Cusa, of course), for rejecting Ockham and the Nominalists: "We follow the evil example set us … by almost all the men of the Renaissance, in pouring scorn upon the work of our immediate spiritual forefathers, the schoolmen of the Middle Ages [Ockham and his followers such as the 14th-century "Oxford Calculators"]. … [The] goal for the schoolmen, as for us, is the settlement of the question how far the Universe is the manifestation of a rational order; in other words, how far logical deduction from indisputable premises will account for that which has happened and does happen. That was the object of scholasticism, and, so far as I am aware, the object of modern science may be expressed in the same terms."

Terrified that he and his fellow logical positivists had not yet wiped out the Platonic method, he whined, "Consider, for example, the controversy of the Realists and the Nominalists…. Has it now a merely antiquarian interest? Has Nominalism, in any of its modifications, so completely won the day that Realism may be regarded as dead and buried without hope of resurrection? Many people seem to think so, but it appears to me that, without taking Catholic philosophy into consideration, one has not to look about far to find that Realism is still to the fore, and indeed extremely lively."

He then ranted against the reality of universals, or physical principles, as being causal, and defended his lifelong war against them: "[The proper topic of the present paper] is the use of the word 'law' as if it denoted a thing—as if a 'law of nature', as science understands it, were a being endowed with certain powers, in virtue of which the phenomena expressed by that law are brought about. … All I wish to remark is that such a conception of the nature of 'laws' has nothing to do with modern science. It is scholastic realism…. The essence of such realism is that it maintains the objective existence of universals".

On the contrary, wrote Huxley: "The tenacity of the wonderful fallacy that the laws of Nature are agents, instead of being, as they really are, a mere record of experience, upon which we base our interpretations of that which does happen, and our anticipation of that which will happen, is an interesting psychological fact; and would be unintelligible if the tendency of the human mind towards realism were less strong.

"Even at the present day, and in the writings of men who would at once repudiate scholastic realism in any form, 'law' is often inadvertently employed in the sense of cause…. In fact, the habitual use of the word 'law', in the sense of an active thing, is almost a mark of pseudo-science; it characterises the writings of those who have appropriated the forms of science without knowing anything of its substance. … As for myself, I seem to have unconsciously emulated William of Occam [Ockham], inasmuch as almost the first public discourse I ever ventured upon, dealt with 'Animal Individuality', and its tendency was to fight the Nominalist battle [i.e. to defend the Nominalists] even in that quarter."

In his 1894 essay, "Hume, With Helps to the Study of Berkeley", Huxley again spewed hatred for creativity and Platonic ideas: "The Platonic philosophy is probably the grandest example of the unscientific use of the imagination extant; and it would be hard to estimate the amount of detriment to clear thinking" it has caused. Indeed, "in face of the ignominious fate which always befalls those who attempt to get at the secrets of nature, or the rules of conduct, by the high *a priori* road, Platonism and its modern progeny show themselves to be, at best, splendid follies."

Members of Huxley's X Club

Top: George Busk, British Naval surgeon, zoologist and palaeontologist; Edward Frankland, chemist; Thomas Archer Hirst, mathematician specialising in geometry.
Middle: Joseph Dalton Hooker, botanist and explorer; Thomas Henry Huxley, X Club initiator, Darwin's bulldog, zoologist, biologist, comparative anatomist; John Lubbock, banker, biologist, archaeologist, politician.
Bottom: Herbert Spencer, philosopher, biologist, sociologist; William Spottiswoode, mathematician, physicist, president of the Royal Society (1878-1883); John Tyndall, physicist.

But the big block to science, Huxley ranted, was the irrationality of Mosaic Judaism and Christianity: "I had set out on a journey, with no other purpose than that of exploring a certain province of natural knowledge; I strayed no hair's breadth from that course which it was my right and my duty to pursue; and yet I found that , whatever route I took, before long, I came to a tall and formidable-looking fence. Confident as I might be in the existence of an ancient and indefeasible right of way, before me stood the thorny barrier with its comminatory notice-board—'No Thoroughfare. By order. Moses.' " Huxley complained against "the pretensions of the ecclesiastical 'Moses' to exercise a control over the operations of the reasoning faculty in the search after truth, thirty centuries after his age".

Moreover, he raved, "demonology is an integral and inseparable" part of Christianity: "The further back the origin of the gospels is dated, the stronger does the certainty of this conclusion grow; and the more difficult it becomes to suppose that Jesus himself may not have shared the superstitious beliefs of his disciples."

Huxley had at least one prominent ally in this war of Darwinism against Christianity, one of the most famous politicians in history, who said: "The law of selection justifies the incessant struggle by allowing the survival of the fittest. Christianity is a rebellion against natural law, a protest against nature."

Would anyone like to guess who this distinguished statesman was? That was Adolf Hitler.

So these were the two men, Spencer and Huxley, who drove the Darwin Project.

Darwinism: the BEIC's Ruling Ideology

Given that British society was still largely dominated by the Anglican Church at the time Darwin's *Origin of Species* was issued in 1859 (half of all the graduates of Oxford and Cambridge, for instance, became parsons), the British East India Company circles had a lot of work to do to make it the ruling ideology of, first, Britain itself, and then of the whole British Empire.

Today I shall not present in detail the findings of our research on the BEIC's network of exclusive men's clubs in London and how they promoted Darwinism, but I will mention just one of them, to give you a sense of how this worked. This is a club founded by Huxley himself to promote his Ockhamite religion throughout society.

Huxley called a meeting of seven of his best mates and co-thinkers on 3 November 1864 at the St. George Hotel in London. Joined by a ninth member the following month, they called themselves the X Club, and were carefully chosen so as to represent all fields of science. Though not formally a member, Sir Francis Galton, the founder of eugenics and general secretary of the British Association for the Advancement of Science since the previous year, was very close to several of the X Club and a sometime guest at their dinners.

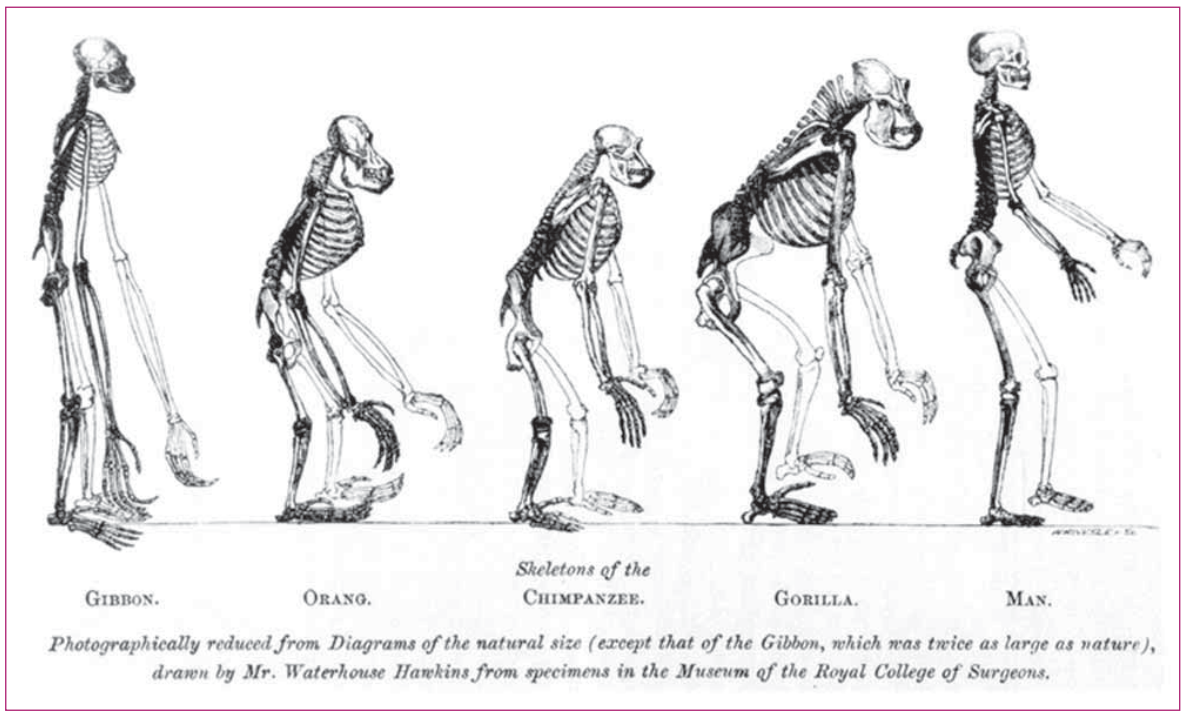
All the X-ers were partisans of Darwin; all but one were members of the Royal Society; and, most important, all were rabid opponents of the Christian conception of *imago Dei.* All were self-described members of the "great liberal party" of Britain, followers of the BEIC's Jeremy Bentham and John Stuart Mill. According to a history of the club by Ruth Barton, "The X Club can be regarded as the cabinet of a liberal party in science. Its policies were to advance research, to reform the public image of science, and to disseminate science and scientific attitudes in society. From 1860-1890 it was influential. It was the party in power between 1870 and 1885. Under the leadership of the X Club science became central to English culture."

With an appropriate allusion to the Jacobin dictatorship, the Committee of Public Safety which emerged during Lord Shelburne's French Revolution to send hundreds or thousands of people to the guillotine, this historian concluded, "The X Club, which represented all branches of science, might be called a 'Committee of Public Safety' for science." Indeed, they referred to themselves as such.

Their proclaimed devotion to science and progress was belied by the fact that most or all of the X Club members were devotees of two men in particular: Herbert Spencer, and another agent of the BEIC, Thomas Carlyle, a personal protégé of John Stuart Mill and the messiah of a New Dark Age. Carlyle called openly for the destruction of all industrial society and a return to feudalism, where, yes, the lord could torture or kill his serfs, but that would be a more noble existence than that of the modern serfs, degraded by the culture of industrialism.

With the backing of related elite clubs, many of them dominated by the Cambridge University Apostles, over the next three decades the profeudal maniacs of the X Club took over most of the top positions in British science, and reshaped the ruling culture of Britain itself. They dominated the Royal Society, as well as most of the top institutions running educational policy in Britain, including the numerous parliamentary committees whistled up to ram through "reform". As just one example among dozens, Huxley himself chaired the London School Board, which set elementary education policy for the rest of the country, and which the *London Times* declared to be "the most powerful body outside Parliament".

Such are the basics of the fraud known as Darwinian evolution. Now, let's look at the process of *real* evolution.



A famous image from Huxley's *Man's Place in Nature*, showing the alleged descent of man and other primates from a common ancestor, as proposed by Darwin.

Real Evolution: the Self-developing Biosphere

Contrary to the Darwinian kooks, the Universe is not a bunch of particles whose random motion somehow brings about order. It's neither chaotic nor unknowable, as these Darwinists claim. Every aspect of the Universe is creative, and that's not just a Christian belief, it's scientific truth. If something can't be scientifically proven, then in reality it is simply a belief. That's why we have so many kook religions—including *environmentalism*—which chooses to believe something they can't prove, rather than look for the truth.

We may not have all the answers yet, but what we can prove is that the principle of Creativity governs the anti-entropic progress of the Universe, and that process is reflected in every thing that makes up the Universe. From the abiotic, to the biotic, to the noetic, the Universe and everything in it is creative.

If you look at the fossil evidence of species and changes in their morphological characteristics over time, what's evident is that the Universe is an endless progression of change; a series of interconnected cycles of change, which all reflect an upward process of development. Species come into existence and go out of existence, but each new species has come into existence at a time determined by the Universe and for the benefit of the Universe. This is completely opposite to the entropic, Universe-is-running-down Darwinian view.

And, each new species as it has come into existence has been more complex than the species that existed previously. What also discredits the Darwinists is that new species emerged that were unrelated to any other species, and appeared on different continents at the same time. For Darwin's theory to be true there needed to be a link, some relationship connecting the new species to the old. The reason palaeontologists aren't able to find these "missing links" is because there aren't any.

This is Darwin's evolutionary tree **(Fig. 1)**. (I am summarising the material presented by Sky Shields and Alicia Cerretani in the LPAC-TV video "Evolutionary Potential", which I urge you all to watch.) Each branch of the tree is supposed to represent a species which experiences random mutations, causing it to branch out. Some of the mutations are naturally selected to become a higher species, which creates a new offshoot from the tree. For Darwin's theory to work, there has to be a link connecting one species to the next.

But let's look at the case of the Archaeopteryx (**Fig. 2)**, discovered about 150 years ago. The Darwinists tried to claim that this bird-like creature was the missing link between the dinosaurs and birds. After all, it lived in the Jurassic period with the dinosaurs, and it had dinosaur-like characteristics: a mouth with teeth, a long lizard-like tail, and a skeletal structure that resembled a lizard, but with feathers. So the Darwinists claimed the dinosaurs and this new bird-like creature must be related. Their claims ran into problems in the 1980s, when it was realised that there were a number of other lizard-like birds, or bird-like dinosaurs, called Enantiornithes **(Fig.3)**, which all seemed to come from a different lineage than the Archaeopteryx.

In fact there was an explosion of feathered dinosaurs all around the same time, across different continents, which made it impossible for them all to be related. All species at that time were developing feathers of some form, but it appears it was some time later before any would actually fly. Standard natural selection explains changes in terms of "advantages", but none of their attempts to explain the first feathers make sense. There weren't feathers for flying yet—no advantage; there weren't enough to keep the creatures warm—no advantage; and another idea, that the plumage made them more attractive as mates, is ridiculous—dinosaurs were reproducing long before feathers gave them lingerie!

With the development of feathers and wings over time, the use of forearms seemed to be phased out. At the same time, or perhaps earlier than these feathered creatures were appearing, some species appeared which didn't express the lizard-type characteristics but were more closely aligned to our current birds. So it seems like a "parallel evolution" was happening, with two varieties of a similar species popping up around the same period.

You can see in **Fig. 4** the fan-tail characteristics that were emerging in dinosaurs.

Another development in birds that can't be explained by natural selection is magnetoreception, by which birds navigate.

What is the explanation of these massive shifts that occurred all over the world? Did the previous species become extinct, or did they evolve into new species? However it happened, it is clear that some sort of process on the scale of the entire biosphere was determining the need for these shifts.

The Cambrian Explosion

Another example of an upshift in the ordering of species is the Cambrian explosion of life, and of the diversification of life, beginning about 530 million years ago **(Fig. 5)**. Suddenly creatures of all types were developing skeletal systems, and there was no common skeletal factor previously to relate that to. The chemical structure of the skeletons themselves was so diverse, that there wasn't any way of explaining this upshift. For instance, if the skeletons had all been made of calcium, then perhaps their coming into existence could have been explained as a necessity of the biosphere, in order to absorb excessive calcium. But that wasn't the case; the chemical makeup of the skeletons was varied, the only related consistency for these species was that they all expressed the characteristic of a skeletal structure, first externally, and eventually internally.

Also, around a similar period as the bird diversification, there is evidence of several attempts by reptiles to become mammals. This was a huge upshift in the organisation of species, because it was a leap from cold-blooded reptiles to warm-blooded mammals, with other characteristics not seen before, such as the ability to rear live young, the ability to eat plants or animals, varied teeth structures **(Fig. 6)**, and a more advanced hearing capability. And it's as though, at a certain point, it were simply "time for this to occur".

This mammalian explosion produced three broad classes of animals, not all of which are present worldwide **(Fig. 7)**. For example, we have the pouched marsupials, which are almost unique to Australia, New Guinea and nearby islands in the continental shelf of Sahul. They don't appear anywhere else in the world (except for the opossum). Placental mammals are the most diverse group, with nearly 4,000 species, and they can appear anywhere in the world. Animals of the monotreme order lay eggs, but then the hatched young are fed on their mother's milk; they exist in various regions of the planet, but only five species remain. The marsupials and mammals are quite different, in addition to the confinement of marsupials mostly to Australia. Yet sabre-tooth species within these classes developed in the same time period.

Even more amazing is, if you compare a chart of modern mammals with a chart of modern marsupials, you see that analogous types of creatures have developed within each of these classes. There's a placental cat and a marsupial cat; the same goes for dogs, flying squirrels, etc. This parallel evolution is a characteristic of development in all living organisms.

In the case of man, the heavily promoted Darwinian idea is that man is simply a higher form of animal. I think everyone has seen the chart in **Fig. 8**, depicting the evolution of man from a monkey, at some time or other.

This first version of this imperial view of man claimed that, prior to the development of Homo sapiens, that is modern man, Neanderthal man fit somewhere in that line-up, as did Cro-Magnon man. Investigations into their habitats, however, as well as morphological analysis, showed that Neanderthal man and Cro-Magnon man were contemporary and not related. This is where the ugly face of British imperial control over science emerges, to crush any idea that mankind's characteristic is creativity. The British palaeontologists concocted the lie that Neanderthal man was inferior, and had therefore been naturally selected for extinction. But the evidence about Neanderthal man shows real human creativity, such as his capability for making tools. The thought police quash that evidence, to support the theory that Cro-Magnon man was the "fittest" to survive.

In 2010, genetic analysis showed the possibility that modern man possessed genes from both Cro-Magnon and Neanderthal man, suggesting that these two seemingly distinct species were capable of being absorbed into one another. This would mean that, rather than these species being selected by their "fitness" for either extinction or survival, they converged into a more complex, better organised state of mankind, which we know as modern man. It is as if the biosphere determined that it was time to produce man, and, as happened with birds and other species, its seemingly separate attempts were all successful, and converged into modern man.

This gets to the question of what drives such creativity. What causes these successive changes in species which reflect the process of the biosphere becoming much more complex? Each progression takes the biosphere to a higher level of complexity or energy flux density. The increased ordering of things increases the overall energy of the Universe itself.

There are two galactic cycles that influence our solar system, and therefore the Earth: one is a 62-million-year cycle and the other's period is 145 million years. Tectonic and other cycles on Earth are connected to activity within our solar system, such as the Sun's increased solar flare activity and cosmic radiation emitted from the Sun, nebulae and supernovas. It's highly likely that the mass extinctions of species, shown in the fossil record, are caused by this activity; in turn, the extinctions occur in cycles which correspond with the 62-million-year cycle of our solar system's movement up and down through the plane of our galaxy **(Fig. 9)**, and the larger 145-million-year cycle corresponds to a proposed motion of our solar system around the galaxy, and through the spiral arms of the galaxy **(Fig. 10)**.

FIG. 1

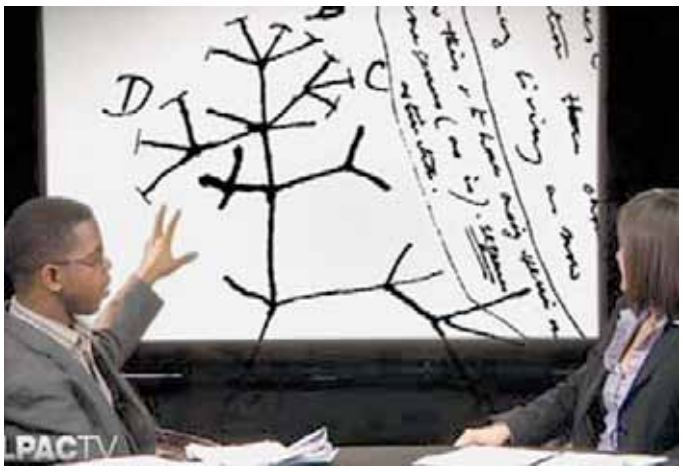


FIG. 2

FIG. 3

FIG. 4

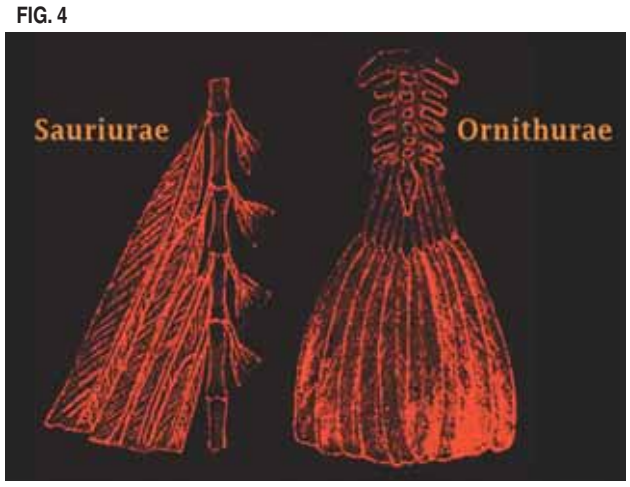


FIG. 5

FIG. 6

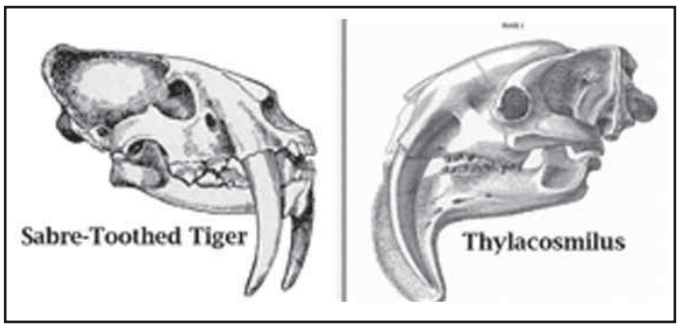


FIG. 7

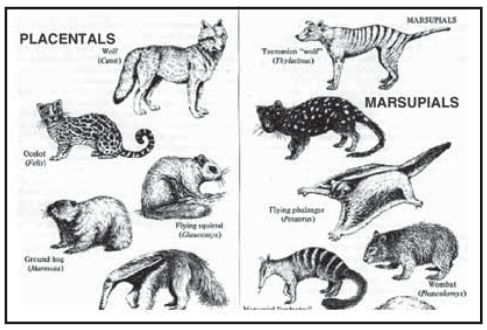


FIG. 8

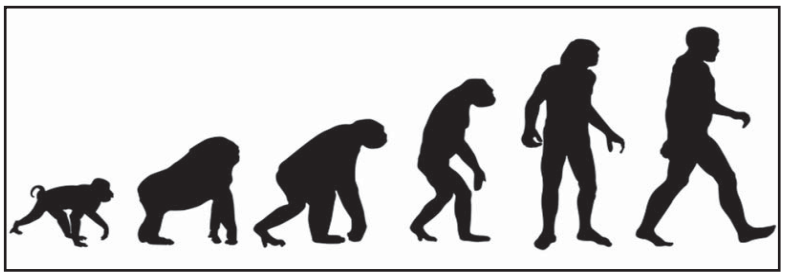


FIG. 9

The solar system crosses the plane of the galaxy approximately every 62 million years.

FIG. 10

The 145-million-year cycle corresponds to the motion of our solar system around the galaxy and through its spiral arms.

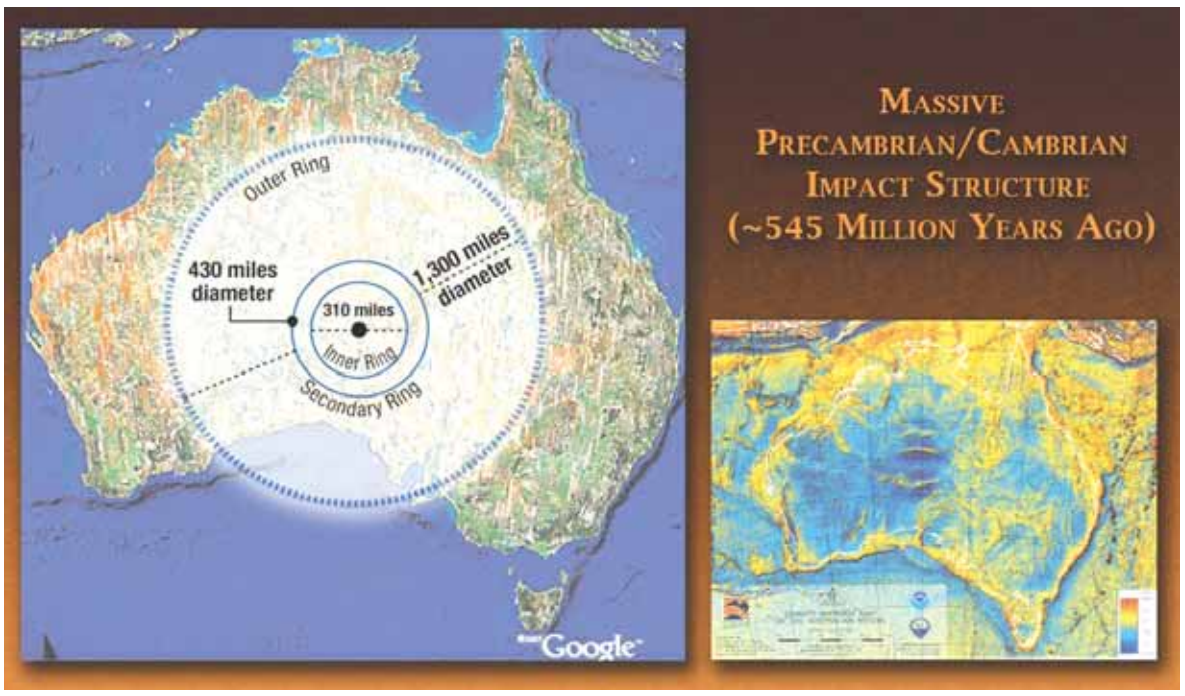
As the solar system traverses through the galaxy, absorbing cosmic ray fluxes and experiencing variations in gravitational forces, those changes become dynamic factors in the self-development of the Earth's biosphere. An example of this dynamic self-developing biosphere is the creation of the ozone layer. The original single-celled organisms that lived in the oceans photosynthesised sunlight, producing oxygen as a by-product. The oceans then were saturated with soluble iron, which bonded chemically with the oxygen to form insoluble iron oxide, which sank to the ocean floor, and over millions of years built up iron deposits. This process fluctuated, because periodically the soluble iron would be depleted by the oxygen bonding, and the photosynthesising single-celled organisms would die off, because the build-up of the very oxygen they were producing as the by-product of photosynthesis was deadly to them. When tides, upwellings, undersea volcanoes and other events increased the iron levels again, the bonding process would once again lay down another iron deposit.

Over time, this led to the emergence of multi-celled cyanobacteria that could tolerate high oxygen levels, to take over from the single-celled organisms. As the oxygen levels in the oceans continued to increase, oxygen started to rise up from the oceans into the atmosphere. In the atmosphere, the oxygen molecules underwent a chemical reaction with cosmic rays to form ozone, which provided a layer of protection from the Sun's most harmful, ultraviolet rays. In turn, this allowed the emergence of new species that wouldn't have been able to exist without the protection of the ozone layer, including, eventually, the emergence of species from the ocean and onto land.

This process is dynamic, not mechanical. Each event is determined by, and in turn determines, the biosphere as a whole. In turn, the biosphere is inseparable from the solar system, the galaxy and the Universe as a whole.

Look at the example of the incredible Massive Australian Precambrian/Cambrian Impact Structure (MAPCIS) **(Fig. 11)**, dated at 540 million years ago. Only recently identified, MAPCIS may have been the most massive meteor impact in the Earth's history, and it hit right here in Australia, leaving a total impact zone over 2,000 km wide. Chinese scientists attribute the impact to enhanced gravitational forces, caused by the position of the solar system, which was inside a spiral arm of the Milky Way galaxy. Other experts point to this event as being the trigger for the Cambrian explosion. The impact was so great it melted and showered the Earth with mineral feldspar, consisting of potassium, magnesium, and calcium. Over the next several million years, these minerals fertilised the then-barren continents and the oceans, changing the conditions to allow for an explosion of new life.

FIG. 11

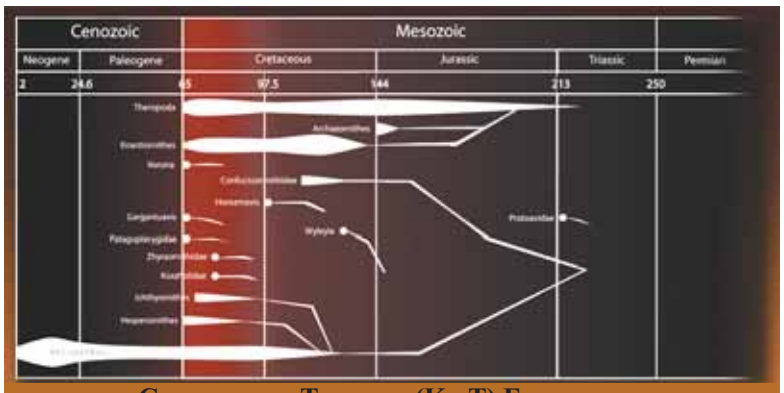


The last mid-plane crossing of the galaxy arm by the solar system was around 65 million years ago, which coincided with the Cretaceous-Tertiary or K-T extinction period **(Fig. 12)**. This crossing relates to the period when all these changes I've mentioned occurred: the extinction of the dinosaurs, the shift from reptiles to mammals, and flying birds as opposed to winged-reptiles. Man as a species, first seen in Homo habilis, better known as tool-making man, only emerged around three million years ago. Morphologically he doesn't resemble what we know as modern man, but he did express the characteristic which is unique to man—our ability to organise the lower phase-spaces. The fact he could make tools showed he was creative, an expression of both cognition and reason. He had a reason to make tools, and then applied his mind to make that happen. No other species can do that. All species express the creative principle that drives this upward progression, but only mankind is wilfully creative, our defining quality which reflects the Creator.

What environmentalists choose to suppress, is that this Earth that they profess to care so much about is part of our solar system, which is part of our galaxy, which is a relatively small galaxy amongst the billions of galaxies that make up the Universe. Many of the varieties of species or breeds in existence today are a result of man's wilful ability and that's despite the British liberal brainwashing and looting. Now mankind is at a turning point, and our role is to recruit people to be useful participants of the human species, because that's what the Universe expects from us.

If you think about it, mankind came into existence for the benefit of the Universe, to improve the complexity of the Universe, which we do through the discovery and development of the physical principles that govern the Universe. If we continue to tolerate Liberalism, and turn our backs on our responsibility to the Universe, then we most likely will find ourselves sharing a future with the dinosaurs.

FIG. 12



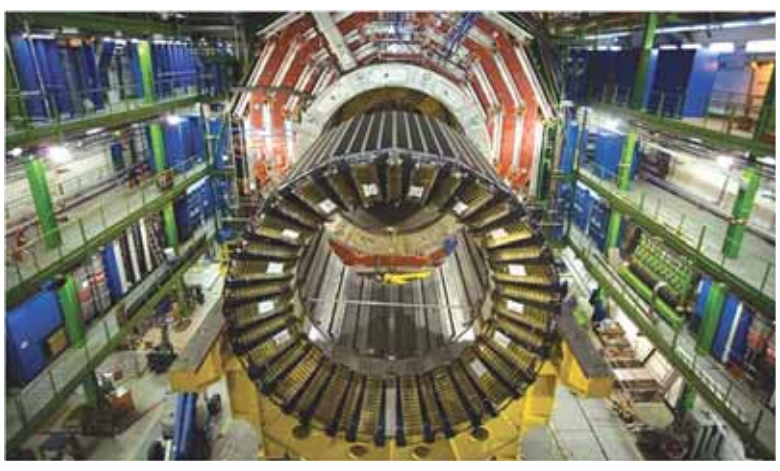
CRETACEOUS - TERTIARY (K - T) EXTINCTION: 65 MILLION YEARS AGO

Climate Change 'Models' Ignore Cosmic Rays

The computer models predicting catastrophic climate change (of a form that can only be averted by paying City of London banks to trade carbon credits) have again been shown up, by a groundbreaking experiment conducted by scientists at the European Organization for Nuclear Research (CERN). They demonstrated that cosmic rays play a role in cloud formation.

Nature magazine on 24 August 2011 reported the results of CERN's Cosmics Leaving Outdoor Droplets (CLOUD) experiment, which tested Danish physicist Henrik Svensmark's famous cloud chamber experiment, and demonstrated an initial connection between cosmic rays and cloud formation. In the CERN experiment, *Nature* reported, scientists fill "a custom-built chamber with ultrapure air and chemicals believed to seed clouds: water vapour, sulphur dioxide, ozone and ammonia. They then bombard the chamber with protons from the same accelerator that feeds the Large Hadron Collider, the world's most powerful particle smasher. As the synthetic cosmic rays stream in, the group carefully samples the artificial atmosphere to see what effect the rays are having. Early results seem to indicate that cosmic rays do cause a change."

The CERN physicists who conducted the experiment wrote in their paper, "Role of sulphuric acid, ammonia and galactic cosmic rays in atmospheric aerosol nucleation", published in *Nature*, "Based on the first results from CLOUD, it is clear that the treatment of aerosol formation in climate models will need to be substantially revised, since all models assume that nucleation is caused by these vapours [sulphuric acid and ammonia] and water alone."



The CLOUD project at CERN is using this proton synchrotron to establish the link between cosmic rays and cloud formation.

A seven-minute LPAC Basement video explaining the experiment can be viewed at: http://cecaust.com.au/main.asp?sub=media&id=2011_08_26_cern.html.

Computer models are theoretically reliable only insofar as they account for every possible variable in a system—an actually impossible goal, as daily weather forecasts attest. Modellers therefore replace the variables for which they can't account, with assumptions.

The prevailing climate change models are deliberately skewed, however, because of being programmed by the likes of the charlatans at the British University of East Anglia's Climatic Research Unit, who, reflecting their funding from Prince Philip's viciously anti-human World Wildlife Fund (WWF), base their models on one over-arching assumption: that there are too many people.

Consequently, their models that ignore galactic and solar activity that generates cosmic rays. That way they can guarantee the "conclusion" that human-produced CO_2 is driving climate change (and if that doesn't work, they "hide the decline" in global temperatures, as the CRU was caught doing in the Climategate scandal). In other words, they just lie their butts off.

Cambridge Researchers Declare: Human Brain Has Maxed Out

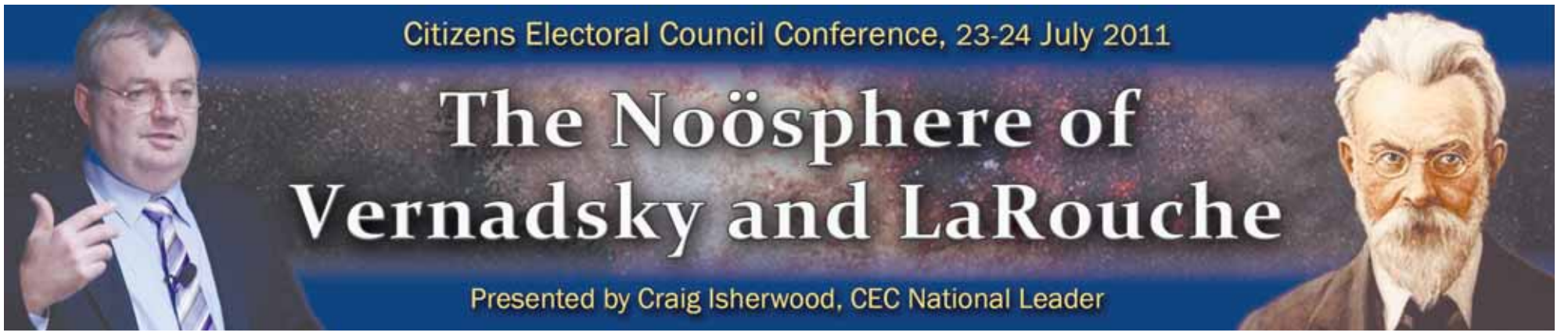
Cambridge University, breeding ground for some of the greatest scientific hoaxes in history, has just cooked up another one. The London *Daily Mail* reported 1 August 2011 on findings by researchers at Cambridge, that "[mP]ankind's brain power has reached its peak and it is physically impossible for us to become any smarter". This "discovery" is worthy of heirs of the Cambridge-centred priesthood, which has campaigned for centuries against the idea that human beings are anything more than animals, at best. It is a convenient finding for an oligarchy that demands that mankind submit to a finite, fixed state of Nature—and perish—rather than exercise creativity to open up entirely new resources.

"They claim that in order to become any more intelligent the human brain would need vast amounts of extra energy and oxygen—and we simply cannot provide it", the *Mail* reported.

As described by the daily, the Cambridge investigators view the brain as basically an abiotic machine, having "wiring" like an electronic machine, and doing iteration like a computer: "Simon Laughlin, professor of neurobiology, said: 'We have demonstrated that brains must consume energy to function and that these requirements are sufficiently demanding to limit our performance and determine design. Far-reaching powers of deduction demand a lot of energy because for the brain to search out new relationships it must constantly correlate information from different sources. Such energy demands mean there is a limit to the information we can process.'

"Other scientists claim that the brain's 'wiring' or network of fibres linking different areas to one another cannot get any better. … [T]he wiring would need vast amounts of extra energy to become more efficient."

Ed Bullmore, a professor of psychiatry at Cambridge specialising in brain imaging, was quoted by the *Daily Mail* regarding his measurement of impulses travelling within the brain. "He said … 'You pay a price for intelligence. Becoming smarter means improving connections between different brain areas but this runs into tight limits on energy, along with space for the wiring." Martijn van den Heuvel, who does similar work in the Netherlands, chimed in to support this Cambridge quackery: "Increasing the power of the brain would take a disproportionate increase in energy consumption", reported the *Daily Mail.*



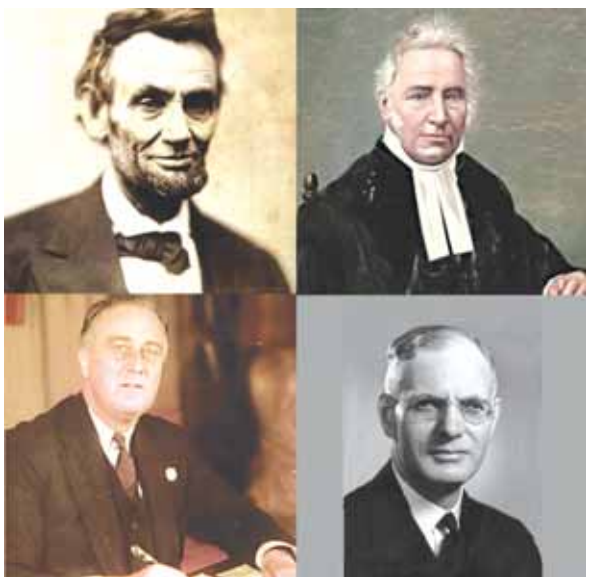
This afternoon, I want to introduce you to a man whose work has been mentioned by Lyndon LaRouche on many occasions as crucial for all mankind, and who is a current focus of the LaRouche PAC Basement team.

He is the Ukrainian-Russian scientist Vladimir Ivanovich Vernadsky, founder of the new branch of science known as biogeochemistry, which focuses on the effect of life on the chemistry of the Earth. As most of you have been around for quite some time as key activists in our organisation, you most probably recognise him as the person Mr. LaRouche refers to as defining the Universe we live in as having three distinct phase-spaces: the inert, the biotic or living, and the noetic—the realm of human reason.

Mr. LaRouche refers to Vernadsky in every one of his papers, as these specific discoveries by Vernadsky, these phase-spaces, are the true character of the world in which we live—not the one that the greenie environmentalists believe we live in and are destroying. Since we all too often take what Mr. LaRouche writes and says for granted (and no one ever does that, do they?) and skate over such concepts—accepting them *a priori*, that is, without question—the purpose of my presentation this afternoon is to give you a real sense of the importance of Vernadsky's work: a living, working understanding of his crucial ideas and approach.

A Scientist's Life in a Time of Upheaval

Vernadsky's life spans an extraordinary period of human history. Those of you who have studied the DVD titled *1932* are familiar with it. Think of the span from the U.S. Civil War to the end of World War II; from Abraham Lincoln to Franklin Roosevelt in the USA, or, in Australia, from John Dunmore Lang to John Curtin. Vladimir Vernadsky was born into a family of Ukrainian intellectuals living in St. Petersburg, Russia in 1863, two years after Tsar Alexander II's emancipation of the serfs. He died in the Soviet Union in the last year of World War II, 1945.



Vernadsky's life reached from the time of Abraham Lincoln and John Dunmore Lang (top), to that of Franklin Roosevelt and John Curtin (bottom).

During his lifetime came the horrific, worldwide upheaval of World War I, which was caused by the British Empire's fearful and brutal response to the threatened spread of American System nation-building economics throughout continental Europe and beyond **(see page 37)**, jeopardising the entire British Imperial system of colonial enslavement and looting. Since British geopolitics hinged on pitting Germany against Russia, the Russia in which Vernadsky lived was devastated repeatedly during this time. The more than 100,000 casualties Russia suffered in the Russo-Japanese War of 1904-05 and the 1905 Revolution were just the beginning. Russia lost close to five million people in World War I, then 10 million more in its 1918-21 Civil War: combined, that was already eight per cent of an estimated 175 million population in the Russian Empire in 1913. Then came the upheavals of the Soviet period, with 15 to 20 million killed in famine and internecine strife (much of it instigated or manipulated from the outside), and another 20 to 30 million dead in the Second World War.

Vernadsky's moral integrity in pursuing scientific breakthroughs for the benefit of his own country and all mankind, in the setting of such a holocaust, is breathtaking. From every standpoint—scientific, moral, and political—he is a towering figure, one of those, like Dante Alighieri in 1300 or Leibniz at the turn of the 17th to the 18th century, with whom LaRouche has been conducting a living dialogue throughout his own intervention into history.

Accordingly, it is no surprise that throughout his life, during all the time Vernadsky was working on the scientific matters I shall outline this afternoon, he was simultaneously, and often in connection with them, intensely involved in shaping the economic policy of his country.

The DVD *1932*, available from the CEC, exposes the nature of the British Empire that brought two world wars.

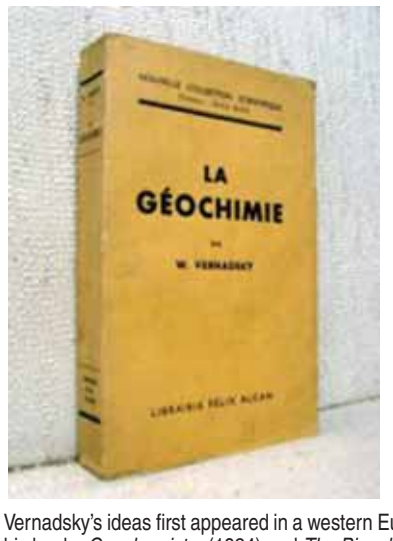
Bringing the Biosphere and Noösphere Concepts to the World

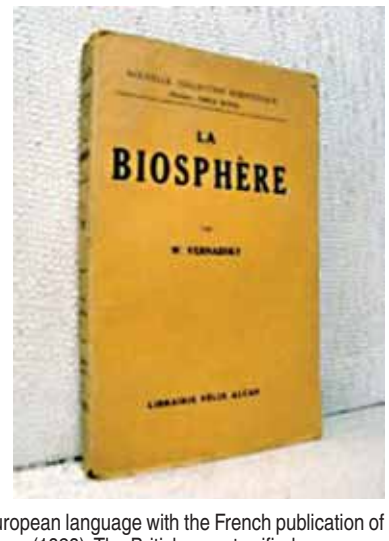
Studying his life, I think Vernadsky's scientific work can be roughly divided into two periods. They are not discontinuous from his scientific viewpoint and they do not coincide exactly with the shift of power inside Russia in 1917, but I want to define them around the period of 1922-24, when Vernadsky found a new focus in his own scientific work, and also that work provoked major reactions from others, especially the British enemies of science.

The first period of Vernadsky's scientific work extended from his early studies in Russia up until his lectures at the Sorbonne (the University of Paris), in France, in 1922-23, and the time he spent with Marie Curie during this visit. Whilst in Paris, in 1924, Vernadsky published his first major work in a Western European language, the book *La Géochimie* ("Geochemistry" in French). Slightly later his book *The Biosphere* came out in Russian (in 1926) and French (in 1929). This represented the liberation of Vernadsky's ideas in a more profound and direct way into world thought.

La Géochimie was written from his lectures at the Sorbonne in geochemistry and mineralogy, presenting the accumulation of his work to that date. The lectures included his conception of the unique nature of life and living matter in the "Biosphere". In them Vernadsky also talked about "a new fact in history, which did not exist in earlier epochs: the activity of civilized man". In other words, Vernadsky's lectures contained the germ of the concept he later called the "noösphere", the higher domain of human cognition and creativity.

To give you an idea of the power of the ideas Vernadsky was presenting, I want to cite an excerpt from his *Essays on Geochemistry*. This is from a section called "Geochemical Activities of Man", contained in a 1967 edition published in the Soviet Union, and issued in English translation in 2007. The exact date when this passage was written is not known, but the editors identify the *Essays* as an assembly of writings between 1922 and 1933. So, it characterises what Vernadsky was presenting in its essence at the Sorbonne, and which terrified the enemies of science and of humanity. He uses the term "psychozoic," from the Greek words for "mind" + "animal", thus presenting the noösphere. You will also hear the Latin *Homo sapiens*, the name of the human species, which means "knowing man", and the word "*faber*", meaning "maker", like the word "fabricate".





Vernadsky's ideas first appeared in a western European language with the French publication of his books *Geochemistry* (1924) and *The Biosphere* (1929). The British were terrified.

"[I]n our geologic era, in the psychozoic era—the era of reason—a new geochemical factor of paramount importance appears. During the last ten or twenty thousand years, the geochemical influence of mankind, which has captured green living matter by means of agriculture, has become unusually intense and diverse. We see a surprising speed in the growth of mankind's geochemical work. We see a more and more pronounced influence of consciousness and collective human reason upon geochemical processes. Man has introduced into the planet's structure a new form of effect upon the exchange of atoms between living matter and inert matter. Formerly, organisms affected the history only of those atoms that were necessary for their respiration, nutrition, and proliferation. Man has widened this circle, exerting influence upon elements necessary for technology and for the creation of civilized forms of life. Man acts here not as *Homo sapiens*, but as *Homo sapiens faber*."

The unleashing of ideas like this by Vernadsky in this Paris period caused a major freak-out amongst the thought police of the British Empire, because that's what Bertrand Russell and H. G. Wells and their circles were. As you have heard from the reports from the other presentations, they were already in an uproar against the revolution of dynamics in physical chemistry since the end of the 19th century. Now, here came Vernadsky, from the country of Russia which was supposed to have been taken over and/or destroyed in the conflagration of World War I, with powerful and true insights that could completely overthrow the doctrines of "ecology" and "eugenics", that is, the pseudoscience that says Man is nothing but an animal, which the British were pushing intensely in the wake of World War I.

In the second period of his work, from around 1924 until his death in 1945, Vernadsky developed his conceptions of the biosphere and the noösphere in ways that had both immediate practical application and profound implications for the future development of mankind. Provoked by his discussions with Marie Curie about the uncompleted work of her husband Pierre Curie, especially on symmetry, and the dissymmetry characterising what Curie called a different "state of space", he delved into the question of what could be the substrate, what could underlie the three phase-spaces of existence that he was studying. So, Vernadsky for the rest of his life was investigating fundamental principles of the Universe. He explored the ontological nature of space and time in their relationship with living and non-living processes. ("Ontological" means having to do with that which exists, and the questions of how and why what exists, does exist.) Vernadsky was very familiar with the work of Louis Pasteur on the left- and right-handedness of molecules and crystals, which he brought into his own investigations of the nature of space and time.

As we'll see, Vernadsky's ideas ran counter to what became the official ideology of the Soviet Union, called "dialectical materialism". In fact, the attacks on Vernadsky within the Soviet Union for violating "dialectical materialism" were nothing but a subset of the overt and covert attacks on his ideas by the British outside the Soviet Union, since the Communist Party's "materialist" ideology descended directly from the influence of the Fabian Society's Friedrich Engels, in particular, within Marxism. In his speeches and discussions during visits to post-Soviet Russia, since the 1990s, Lyndon LaRouche has often emphasised Engels's Darwin-flavoured fixation on the human "opposable thumb", the fact that humans can reach the thumb across the rest of their hand and grab something, as being the key to economic progress. This notion is a dead giveaway for how Marxist economics and dialectical materialism were spin-offs of the same old, tired British reductionist, anti-human doctrines about how the world works.

Believe it or not, the "opposable thumb" is not the key to economic progress.

Patriot and World Citizen

Vernadsky fought and polemicised against those attacks in the Soviet Union, but it is important to realise something else, something that is crucial to what a towering moral figure he is, which has everything to do with why he was such a great scientist.

After the horrors of World War I, the British-manipulated Russian Revolutions of 1917, and the Civil War—remember: an absolute minimum of eight per cent of the whole population has been wiped out—there was a situation in which educated Russians, the cream of the famous Russian "intelligentsia", emigrated to the West in droves. The pressure on Vernadsky to leave his homeland was immense. He himself was arrested and interrogated in the summer of 1921. Later, during the manipulated purge trials and mass executions in the Soviet Union in the 1930s, Vernadsky's life was constantly in danger. He was accused of "idealism" at a time when people were routinely being shot, or exiled to the labour camps in Siberia, on the pretext of being for "idealism" and against "dialectical materialism".

Under those conditions, why did Vernadsky return to the USSR in 1926? Why did he stay? Not only did Vernadsky not leave his country; he also continued making world-historical breakthroughs in science and

a critical contribution to the development of the economy of Russia and Ukraine (of the entire Soviet Union, really), including things such as the Atom program—the Soviet nuclear program. He was key to the survival of the Russian Academy of Sciences, founded by Tsar Peter the Great under the guidance of Leibniz in the early 1700s, as a crucial institution within the Soviet Union. He also created the Academy of Sciences of Ukraine. And he ensured the survival of another key institution, which he himself had led under the Tsarist government during the War: the Commission for the Study of Productive Forces, known by its Russian acronym KEPS.

Among other things, it is clear that the Soviet ruler Joseph Stalin protected Vernadsky, having an appreciation that his ideas and work were vital to the survival of that country. At the same time, it is fairly clear that Vernadsky believed that his work in Russia and Ukraine, and the survival of their whole scientific tradition, not to mention their resources, was important for mankind.

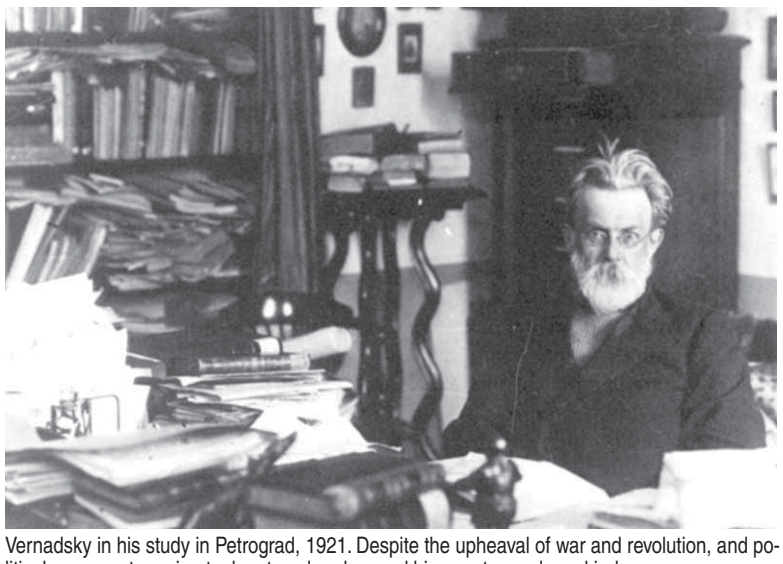
Thus, Vernadsky combines the qualities of patriot and world citizen; of patriot, and world-historical scientist. Lyndon LaRouche wrote about that in the 1996 article "Russia's Relation to Universal History: Letter to a Russian Friend". There, LaRouche said:

"As typified by the case of the great Vernadsky, the Bolsheviks adopted some of the tradition of the Russian intelligentsia's best statesmen and poets before them: they sought to erect a society, in imitation of that modern nation-state form first established by France's Louis XI, a society echoing that design wrought by the founders of the U.S. Federal Republic of 1789: premised upon universal citizenship, with leading emphasis upon establishing a quality of universal education essential to a society increasing its productive powers of labor through investment in scientific and technological progress. The case of biogeochemist and nuclear scientist V.I. Vernadsky, typifies the relevant point: No truly sentient observer could deny, that in the areas of physical science, including biology, Soviet Russia made durable contributions to mankind's history."

LaRouche continued, referring to Vernadsky's sometimes life-and-death struggle:

"Like all societies emerging from prolonged dark ages… Russia stumbled into the modern world, haltingly at first, as a 'two tier' society. It came out of an habituated cultural tradition, in which the institutions integrated with feudalism had worked … to keep each section of the population in its assigned place … V.I. Vernadsky's political difficulties, under Czarism and also during significant parts of Soviet history, typify this. He was not so much a dissident within the Soviet system, as a dissident within all expressions of modern Russia's inherited cultural backwardness. He is typical, thus, of that moral quality which distinguishes a true creative-scientific mentality: he hates that which crushes the creative potential of the individual human personalities."

Throughout this latter period, Vernadsky more and more elaborated the idea of the noösphere, that mankind was becoming the most powerful geological force on the planet because of his unique powers of reason and creativity. Whilst his work was left unfinished in many areas, the concept of the noösphere has been continued by Lyndon LaRouche. Think about Mr. LaRouche's fight against British and Marxist economics, which say that wealth comes from 1) the bounty of nature, or 2) free trade, or 3) the "horny hand of labour" with its opposable thumb. LaRouche's Physical Economy demonstrates that the source of wealth is human creativity. That is, the noösphere.



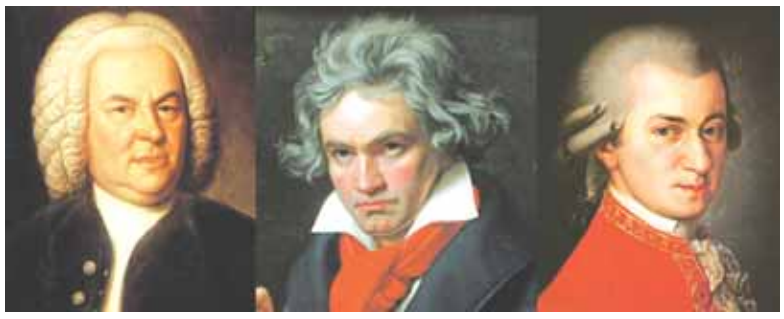
Vernadsky in his study in Petrograd, 1921. Despite the upheaval of war and revolution, and political pressure to emigrate, he stayed and served his country, and mankind.

Sufficient Reason

This afternoon I am going to go into a fair amount of detail about Vernadsky's beautiful discoveries, to demonstrate that the Universe does conform to Leibniz's idea of the "principle of sufficient reason", and not the boring idea of Newtonian space that is empty and operates on the basis of purely mechanistic laws, directed by a Creator who stands outside the Universe with a big whip to keep it running when it winds down.

The principle of "sufficient reason" is something Vernadsky knew very well. He was always searching for the causes of the new phenomena he had discovered.

At one point in discussions with Elisa Barwick about Vernadsky, in preparation of this talk, I complained that Max Planck, Einstein, Leibniz and Pasteur seemed to have no hesitation in talking about theological concepts such as "God," while Vernadsky seemed never to mention God, or any religious ideas at all. I wondered if he had the same understanding of the principle of sufficient reason as did Leibniz and those other scientists I mentioned before. Or, was the problem that in Soviet Russia you could be killed for talking about God?



Left to right: Johann Sebastian Bach, Ludwig Beethoven, Wolfgang Amadeus Mozart. Vernadsky said they "penetrated 'to the depths' non-verbally".

A postscript to his correspondence with a young geologist, when he was 77 years of age, gave me the answer. Vernadsky said:

"P.S. Now I simply don't think in philosophical terms, when I proceed in science. 'Spiritualism' for me, verbally expressed, is clear unreality. I believe that in my scientific work I penetrate so much more deeply, nonverbally and unconsciously, than do these philosophers and religious mystics in their verbal cogitations. It's like some musicians—Bach or Beethoven or Mozart, or others—who penetrated 'to the depths' non-verbally."

Vernadsky, it should be noted, was exposed to the great classical singing culture of Ukraine from an early age. His mother was a music teacher and sang in choruses. For him to express the principle of creativity in the way he did there, through the greatest classical musical composers, such as Bach, demonstrates that he understood the concept of the principle of sufficient reason very well, as he embraced the idea personally in his work.

In a lecture fragment from the 1920s, titled "The Principle of Symmetry in Science and Philosophy", Vernadsky also talked in musical terms about the essence of creative scientific thought:

"Any naturalist knows, or at least senses, that scientific and philosophical thought, so far, has only to a small degree brought the rules for the establishment of a scientific fact into a clear, logical system. Beyond the bounds of logical formulas lies an enormous domain of scientific creative work, whose fundamental essence is manifested in the establishment of new scientific facts. We express this domain by pointing out the significance, in the development of science, of intuition, of *a scientific sense of cadence*, of unconscious insight, and of *a sense of measure and of beauty*. These, and many other diverse and hazy expressions, correspond to one and the same phenomenon—the impossibility of fully expressing, in logical and mathematical formulas, the conditions of the establishment of a scientific fact or a scientific discovery. Each of us knows how incomplete and inadequate are all the logical and mathematical rules, developed by scientific and philosophical work over many centuries, and how they only partially correspond to reality." (Emphasis added.)

Alongside these profound considerations concerning man and nature, as I was studying Vernadsky's life and discoveries, I was also struck by how this great scientist was so involved in the politics of his time. He was active in party politics, and, more fundamentally, always championed the idea that the real development of Russia would come from the growth of the scientific, that is, creative abilities of its citizenry. As I wasn't expecting that, because I, too, had been taking Mr. LaRouche's constant references to Vernadsky too much for granted, it was a wonderful surprise. As one of the founders of the Citizens Electoral Council 23 years ago, I discovered that there are many aspects of Vernadsky's life that I can relate to, very personally.

Beginnings: Soil Science and Geological History

Vernadsky was born in 1863 in St. Petersburg. His father, Ivan, was a prominent intellectual and professor of political economy, author of the first economics textbook for Russia, who had started his academic career by winning a gold medal for his thesis on Platonic philosophy. His mother, as I mentioned, was a music teacher and singer in a famous choir. Both were Ukrainian.

Young Vernadsky was an avid reader and seeker after knowledge. Starting at the age of just 13, and over the course of his life, in order to understand original concepts and histories, he taught himself over fifteen different languages. While a teenager, Vernadsky read some of the most important books by 19th-century scientists, often in the original languages. In that way he perfected his knowledge in foreign languages, and familiarised himself with the most advanced scientific thought.

Vernadsky also happens to have shared something with Marie Curie: the death of a sibling at an early age. His older half-brother, Nikolai Vernadsky, died of TB when Vladimir was 11 years old. I mention this not as a so-called human interest story, but because Vladimir Vernadsky himself said that this experience was related to his consciousness of the workings of the human mind. He wrote, later on, about how his way of dealing with this terrible grief made a life-long impact on his self-awareness of his own mental processes. As a child, he deliberately schooled himself not to have images of close relatives within his mind, because it was too painful for him to picture his beloved brother, whom he had looked up to and adored. According to associates of Vernadsky, towards the very end of his life, when he was taking the entirety of the Universe into his mind, he was able to restore this "imaging" of other people. No doubt the effort of looking over his shoulder into his own mental processes was an important one for this future developer of the concept of the noösphere—the superior realm of human cognition.

Anna and Ivan Vernadsky, the scientist's parents. Vladimir Vernadsky was 11 when his brother Nikolai (above right) died of TB.

As part of his preparation to enter St. Petersburg University, Vernadsky decided to perfect his German by reading two of Alexander von Humboldt's works, the *Cosmos* and *Pictures of Nature*. Humboldt was a leading intellectual figure of the early 19th century, and a person who sustained a colossal capacity for intense and prolonged intellectual work over his lifetime. Vernadsky became a universal natural scientist in the sense of Humboldt and Humboldt's *Cosmos*.

Vernadsky studied under great scientists: (left to right) Dmitri Mendeleyev, Aleksandr Butlerov, V.V. Dokuchayev.

Studies with Dokuchayev

At university, Vernadsky studied chemistry, crystallography, mineralogy, and other natural sciences. He had the opportunity to study under some of the greatest scientists at that time, among them the chemist and inventor of the periodic table, Dmitri Mendeleyev; the chemist and pioneer of modern structural chemistry Aleksandr Butlerov; and also the mineralogist Vasili Dokuchayev, regarded as the father of pedology, or the study of soils in their natural setting. Dokuchayev developed soil science in Russia, and was perhaps the first person to make wide geographical investigations of different soil types. His great contribution to science was, literally, to "put soils on the map". Dokuchayev was Vernadsky's university mentor for many years. (Given my background in developing poor soils in the Hervey Bay region before establishing the CEC, this is another area of real interest.)

Remember, Vernadsky was growing up and receiving his education during the worldwide scientific and industrial upsurge after the American Civil War, in which upsurge Russia was closely involved—because of Tsar Alexander II's alliance with Lincoln, and because of the role of Mendeleyev as a universal scientific mind, and—together with Count Sergei Witte—a proponent of the American system and vehement foe of British free trade looting doctrines. The serfs had been emancipated in 1861, but with burdensome conditionalities. There was a continuing backlash against Tsar Alexander's reforms from Russia's landed aristocracy (they ultimately assassinated him in 1881), an aristocracy constituted out of big families who also were historically intertwined with the British interests that were fundamentally hostile to Russia's development as an industrial nation. All the work on soil science by Dokuchayev, and by Mendeleyev himself, was related to the burning political question of what Russia's agricultural production was going to look like. Indeed, one of Mendeleyev's major goals on his trip to America for the 1876 Philadelphia Exhibition had been to gather knowledge about American research and experimentation on soils.

Reflecting on his student days under Dokuchayev, Vernadsky recalled in 1935: "While reading mineralogy at the University of St. Petersburg, I began on a path at that time unaccustomed. This was in connection with the work and contact during my student years and immediately afterward (1883-97) with the great Russian scientist V.V. Dokuchayev. He first turned my attention to *the dynamic side of mineralogy, the study of minerals through time*. ... This defined the whole course of my teaching and study of mineralogy and was reflected in my thought and the scientific work of students and colleagues." This concept of looking at geological processes through time was a crucial beginning for Vernadsky's work, as most geology at that time was only concerned with categorising minerals.

Vernadsky participated in many geological field trips under Dokuchayev, for example to the Poltava Region in Ukraine, where you have some of the richest soils on the planet: the famous Black Earth belt. Vernadsky was interested in more than just documenting the types of minerals they found: he always questioned the genesis of the minerals.

In 1886, whilst completing his university studies, he married Natalya Staritskaya—a marriage that lasted until her death

Natalya Vernadskaya (née Staritskaya) and Vladimir Vernadsky were married for 56 years.

in 1943—over 56 years. Through this long marriage, we have come to understand a lot about Vernadsky's thoughts, as he wrote frequently to his wife when away for long periods of time. After completing his university studies in 1888, Vernadsky made the first of his many travels to France, Germany and other European countries, establishing a host of intellectual contacts.

Vernadsky's son George Vernadsky, historian of Russia.

As I mentioned, Vernadsky was an intensely political person, devoted to universal education and to scientific progress for Russia, Ukraine and all nations. He was involved in the political ferment at the turn of the 20th century, and became a leading figure in the Constitutional Democratic Party. Vernadsky served on the Russian State Council in 1906-11, when Peter Stolypin was Prime Minister, and for a brief time between the February and October revolutions of 1917 he was Assistant Minister of Education in charge of all universities.

Earlier, in the 1890s, he had been involved in local government in the Tambov Region, where he had inherited a 1450-acre family property, and had taken a lead in organising famine relief during one of the deepest food crises of 19th-century Russia. Vernadsky worked on issues of educating the rural population and developing the country's intellectual culture, writing to his wife in 1893: "I am deeply convinced and become ever more convinced that the sole possibility of making culture durable is to raise the level of the masses, to make culture a necessity for them." In 1894, again writing to Natalya: "Woe to that country where knowledge is poorly developed, where it has barely penetrated the working masses."

The "Organic World"

In 1906, Vernadsky's inquiries into the role of life on our planet, the impact of life on non-living, or "inert" things such as the rocks looked at in mineralogy, began to come into focus in an explicit way. Those inquiries were rooted in his study of soils with Dokuchayev.

Writing in his diary in September 1906, Vernadsky set forth this question: "What significance has the entire organic world, taken as a whole, in the general scheme of chemical reactions of the Earth? Has the character of its influence changed in the course of all geological history, and in what directions?" Vernadsky wondered whether organisms inevitably played a role in all geochemical cycles, and asked himself what that role was.

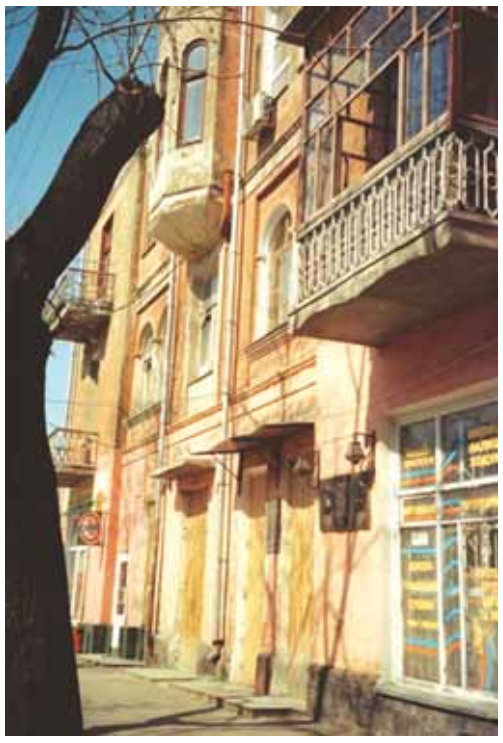
In 1908 he wrote to his son George Vernadsky, who was studying history at Moscow University: "My thought is occupied with a new area which I am embracing—about the quantity of living matter and the interrelationship between living and inert matter. With some awe and lack of understanding, I am all the same entering this new area, since it seems that I see some sides of a problem which until now no one has seen. I am succeeding here in approaching new phenomena."

Thus 1906 was a turning point at which Vernadsky turned his geologist's mind, trained to think in terms of masses, strata, and formations of matter, onto biological phenomena. He began to think about *all life,* almost as if it were a geological stratum formed from what he called "living matter"—a type of matter that was highly chemically active and different in many respects from non-living matter. Later on, he would term the layer occupied by such matter not exactly a "stratum", but "an envelope of the Earth"—the biosphere.

Here was the beginning of the ideas which, 15 to 20 years later, Vernadsky would pose dramatically in his Sorbonne lectures and in his book, *The Biosphere*. In those works, Vernadsky asked how much living matter exists, as a whole, and what is its role in the cycles of various chemical elements. He developed a rigorous scientific framework within which to characterise the biosphere. He used the concept of "natural bodies", saying that: "It is possible to distinguish between three types of natural bodies within the biosphere: Living bodies (for example, a plant, a beetle, a cow, etc.), inert bodies (for example, rock, quartz etc.), and bio-inert bodies (such as soil, lake water, rocks, and so forth). The biosphere consists of sharply bounded domains, formed by living, inert and bio-inert bodies—waters, living matter, rocks, air and so forth."

The new concept of a "bio-inert" body was developed by Vernadsky to describe bodies that are characteristic of the biosphere. They are structures consisting of inert and living bodies simultaneously (for example, soils or lake water), including matter that is now inert but was created, shaped, or put where it is, by living processes. Such zones cannot simply be treated as inert matter, as their physical and chemical properties are determined by both living and inert processes.

In defining the biosphere, rather than getting preoccupied in philosophical or religious discussions about the nature of, and debate on "life", Vernadsky posed the question, "What does life do?" He was one of the first scientists to ask what role "living matter" plays in geochemical cycles, and how living matter and inert matter differ.



A LaRouche movement delegation to Ukraine in 2009 saw the hotel (above) where Dokuchayev and Vernadsky stayed during their research visit to Kremenchug, Poltava Region in the 1880s and 1890—one of the few buildings in that city that survived the Nazi invasion during World War II. The plaque (below) commemorates Vernadsky's visits.

The Biosphere: Cosmic Origins and the Biogenic Migration of Atoms

From the outset of his development of the biosphere concept, Vernadsky was exploring not merely rocks on Earth, but the cosmic origin of the Earth and its characteristic features, especially the biosphere. The very first paragraph of his book *The Biosphere* outlines how he thought about this: "The face of the Earth viewed from celestial space presents a unique appearance, different from all other heavenly bodies. The surface that separates the planet from the cosmic medium is the biosphere, visible principally because of the light from the Sun, although it receives an infinite number of other radiations from space, of which only a small fraction are visible to us. We hardly realise the variety and importance of these rays, which cover a huge range of wavelengths. Our understanding is full of gaps, but improved detectors are rapidly expanding our knowledge of their existence and variety. Certainly they make the empty cosmic regions different from the ideal space of geometry!"

Our Earth is intimately tied to the farthest reaches of the Cosmos by virtue of the radiations that come from those far out regions. And our biosphere has developed from those radiations. Vernadsky elaborated: "The biosphere may be regarded as a region of transformers that convert cosmic radiations into active energy into electrical, chemical, mechanical, thermal and other forms. Radiations from distant stars enter the biosphere, but we catch and perceive only an insignificant part of the total; this comes almost exclusively from the Sun. [And of that we receive only one half billionth of the total solar output.] The existence of radiation originating in the most distant regions of the cosmos cannot be doubted. Stars and nebulae are constantly emitting specific radiations, and everything suggests that the penetrating radiation discovered in the upper regions of the atmosphere … originates beyond the limits of the solar system, perhaps in the Milky Way, in nebulae, or in stars [of a certain variable type]…."

Layers of soil and other surface formations down to considerable depths, seen in this soil profile, are the product of living processes.

As Vernadsky then stated: "It is living matter—the Earth's sum total of living organisms—that transforms the radiant energy of the Sun into active chemical energy of the biosphere. Living matter creates innumerable new chemical compounds by photosynthesis, and extends the biosphere at incredible speed as a thick layer of new molecular systems."

He went on to document the activity of life, that is living organisms, including the activity of microorganisms like bacteria, that of plants through photosynthesis, and then the activity of higher forms of animals. All have acted for *millions,* if not *billions* of years to transform that biosphere. Living organisms absorb and digest material (both living and inert) and solar radiation from the surrounding environment, integrate those transformed substances into their own bodies, and excrete material outside. When an organism dies, the organic material is deposited again in the environment, often in a changed location, with different combinations and concentrations of chemical elements.

What we see with all living organisms is what Vernadsky called the "biogenic migration" of atoms—the transfer of inert material and energy into a living body, where it is transformed and functions for some period of time, and then is excreted or left behind as a different product. The rate at which this happens within the biosphere is also called the "biogenic flux".

The vast deposits of minerals on the Earth today, but also the chemical composition of the Earth's atmosphere, its oceans, its soils and surface formation down to a considerable depth, resulted from living processes. As Vernadsky concluded, the biosphere, including its present system of weather and climate, is thus a natural product of the processes of living matter, or the principle of life.

Life Overturns Newton

The long term of upward biological evolution towards more and more complex organisms, as outlined in Vernadsky's work, proves the Newtonian mechanistic entropic Universe to be a complete fraud. In the Leibniz-Clarke correspondence you would have noted that Leibniz, in his very first letter, exposes the fraud later called the First and Second Laws of Thermodynamics **(page 36)**. To refresh your memory, Leibniz says of Newton that "Sir Isaac Newton and his followers have also a very odd opinion concerning the work of God. According to their doctrine, God almighty wants [i.e., needs] to wind up his watch from time to time; otherwise it would cease to move."

Our Earth is tied to the most remote regions of the Cosmos by radiation originating there.

The principle of life, which is the *sufficient reason* governing our biosphere, manifested in the totality of living matter, defies the Second Law of Thermodynamics, that is, the insistence that there must be increasing disorder of the system from a loss of overall energy. Vernadsky himself states this explicitly, in his *Essays on Geochemistry,* in a passage on what he calls "the growth of active geological energy and the complete change of the biosphere", occurring with the development of new species: "Clausius's entropy does not really exist; it is not a fact of being, but a mathematical expression, useful and necessary when it allows the expression of natural phenomena in mathematical language. … The deviation [from the so-called laws of entropy] by such an essential phenomenon as living matter and its influence upon the biosphere shows that life does not stay within the premises for which entropy is stated."

When looking at the vast expanse of biological evolution, what we see is that the total aggregate of "free energy" of living matter in the biosphere—a measure of its power to do work in transforming the environment—has been constantly increasing, starting with a small molecule, chlorophyll. Vernadsky says:

"All living matter can be regarded as a single entity in the mechanism of the biosphere, but only one part of life, green vegetation, the carrier of chlorophyll, makes direct use of solar radiation. Through photosynthesis, chlorophyll makes direct use of solar radiation. Through photosynthesis, chlorophyll produces chemical compounds that, following the death of the organism of which they are a part, are unstable in the biosphere's thermodynamic field.

"The whole living world is connected to this green part of life by a direct and unbreakable link. The matter of animals and plants that do not contain chlorophyll has developed from the chemical compounds produced by green life....

"Animals and fungi accumulate nitrogen-rich substances which, as centres of chemical free energy, become even more powerful agents of change. Their energy is also released through decomposition when, after death, they leave the thermodynamic field in which they are stable [inside their bodies], and enter the thermodynamic field of the biosphere.

"Living matter as a whole—the totality of living organisms—is therefore a unique system, which accumulates chemical free energy in the biosphere by the transformation of solar radiation."

Now we'll look at a presentation of this history of life on our planet, published by LPAC-TV and including more of this discussion by Vernadsky in the *Essays on Geochemistry.*

Chlorophyll and the Infrastructure of Life

This section is excerpted from the narration of a video titled "Chlorophyll and the Infrastructure of Life", issued by LaRouche PAC in September 2010.

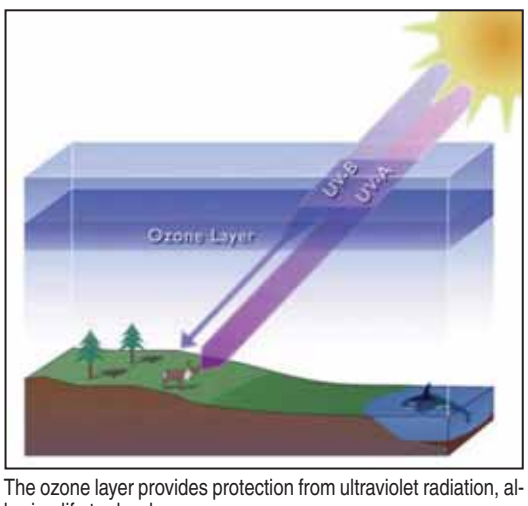
People who say that space is empty are more likely speaking about the inside of their own heads, than about our Universe. Despite what most of us believe about the world we live in, our Earth is not sitting out there in an empty ocean of space. We are, as Vernadsky foretold decades ago, situated in a cosmic medium, a medium filled with cosmic radiation.

When we think about the future of mankind, we come face to face with the problem of cosmic radiation, in the mission to land a man on Mars and colonise space. As things stand right now, we are confronted with the harsh reality that whoever we would send to Mars, would not have the proper simulated Earth gravitational environment in a space capsule, and therefore wouldn't make it to the planet or back home, at least in any form that is recognisably human, because our astronauts would be travelling through cosmic radiation and other phenomena, without the protection of the Earth's electromagnetic field, gravity, and other things in our environment on Earth that keep us alive.

So, one of the primary challenges before us is creating synthetic environments to transport us to other planets, and for developing the habitat of other planets. This mission will force us to think about the immediate challenge of the kind of needed build-up of infrastructure here on Earth, in a much more developed systematic way, as the challenge of creating synthetic environments suitable for our growth and existence is not a local challenge, but a planetary one. *That* is what we must come to understand as infrastructure.

Now, don't make the mistake of thinking that mankind is the only species that looks at things in this way. It's clear from the history of Earth's biosphere, that we have a common friend in the green plant, which, by aid of photosynthesis, has created its own synthetic environment to sustain life. Looking at the development of our oxygen-rich atmosphere may give us some insight into the real nature of infrastructure.

Model of a chloroplast, which is what makes green plants green. Actual size: 5 micrometres long, 2.5 micrometres thick.



The ozone layer provides protection from ultraviolet radiation, allowing life to develop.

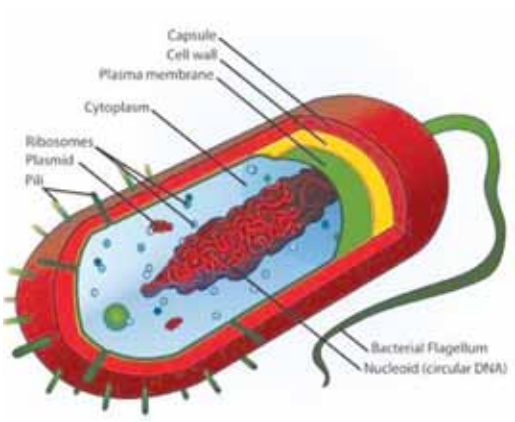
Transformation of the Atmosphere

The atmosphere of the young, primordial Earth would have been very unpleasant for many of the life forms we have today. At one of the earliest periods in the Earth's history, we can recall the atmosphere of Earth consisting mainly of carbon dioxide, methane, ammonia, and water, although other compounds existed. The earliest Earth atmosphere consisted mostly of the mixture of gases that are familiar to us from volcanic activity. Although this created some rough environmental conditions, life emerged and began to develop as soon as it possibly could. The earliest life-forms were single-celled *prokaryotic* organisms that contained everything they needed within that one cell. They had a simple internal structure and got their nutrition directly from their environment.

Soon, in the course of geological time, perhaps even as long ago as 3.5 billion years, organisms developed which were able to obtain their energy directly from the Sun, with the aid of water and carbon dioxide—the phototrophs. These organisms were probably the evolutionary precursors of what we know now as the chloroplast, an organelle found in eukaryotes. This new way of obtaining energy from the Sun produced oxygen gas as its by-product. As the oxygen accumulated in the atmosphere, some of this oxygen was converted to ozone, as a result of the ultraviolet radiation coming from the Sun. This ozone created a protective layer over the crust of the Earth, allowing for the evolution of land creatures and other plant life, giving green plants protection and free rein to flourish and dominate, and create the oxygen-rich atmosphere we breathe and enjoy today, through the process called *photosynthesis*.

Through photosynthesis, green plants transform carbon dioxide and water into free oxygen and carbohydrates. The chlorophyll found in the ocean and in plants is key in this process. It's found in the chloroplasts of green plants and it is what makes green plants, green. In the oceans this occurs through the phytoplankton, tiny single-celled plants that live in the ocean and serve as the base of the oceanic food chain.

In both cases, in plants and in the ocean, the chlorophyll molecule absorbs sunlight, water and carbon dioxide. Luckily for these plants, carbon dioxide is released into the atmosphere by a number of sources, including volcanic eruptions, hot mineral sources, natural gases, and weathering of igneous rocks from solutions of seas and fresh water, to the respiration of plants and animals during their life, and processes related to their decomposition or decay after death. And also, through soils. Carbon dioxide is, quite literally, the life-blood of living processes.



Prokaryotic organisms, the earliest life forms, consisted of a single cell.

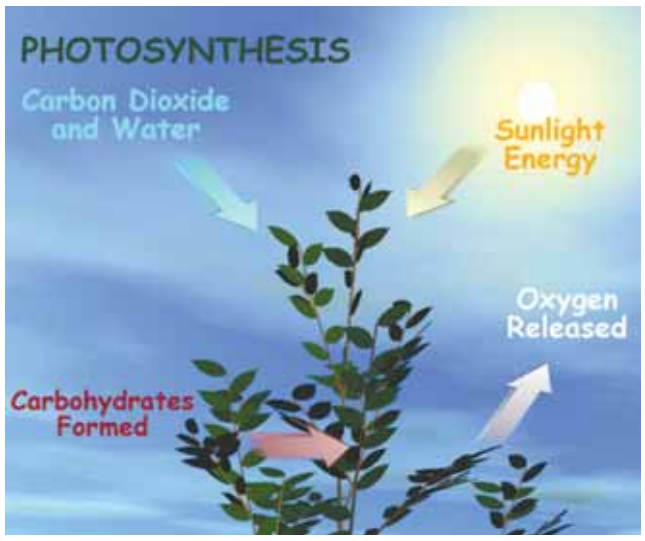
From this abundance of carbon dioxide in the atmosphere and the sunlight absorbed, the chlorophyll chooses the elements it wants for food and energy, turns them into carbohydrates and tasty sugars for its own nourishment and satisfaction, and releases the oxygen from the water as the waste it doesn't need, creating the conditions for the oxygen-rich atmosphere that we have today. This process has created the environment, the infrastructure for life to exist in increasing numbers. It has become known today as the carbon cycle.

The "Carbon Cycle" Is Not a Cycle

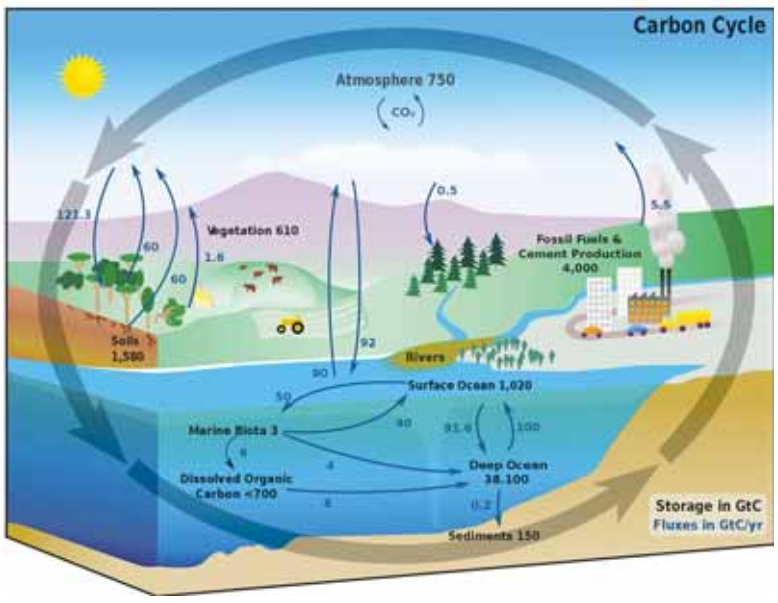
The carbon cycle has not only provided Earth with free oxygen, but has been a primary factor in facilitating the creation of an entire sphere of living activity, the synthetic environment we call the biosphere, through green plants' conversion of cosmic radiation. The biosphere has changed the entire chemical and biological system of the organisation of Earth. It has become a vector according to which non-living materials are transformed. This is what we really mean by *synthetic*. We don't mean *artificial*. We mean materials being brought together, or synthesised, through a fundamental transformation, in order to serve a purpose in life that they would otherwise not serve in the domain of non-life, just like carbon dioxide.

This transformative power expressed by photosynthesis in plants, is expressed in life generally, and in life's ability to incorporate cosmic radiation and non-living materials found in the lithosphere, into functional material for the development and expansion of all life. It expresses the upward evolution of the Earth. Suddenly, we are forced to realise that the idea of a carbon cycle is very misleading, and in fact, it's a fallacy to say that the carbon cycle is merely a cycle at all. And if we are really going to understand the importance of life's role in creating the infrastructure for further life and its effects, we have to re-examine the assumption built into the idea of the monotonous cycle, the Second Law of Thermodynamics. …

In his *Essays On Geochemistry*, Vernadsky showed that photosynthesis in plants is one phenomenon that not only absorbs and uses free energy, but creates it. In this case, the free energy consumed is cosmic radiation—sunlight—and the carbon dioxide that is naturally let out into the atmosphere by volcanoes, natural gases, water vapour and other phenomena. The photosynthesis that occurs in chlorophyll separates the oxygen from those elements, then chooses the carbon dioxide, and combines it with hydrogen from water to create carbohydrates and other compounds for its food, while releasing its waste, the free oxygen, into the atmosphere, an action which cannot even be accomplished through the Sun's solar rays.



Photosynthesis created Earth's oxygen-rich atmosphere out of carbon dioxide and water.



The carbon cycle, diagrammed above, is not a monotonous closed cycle, but expresses the characteristics of the self-developing biosphere.

A New Transformative Power

The chlorophyll acts as a technology of sorts, similar to human technologies like nuclear power plants, which do the work of nuclear fission. The plants use the relatively low-energy-dense solar power as fuel. Think of solar power, along with carbon dioxide and water, as its natural resources. Somehow the chlorophyll is able to accomplish work that solar energy can't, in separating out the oxygen during photosynthesis. It's apparent that a higher form of energy flux density power is applied and, unlike solar power, it has the ability to separate compounds that are bonded in this particular way.

What we end up with is a new transformative power, represented by green plants and life on this planet, with the ability to expand its own activities and transform the activities of the lithosphere through creating a synthetic environment—infrastructure—to push forward its rapid development, expressing an *anti*-entropic effect on the entire planet. What are the effects of this?

Vernadsky says: "Living matter increases the active energy of the Earth's crust in two ways. First, by releasing gases, and, second, as a consequence, creating the terrestrial atmosphere, as its dominant gases such as nitrogen, oxygen and carbon dioxide are biogenic. Due to the fact of these organisms' existence, the quantity of free energy capable of doing work evidently increases towards the end of their life in the surrounding nature, and eventually in the course of geological time.

"The free oxygen produced by green plants, the coal forming from their remains, the organic compounds of their bodies, which nurture animals, and the movements, and chemical and physical manifestations, present new kinds of energy activities that are by no means accompanied by the degradation of the initial solar energy. This energy has passed to form, creating an organism that possesses potential immortality, and which increases and does not decrease the active energy of the initial solar rays. Due to the existence of life, the entropy of the Universe should decrease in biospheric phenomena, and not increase."

(End of LaRouche PAC video excerpt.)

That is, life in the biosphere causes a higher and higher potential state of organisation—there is no Newtonian clock that winds down.

Life, the Most Powerful Geological Force

With this free energy to do work within the biosphere, that is, the overall increase in power, living matter has become the *most powerful geological force.* This is an extremely important idea. The total mass of living matter is far less than the mass of non-living matter in the biosphere: no greater than tenths of a per cent of the biosphere by weight, something like 0.25 per cent of the total. This tiny portion of the whole has a power far exceeding its physical weight. Think ahead to the noösphere: just as the quantitatively smaller living matter within the biosphere governs the non-living matter, we then have in the noösphere the power of human cognition. In that case, you can't even weigh it at all: what is the weight or the mass of a thought? And yet, mind exerts power over both the biosphere and the lithosphere.

The relative size and the relative power of the three phase-spaces is neatly summed up in another video, prepared last month [June] by the Basement for an audience in Ukraine:

"Vernadsky takes Riemann's ideas to an even higher level, establishing a Universe capable of containing within itself the three distinct phase-spaces of the abiotic, the biotic, and the cognitive. With respect to the interaction of these three phase spaces, Vernadsky shows that life is an organising force for the non-living. Despite being a relatively 'weak force', the slow activity of life over millennia has a greater geological effect than any ostensibly abiotic phenomenon. Although a single bacterium would probably lose, in any immediate conflict with a mountain, the bacteria have had the more significant lasting effect upon mountains, than vice versa. In the same way, although a single, unarmed, average human probably wouldn't survive a conflict with a large bear, it is the humans—and not the bears—that have the potential to organise all life on the planet, shaping forests and landscapes, while training bears to ice skate.

"These studies culminate in Lyndon LaRouche's concept of physical economy, the science of how mankind organises the Universe as co-creator. This includes our present work on the history of the development of Earth's biosphere, and its relationship to cosmic processes. Vernadsky understood this development as a process which mankind must revolutionise with its own economic activity, subsuming the biosphere, in all of its cosmic extent, within the noösphere."

A majority of the matter in the biosphere, within the Earth's crust and the oceans, is a product of life, over billions of years of constant interaction between living processes and cosmic radiation—mainly from the Sun. The Earth's crust, its oceans, and the atmosphere are products of the biogenic migration of atoms from the inert part of the biosphere, into living bodies, and then being exhaled or excreted or left as small fossils. For example, the chalk of the White Cliffs

of Dover, or iron ore deposits in the Earth's crust, are non-living now, but are products of life.

This fraction of living matter has always been relatively tiny, throughout geological time, and its directed evolutionary development, creating ever-increasing amounts of free energy, is unique to living organisms. It is not found in the non-living domain, also called the inert domain. This difference creates an *absolute* material-energetic distinction between living and non-living processes.

Throughout the geological history of the Earth, the processes of the non-living or inert matter in the biosphere have remained the same, for billions of years, except when acted upon by living matter. Under the actions of living processes, that is, through the unique property of the multiplication of living matter, the "envelope" of the Earth that is populated by living organisms—the biosphere—has been constantly expanding, extending it upwards into the atmosphere, into the depths of the oceans and ever deeper into the Earth's crust (about three kilometres).

The White Cliffs of Dover (above) and iron ore deposits (right) are products of life.

Life's Colonisation

That process of expansion of the biosphere occurs through the "colonisation" of new regions, formerly not inhabited by living organisms, in the course of which ever more of the non-living matter and energy of the Earth's crust and atmosphere is transformed and caught up into biogeochemical cycles connected with the metabolic and related activity of living organisms—what Vernadsky called the "biogenic flux of matter and energy in the biosphere".

Vernadsky stated that life covers land in an almost uninterrupted film, extending some tens of metres above the surface in forested areas. The physical geography of the land areas can determine the types of life that are possible, but there are no permanently sterile areas anywhere on the surface of the Earth.

When considering water bodies; oceans, lakes, rivers, and underground water, Vernadsky used the term "living concentrations" when referring to living matter within those aqueous bodies, because they are quite distinct biochemically and biologically, and are different in their geological effect. Nonetheless, life in these bodies displays motion, the same as life on land.

In his work *The Biosphere*, Vernadsky sought to quantify certain aspects of the behaviour of living processes. One of these delightful concepts is the "speed of transmission and multiplication of life". He said that extensive films, formed by bacteria, are constantly observed in the biosphere, and there is enormous biogeochemical energy associated with these forms of life. Giving a sense of the power of the biochemical energy involved, and the potential for life to utilise it, he stated: "If the temperature of the universal sea had been favourable, and there had been no obstacles to multiplication, spherical bacteria (each 10^{-12} cubic centimetres in volume [0.000000000001]) would have formed a continuous skin over the Earth's approximately 510,000,000 square kilometres in less than 36 hours."

From the discussion above, we have the idea that upward evolutionary development, leading to a continual increase in the free energy of living processes in the biosphere, is unique to living processes and represents a fundamental material-energetic break with the domain of the non-living.

At the end of the first Part of *The Biosphere*, Vernadsky left a wonderful summary of the principle of life that caused the editors of the 1999 English edition to write extensive footnotes to try and "hose down" what he had laid out, in his non-reductionist method: "The appearance and formation of living matter on our planet is clearly a phenomenon of cosmic character. It is also very clear that living matter becomes manifest without abiogenesis [life coming from non-life]. In other words, living organism has always sprung from living organism during the whole of geological history; they are all genetically connected; and nowhere can solar radiation be converted into chemical energy independent of a prior living organism."

States of Space

What Vernadsky captured in his book *The Biosphere*, which, as I mentioned, came out in Russian in 1926 and in French in 1929, was the detailed record of his research up until that point. The work Vernadsky did over the rest of his life, from what most people consider the "retirement" age of 65 until his death in 1945 at the age of 81, represented his most profound contributions to science. Pursuing his creative breakthroughs under the pressures of the devastating political purges in the Soviet Union of the 1930s and then during World War II, and all the time continuing to provide crucial leadership within the Soviet Academy of Sciences and various urgent national programs, Vernadsky only opened the book, so to speak, on some of the major questions he grappled with, and he died before he could settle a number of the questions he raised.

This period started when he met and worked with Marie Curie in France in 1924.

The key area of Vernadsky's scientific investigation was investigating the structure of real (physical) space and time. These were burning issues for all scientists, in the era of Einstein's breakthroughs and Planck's work, as we have seen. Vernadsky believed that here the key would be found to that question about the qualitative distinction of life, of living matter, which had captured his attention in his studies of geochemistry and the biosphere. When Vernadsky met and worked with Marie Curie, she was able to elaborate for him the nature of Pierre Curie's final, incomplete work.

Vernadsky recorded in an unfinished late work, "She thinks that this notion [of the states of space] contained the synthesis of his [Pierre's] thought." She reported to Vernadsky that Pierre Curie had challenged the reductionist view of empty space, putting forward the idea that there is a real structure to space, which may not be everywhere the same. Throughout the rest of his life, Vernadsky credited the notion of a "state of space" to Pierre Curie.

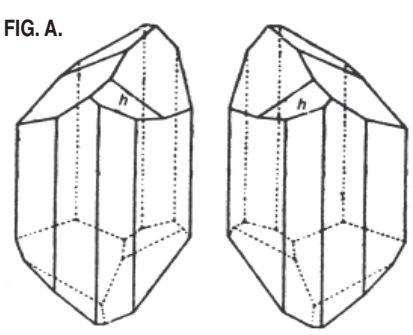
Pierre Curie's Inspiration

In draft lecture fragments from the 1920-27 period, discussing "the principle of symmetry", Vernadsky said about Pierre: "The principle of symmetry has encompassed, and is encompassing, ever more new domains in the 20th century. From the domain of matter, it penetrated into the domain of energy; from the domain of crystallography and solid state physics, it entered the domain of chemistry, the domain of molecular processes, and the physics of the atom. There is no doubt that we shall find its manifestations in the world of the electron, which is even more remote from the complexes surrounding us, and that quantum phenomena will be subordinated to it. Undoubtedly, phenomena of life and the universal Cosmos are encompassed by it.

"More than forty years ago, Pierre Curie, in his unfinished works that were interrupted by his death and by the discovery of radium, was the first to point out that the principle of symmetry is fundamental for all physical phenomena. It is just as necessary for understanding them, as extension is. In other words, it has just the same significance for physical space, as dimension does for geometric space. Symmetry determines the physical state of space.

"I must pause here to emphasize the often forgotten significance of the individual. The untimely death of Curie, at the height of his powers, brought to a halt the work of thought in this area for decades.

"Curie grasped the significance of symmetry in physical phenomena, when people were unaware of a connection between symmetry and the facts of physics. He pointed it out, where others didn't see it. After 1906, the year of Curie's death, there opened up before us an enormous new domain of facts, regulated by symmetry, but there was no mind around which would have pointed out, or even wanted to point out, the general significance of this phenomenon, and would have drawn from those facts the inevitable scientific, and then philosophical, conclusions. It would have been otherwise, had Curie been alive in those years, because the new facts were a brilliant confirmation of his vision… [Ellipsis in original.]



Pierre and Marie Curie (l.) inspired Vernadsky. In the 1920s Madame Curie informed him of her late husband's investigation of states of physical space, which had flowed from Louis Pasteur's (r.) work on left- and right-handedness in crystals **(Fig. A).**

"In the scientific domain, thanks to Curie, it could have been expected and anticipated that the principle of symmetry would enter into the explanation of what was happening."

Symmetry and Chirality

What Pierre Curie had been developing as an idea of fundamentally different "states of space" was directly related to the difference between inert processes and living ones, already discovered by Louis Pasteur in the form of chirality, or "handedness". Following Curie, Vernadsky proposed that the differences between living and inert natural bodies, with respect to their *symmetry* and *chirality,* could happen because the space they occupied was in different "states". Both Pierre Curie and Vernadsky saw this notion of "states of space" as a fundamental principle.

Vernadsky writes: "Symmetry is not an abstract notion that is deductively derived, as scientists often think. It is the result of an empirical generalisation that has been worked out (at first unconsciously) over centuries.... Symmetry characterises the different *states of space* of the natural bodies and the phenomena of our planet."

Therefore, the examination of the different properties of symmetry is an examination of different states of space.

Pasteur already had discovered the *dissymmetry* in the crystals of tartaric acid as the result of the actions of living processes. Noelene [Isherwood] went through this yesterday, but, to recap: In 1848, Louis Pasteur succeeded in separating the left- and right-handed forms of tartaric acid crystals **(Fig A)**. He then dissolved them in water, and examined the two solutions in a polariscope. He found that one solution turned a plane of polarised light to the left, and the other to the right. He then collected the crystals of tartaric acid that remained after the process of fermentation with yeasts. He was able to show that only the left-handed form of the tartaric acid is left from the fermentation process, while a type of tartaric acid with equal quantities of left- and right-handed forms (racemic acid) arises in laboratory synthesis of the compound without the involvement of a living process. Obviously, as there are equal amounts of both forms of tartaric acid in the racemic acid, the plane of polarised light was not shifted.

The left- and right-handed crystals are impossible to differentiate chemically. If you took two solutions of tartaric acid—one with the left-handed form, and the other with the right-handed form—and ran every chemical test imaginable, they would both test the same.

The yeast, a living organism, appeared to have utilised the right-handed form of tartaric acid, leaving only the left-handed form behind. Thus we observe *dissymmetry*, arising from the action of the living yeast. Only one of the two possible forms of these crystals is present.

Laboratory-made tartaric acid, however, which does not involve living matter, has equal quantities of left- and right-handed tartaric crystals, a state of affairs showing the characteristic *symmetry* of inert chemical processes. This *dissymmetry* of organic products is typical of protoplasm, and within all kinds of living matter.

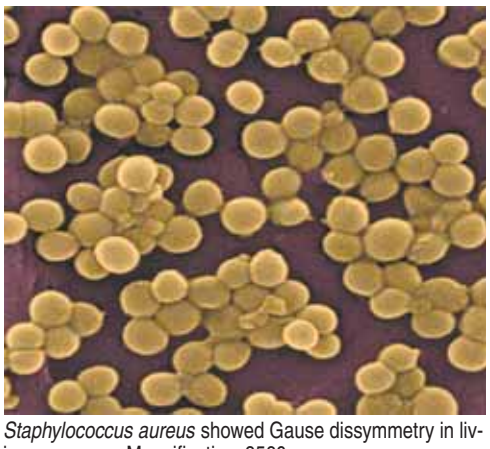
This fundamental property of dissymmetry in living processes was confirmed in the 1930s by a young Russian biologist, Georgii Gause, who was part of Vernadsky's school at that time. Gause survived various political and scientific attacks on his work by making a career move into the military, where his abilities were in demand. Gause, while working with a strain of *Bacillus brevis*, noticed that it inhibited the growth of *Staphylococcus aureus* when the two were in a mixed culture. *Staph. aureus* is a nasty bug that is common in hospital infections.

The *B. brevis* produced a metabolite—a short string of amino acids, which was isolated by Gause, within which he determined that just one of the amino acids (phenylalanine) was not the left-handed form but the right-handed form. Gause named this the antibiotic Gramacidin S, as it had the effect of weakening the cell walls of the *Staph. aureus*, and destroying it. When Gause switched that amino acid back to the other-handed form, it had no effect on the *Staph. aureus.*

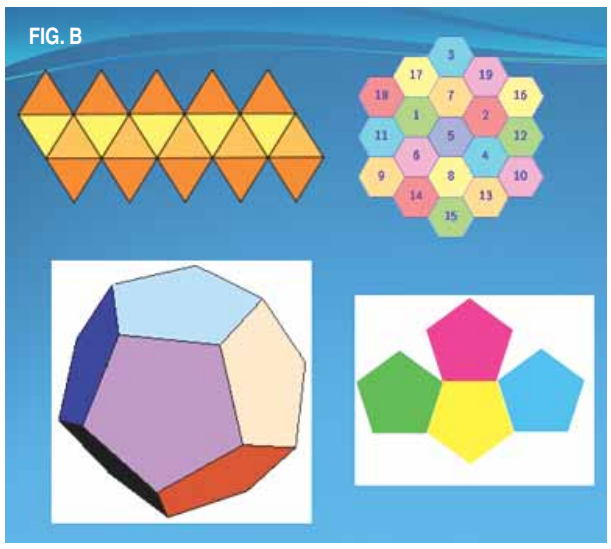
There are many other substances that, when they enter living bodies, exhibit different characteristics, depending on the handedness of the molecules: aspartame is known to us as an artificial sweetener, in one form, but in the other form it is bitter; the chemical compound in caraway seeds gives us one flavour, but the other form gives us spearmint; limonene is the compound that gives lemons and citrus that unique flavour, but the other form gives us a terpenoid, which smells like turpentine. There are various drugs, with which the different handed forms of the same chemical, create useful medicines. *Darvone*, for example, is a an opiate pain-killer, but its other form will cure your cough.

In all living organisms, proteins,

Russian biologist Georgii Gause



Staphylococcus aureus showed Gause dissymmetry in living processes. Magnification: 9560x.



which are large compounds made up of amino acid molecules, only use the left-handed amino acids. Whereas DNA and RNA, the so-called genetic material inside cells, contains only right-handed sugars—especially the right-handed form of the sugar ribose.

It's important to grasp the pattern here: in *non-living* processes the left- and right-handed forms of a given chemical compound behave identically and appear in roughly equal numbers. In *living* processes they differ in their chemical behaviour and effects, and sometimes are found in different proportions, with a great preponderance of one of the forms.

Further exploring questions of *symmetry* and *dissymmetry* as they occur in non-living and living matter, Vernadsky wrote about questions of geometry that go back to the Pythagoreans and Plato. You are familiar with some of them, if you've ever done a pedagogical exercise on constructing the Platonic regular solids. Which regular polyhedra can be constructed? You can investigate which types of faces of those polyhedra, if you lay them flat on a plane, can meet together around a shared vertex point with no gaps, and which ones cannot **(Fig. B)**. Which regular polyhedra can be "close-packed," that is, packed together with no gaps, and which cannot? Take the dodecahedron, the Platonic solid with 12 pentagonal faces. It cannot be close-packed. And, dodecahedral forms do not occur in non-living crystals. But they do appear in the living world. Vernadsky pointed out that in the living world one can see 5-, 7-, 8-, 9- and 12-fold axes of symmetry, such as are not to be found in crystals **(Fig. C)**.

Life's Characteristic Properties

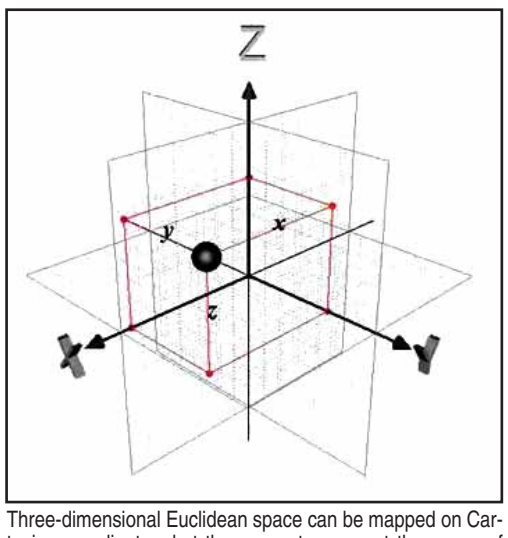
In Vernadsky's crucial 1938 essay, "Problems of Biogeochemistry II: On the Fundamental Material-Energetic Distinction Between Living and Non-Living Natural Bodies of the Biosphere", which appeared in English in *21st Century Science & Technology* in the Winter 2000-2001 issue, you can see a table he drew up, showing other properties that are characteristic of living matter: dispersiveness, stability, and curvilinearity.

Dispersiveness manifests in the sharp separateness of the living organism from its environment. An organism is a body sharply separated from its environment.

Stability refers to the constancy of the form in which a living being exists. For example, birds have always had two wings. They don't all of a sudden grow an extra one. Stable forms of organisms have been observed for hundreds of millions of years. This is not the case with inert structures or processes of inert matter, such as erosion.

Curvilinearity: A living organism is always separated from its environment by curved surfaces **(Fig. D)**. This idea can be amplified by the fact that in mechanical (inert, non-living) structures, curvature is only found in flexible structures as a result of bending. By contrast, living natural bodies "have not been bent into their peculiar curvature, they have grown into it."[1]

Vernadsky proposed that these differences are intrinsic to the space in which these bodies exist. Looking at the identical chemical properties and equal distribution of left-handed and right-handed crystals of non-living matter, Vernadsky wrote: "It follows that the identity of left-handedness and right-handedness is a geometrical property of the three-dimensional Euclidean Space." That is, he said that the symmetry exhibited in non-living matter, wherein both handed forms occur in equal numbers and behave identically, could be accounted for in three-dimensional Euclidean space, through symmetrical constructions using lines and points.



Three-dimensional Euclidean space can be mapped on Cartesian coordinates, but they cannot represent the space of living processes.

With living matter, however, you have something different. Vernadsky concluded: "The absence of this equivalence [of the manifestation of right-handedness and left-handedness], and the pronounced manifestation of left-handedness in the material substrate of living matter and of right-handedness in its functions, indicate that the space occupied by living matter may not correspond to Euclidean geometry".

Vernadsky pursued the question of whether the sharp distinction between the characteristics and the behaviour of living and non-living bodies meant that they occupied different "states of space". He rejected the idea that living bodies could be regarded as existing in Euclidean space. Indeed, in draft essays and public speeches, Vernadsky said the same thing about empty, three-dimensional Euclidean space as he said about Clausius' s "entropy": it doesn't exist!

In his 1931 lecture to the Academy of Sciences, "Problems of Time in Contemporary Science", Vernadsky emphasised: "The space of the geometry of Newton's time inevitably is isotropic [time is the same in all directions] and homogeneous. It corresponds to an absolute void. Such an absolute space, the space of ancient three-dimensional geometry [Euclidean]—empty, homogenous, and isotropic—is not encountered, in reality, by the investigator of nature."

And, from a 1927 written fragment, titled "At the frontier of science. The space of the natural sciences and the space of philosophy and mathematics": "One of the most fundamental distinctions in our thinking—that of naturalists, on the one hand, and of mathematicians, on the other—is the character of space. For the mathematician, unless he specifies differently, space is without structure. It is characterised by dimensions alone. For the naturalist—whether he says so or not, whether he is even aware of it or not—empty, unfilled space does not exist. He always conceives of real space, and deals only with it."

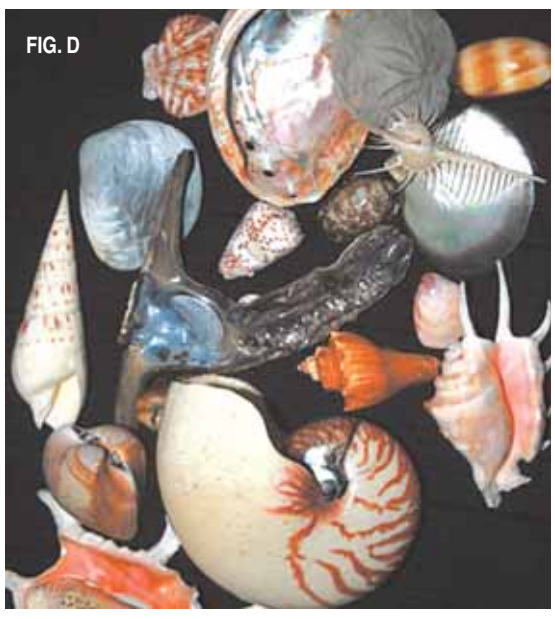
The Space of Living Matter

Vernadsky conducted a survey of mathematician members of the Academy of Sciences, demanding to know: Is there anything you can tell me from geometry, which would account for a space that would allow for the characteristics manifested by living matter? In the 1938 essay "Problems of Biogeochemistry II: On the Fundamental Material-Energetic Distinction Between Living and Non-Living Natural Bodies of the Biosphere", citing his correspondence with the mathematicians N.N. Luzin and S.P. Finikov, Vernadsky included hints about "one of the geometries of the Riemannian type", which might be relevant, and called on geometers to take up this problem. From the final section of that essay:

"[M]athematical thinking grows and discovers its new domains, when scientific thought or the life around us confronts it with new problems. The geometric character of the space occupied by the living matter of the biosphere is such a new problem. Characteristic of that space are polar vectors (i.e., the absence both of a centre of symmetry and of complex symmetry); the non-equivalence of right- and left-handedness…; the marked chemical non-identity of right- and left-handed phenomena and compounds, and of atomic structures (molecules and monocrystals). Characteristic is the conspicuous absence, in living organisms, of plane surfaces and straight lines; the symmetry of living organisms is distinguished by the curved lines and curved surfaces, characteristic of Riemannian geometries. One more identifying mark, which is usual for Riemannian geometries, is a finite and closed space, sharply distinguished from its surroundings, and autonomous. This is completely coherent with the character of aloofness of living organisms in the biosphere, their autarchy."

Vernadsky further developed these ideas in what was to have been an article called "Problems of Biogeochemistry III", which were preserved as manuscript fragments under the title "On the States of Physical Space". There, Vernadsky wrote about the space occupied by living matter: "This space cannot be Euclidian, if only because it lacks the equivalence between right-handedness and left-handedness that is inevitable for Euclidean three-dimensional space. We may try to detect the geometric properties of this space. The following properties of Riemannian space suggest that it will correspond to one or several of the states of this space. Firstly, the fact that an infinite number of Riemannian spaces can exist. Secondly, that any Riemannian space is as if closed, but appears to be unbounded. In three-dimensional Euclidean space, it will appear as a sphere. Thus, it has no straight lines nor plane surfaces, but only curved lines and curved surfaces can exist."

Vernadsky stated what he called the Curie principle, named after Pierre because of the latter's investigation of dissymmetry as a pervasive and fundamental principle. The Curie principle says: *Dissymmetrical effects (phenomena) can be brought about only by a dissymmetrical cause.* This precisely parallels the Redi Principle, named after Francesco Redi (1626-1697), which Vernadsky constantly emphasised, and which states that there is no abiogenesis, that *Life can only come from life.* Vernadsky realised that if space is an intelligible reality, governed everywhere by physical principles and the principle of sufficient reason, then causes and their effects *must reside in the same state of space*, that is, they must be embraced by a *certain state of space* (Curie's term). Not only does the Curie principle echo the Redi principle, but also Vernadsky closely linked together what they apply to, developing the idea that dissymmetry and life were intertwined.



Vernadsky's Time

Vernadsky understood that "space" could not be separated from "time", and that the characteristics of "time" were also different for living and non-living processes.

Vernadsky drew conclusions from his biogeochemical experience, that the processes producing inert natural bodies would show cyclical, reversible, undirected character in the absence of living matter: "The same minerals and rocks have been coming into being since the Cryptozoic [Precambrian, 4.6 billion years ago] until nowadays."

The processes in which living bodies are involved (such as aging, the succession from one generation to the next, and evolution) show, to the contrary, their irreversibility. (Some may wish that these processes could be reversed, but, as we know, that is impossible). Therefore Vernadsky concluded that the processes in which inert natural bodies are involved are *reversible*, and those in which living bodies are involved are *irreversible*.

Irreversibility is also called "a polar vector of time", meaning a vector that has a pole at one end, and only goes in one direction, away from that pole. Living matter exhibits this irreversibility or polar vector of time, in that living organisms die. And evolution, too, is an irreversible process, which takes place only among the living natural bodies of the Earth. So, here you have something entirely different from the statistical survival-of-the-fittest, eugenics-driven formulas of Darwin and his minders; rather, Vernadsky demonstrated the self-development of living processes, the special power of life itself. When you look at Vernadsky's discussion of the irreversibility of the development of living bodies over *time* (you can't really live backwards in time like Merlin the Magician in the King Arthur tales), you see that it is comparable to his discussion of the characteristics of the *space* of living matter: for a moment, think of this irreversibility of time as being like spatial "handedness", but for time.

Inert natural bodies like rocks are characterised by cyclical, reversible processes over billions of years, whereas living processes produce successive generations and proceed in only one direction of time (for example, aging).

Indeed, Vernadsky never looked at space and time separately, but rather he used the term "real space-time" to denote the real time and real space studied by the naturalist, though he remained unsatisfied in his search for their mathematical representation.

Whilst Vernadsky left some of these questions unsettled, there also remains the question of the space-time properties of the noösphere, his third and highest phase space. I will take up this question in our conclusion today, but first I want to shift your attention to the freak-out Vernadsky had caused already with his ideas of the living and non-living phase spaces.

1. D'Arcy Thompson, *On Growth and Form* (Cambridge: Cambridge University Press, 1961).

British Genocidalist Cabal Hated and Feared Vernadsky

From what I have said so far, it is obvious why Vernadsky had been all but excised from the history books, until Lyndon LaRouche recognised his fundamental discoveries, beginning back in the 1940s.

As Ann Lawler presented **(page 19)**, Thomas Huxley's prize pupil, H.G. Wells, already in his 1901 book *Anticipations,* raved in favour of an "ethical reconstruction" of the culture of the entire world, with the intent to establish a "world-state", a one-world British imperial dictatorship. This was to be what Friedrich Nietzsche, the Satanist who was a co-thinker of Wells, termed the "revaluation of all values".

Premised on Malthus and Darwin, that revaluation of values has spawned today's Green Fascist dictatorship over most of the world. The work of Vernadsky threatened to discredit the plot, utterly, in its early years. The founders of Green Fascism feared Vernadsky. They tried giving his work the silent treatment. They tried to divert attention onto their own bogus explanations of life processes. Their agents inside the Soviet Union attacked him directly. And today there are massive, ongoing attempts to coopt Vernadsky into the Green movement by lying about what his ideas were.

A quick look at four people who did more than anyone to create Green Fascism will show how these genocidalists reacted against Vernadsky, and the completely unscientific hokum which they laid down as the foundation of today's environmentalism. The four are:

H.G.Wells himself;

Sir Julian Huxley, Wells's friend, a lifelong promoter of eugenics who was the grandson of Darwin's bulldog;

Max Nicholson, another eugenicist, who was permanent private secretary to the Privy Council and, together with Huxley founded both the British Nature Conservancy and the International Union for Conservation of Nature (IUCN) in 1948, and then the World Wildlife Fund in 1961. Nicholson was the acknowledged High Priest of environmentalism in the post-World War II era. Among his other crimes, he helped set up the Australian Conservation Foundation;

Sir Arthur Tansley, a product of Trinity College Cambridge and the Apostles secret society, personal protégé of Bertrand Russell, and a Fabian socialist who led the establishment of "ecology" as a so-called science, and personally invented the concept of "eco-systems". Darwinism gave birth to the so-called science of ecology, and ecology gave birth to environmentalism.

Tansley: From Psychoanalysis to Ecosystems

Darwin's chief follower and publicist in Germany was Ernst Haeckel, a famous nutcase who invented the term "ecology", based on Darwinism. By the beginning of the 20th century, the British were pushing this new so-called "science of ecology" in earnest. The leader of this push was Sir Arthur Tansley. He founded the British Ecological Society in 1913, the first such organisation in the world.

Tansley's background included three years at Trinity College, Cambridge in the 1890s; informal adoption by the Apostles; and becoming a follower of Bertrand Russell. A friend of Tansley's wrote: "Tansley always said that he owed much more to the contemporary undergraduate society of Trinity than to any other influence at the university, most of all to Bertrand Russell, who had the most penetrating mind with which he came into contact, and who was his favourite companion in midnight talks."[2]

Tansley's father was a Fabian socialist whose occupation was staging big parties for the oligarchy. Father and son both taught at the North London Working Men's College, founded by the Apostles. Tansley specialised in botany at Trinity, and taught there from 1907-22.

In the 1890s Tansley became interested in Sigmund Freud's psychoanalysis, which was brand new. Tansley even psychoanalysed Bertrand Russell—no mean task. The Apostles translated Freud and were his key promoters in Britain.

Freud's whole argument, you probably know, is that inborn instincts determine everything a human being does in life, particularly the so-called sex drive, which is seen as fundamental. Tansley got so excited about psychoanalysis that he quit his post at Trinity in 1922 and went to Vienna to get personally psychoanalysed by Freud, then moved his whole family there in 1923-24. At that time, well over half of Freud's patients in Vienna were from Trinity College. In 1920, Tansley put out a book on Freud called *The New Psychology and Its Relation to Life*.

In that book, Tansley presented the human mind in a typical Freudian way, but with his own special touches. Tansley gave a diagram of the mind *as a combustion chamber in a mechanical engine*, complete with energy flows labelled as "psychic energy". The outside world impinges on this combustion chamber through sense certainty, the psychic energy gets stirred up, and "ka-boom!": it explodes and everything goes out of whack. Tansley, explicitly using the language of the Second Law of Thermodynamics, wrote that the task of psychoanalysis is to maintain equilibrium within the combustion chamber—that is, within the mind.

In a 1922 book *Elements of Plant Biology* about the processes of Nature, including mankind, Tansley spelled this out: "[W]e see varied special cases of *the great universal law of equilibrium*, which governs all the processes of which we have any knowledge, *from the movements of the planets to those of molecules, atoms, and electrons, from the activity of protoplasm to the vagaries of the human mind*." (Emphasis added.) If you think this sounds like Herbert Spencer, you're right. Tansley was a disciple of Spencer, and even wrote a whole chapter for one of Spencer's books.

In his 1932 article "The Temporal Genetic Series as a Means of Approach to Philosophy", Tansley wrote the following about the processes of life, again parroting Spencer: "Its power of arresting entropy is a partial, local and temporary power that is perfectly intelligible physically, and that cannot arrest the process of equalisation in the distribution of energy throughout the Universe at large—a process that will ... ultimately bring about conditions under which the protoplasmic units cannot continue to exist."

It was in a paper published in 1935, "The Use and Abuse of Vegetational Concepts and Terms", which the British imperial thought-police then promoted like crazy, that Tansley proclaimed the existence of *ecosystems*. In typical empiricist fashion, he defined an "ecosystem" from the bottom up, presenting it as a collection of particular things, such as various plants, trees, animals, etc. According to Tansley, the essence of an ecosystem is *abiotic thermodynamic energy flows* among its constituents, beginning with the "energy" of food that is ingested. He wrote in *Elements of Plant Biology*: "All living organisms may be regarded as machines, transforming energy from one form into another, for instance, from the potential energy locked up in the molecules of organic food to the kinetic energy seen in motion of the body…."

Elsewhere, Tansley argued explicitly that these abiotic energy flows produce biotic phenomena, and that biotic phenomena produce the mind. In other words, no phase-spaces such as Vernadsky had already identified. In Tansley's scheme, life is merely a spin-off, an epiphenomenon, of non-life. And the "mind" (but not really the mind, as you can see, rather only the brain)—the brain is merely a spin-off, an epiphenomenon, of living phenomena.

What Tansley laid out there is the guts of what underlies the British hatred of Vernadsky, and what these circles deployed against him—and against humanity. In the case of Wells, Huxley, and some of their key collaborators, we can see how their frenzy was provoked directly *by* Vernadsky. They sprang into action after Vernadsky's 1922-23 lectures at the Sorbonne and the publication of his book in French in 1924.

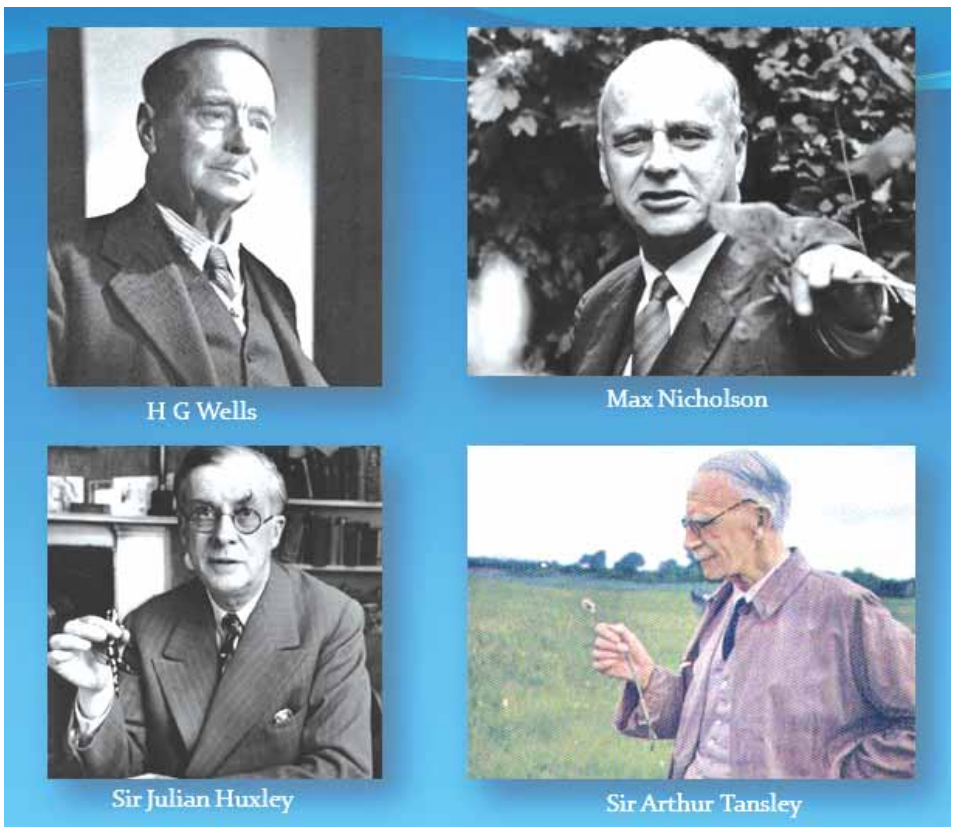
After the Sorbonne Lectures: Le Roy and Chardin

In the audience at the Sorbonne were two friends named Édouard Le Roy and Teilhard de Chardin, a Jesuit priest. Clearly sparked by Vernadsky, these two came up with the term "noösphere", which Chardin, in particular, publicised worldwide, until his death in 1954.

Chardin was a top agent in the cultural warfare operations of British intelligence, including the famous Piltdown Man hoax of 1912. Darwinism was flagging a little bit at that time, because, with a surge in the study of genetics, many people thought that genes determined heredity, the nature of species, etc., rather than Darwin's theory of natural selection.

Along came Chardin on a visit to Britain from France. He went to a quarry at Piltdown, East Sussex, and, together with two guys from the British Museum—which is one of the very top cultural institutions in Britain—and all of a sudden discovered a missing link! A missing link between ape and man, that is. It was dubbed the Piltdown Man, and it gave Darwinism a new lease on life. Some people were suspicious of the new find even at the time, but it was only decades later that the Piltdown man was demonstrated to be a composite of: a human skull from medieval times, a 500-year-old lower jaw of a Sarawak orangutan, and fossilised chimpanzee teeth filed down to simulate worn human teeth.

And Teilhard de Chardin, one of the main fraudsters in the Piltdown Man hoax, got the reputation of being the chief proponent and populariser of the noösphere concept. But Chardin's noösphere, unlike Vernadsky's, ends in the Omega Point, the final equilibrium of mind and matter—just as Herbert Spencer had taught. Chardin was also a promoter of eugenics.



These four ideologues of the British Empire led the way to Green Fascism.

The Anglo-Soviet Attacks

Then there was the Anglo-Soviet facet of British intelligence operations against Vernadsky. In 1924, the year after Vernadsky's Sorbonne lectures, the British biologist J.B.S. Haldane and Soviet biochemist A.I. Oparin each suddenly came out with what was quickly named the Oparin-Haldane thesis, stating that all life evolves from the non-living. Oparin argued that way back in geological time, a combination of basic organic chemicals had formed into microscopic localised systems as precursors of the single cell, from which primitive living things could develop.

Oparin wrote in a 1924 pamphlet: "There is *no fundamental difference between a living organism and lifeless matter*. The complex combination of manifestations and properties, so characteristic of life, must have arisen in the process of the evolution of matter." (Emphasis added.)

Haldane was a top figure in British intelligence. The sudden appearance of this anti-Vernadsky thesis in both Britain and the Soviet Union, simultaneously, is no big surprise, when you know how the British had orchestrated the Russian Revolutions of 1917. Not to mention the fact that the Cambridge Apostles had invented socialism in the first place.

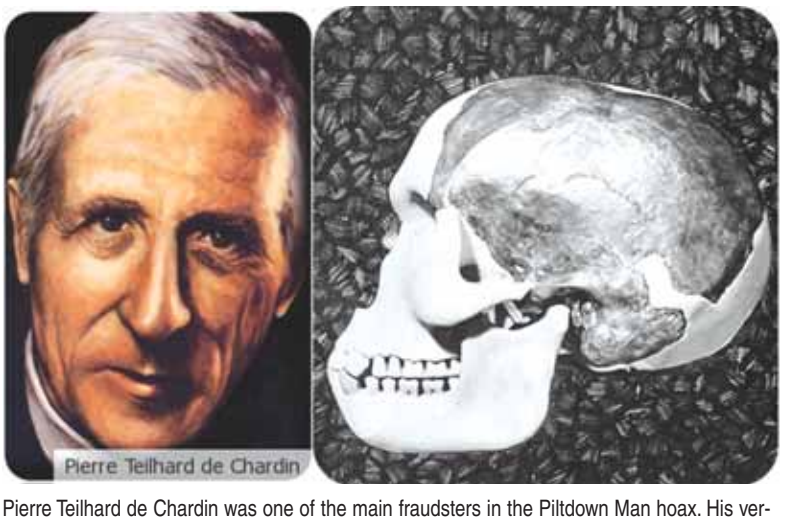
The way history unfolded, the Soviet Union turned out *not* to be the totally controlled puppet that British strategists had intended to create. Lenin and then Stalin, in their own ways, both reflected the deep influence of the American System in Russia. But the British still had many agents in the Soviet Union, and the official state ideology of *dialectical materialism* was a child of British empiricism.

H.G. Wells personally launched another major British operation against Vernadsky, while not daring to utter his name. In 1925, the year after Vernadsky's book on geochemistry had appeared in French, H.G. Wells, Julian Huxley, and Wells's son G.P. Wells of Trinity College, started a crash project to write *the* definitive book on botany, ecology, and life in general. It came out four years later, in 1929, under the title *The Science of Life*.

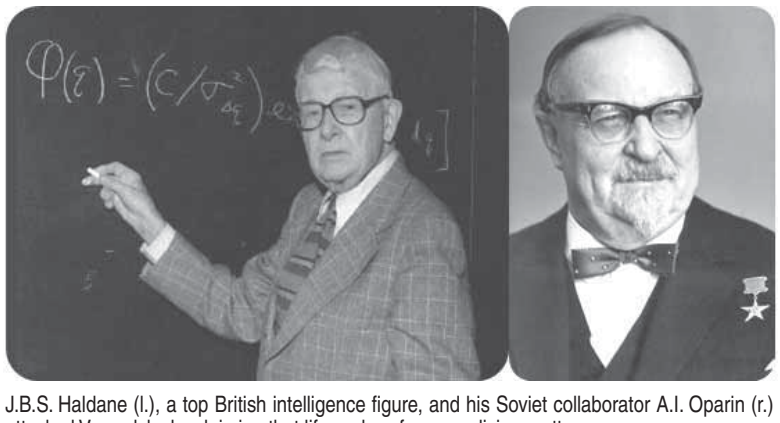
Think about that! H.G. Wells was the best-selling author in the entire world. His *The Outline of History* had sold more copies than any other book besides the Bible and the Koran. Huxley was a famous zoologist, and he quit the best-paying job in zoology in Britain, overnight, in order to devote his full time to this project.

Fortunately, I don't have time to tell you much about the contents of this four-inch thick tome, but it is very nasty. Among other things, the authors claim that Life comes from non-life, and that the mind does not exist, only the brain does. A whole chapter is titled "The Science of Ecology". Its theme is that *human economics is merely a subset of animal ecology*, or *biological economics*, as they put it.

Like Darwin, they insist that Man is nothing but a small piece of nature that is not qualitatively different in the least. When Tansley came out with the *ecosystems* article in 1935, Wells/Huxley/Wells issued a new edition of their book to play up that new hoax.



Pierre Teilhard de Chardin was one of the main fraudsters in the Piltdown Man hoax. His version of the "noösphere" has been promoted in place of Vernadsky's.


J.B.S. Haldane (l.), a top British intelligence figure, and his Soviet collaborator A.I. Oparin (r.) attacked Vernadsky by claiming that life evolves from non-living matter.

2. *Biographical Memoirs of Fellows of the Royal Society*, Vol. 3, Nov. 1957; Arthur George Tansley, "The Temporal Genetic Series As a Means of Approach to Philosophy", prepared (posthumously) by Peder Anker, in *Ecosystems*, 2003: "... [D]uring my undergraduate days I was a close friend of Bertrand Russell, who read philosophy at the same time as mathematics, and it would be difficult to estimate what I owe to the constant intercourse with his singularly acute mind."

The Founders of Modern Environmentalism

H.G. Wells died in 1946. Huxley, Tansley and Max Nicholson went on to set up all of the founding institutions of modern environmentalism: the IUCN, the WWF, and, even more important, the British Nature Conservancy. The Nature Conservancy is the mother of the world's entire Green Fascist movement. It was founded in 1948. Tansley was the first head of the Nature Conservancy, and Nicholson succeeded him. Furthermore, the Nature Conservancy was given royal status as one of four permanent research bodies directly under the Privy Council. Its agenda was world government and mass murder through eugenics.

One of Tansley's earlier articles, from 1939, had already made this very clear. Under the heading "Human Ecology", he wrote:

"In the phase through which humanity is now passing, we see the trend towards internationalism, with world federation as its ultimate goal—the establishment of a world-wide ecosystem—arising inevitably from the increased interdependence of the people, the multiplication of the bonds between them. ... Unless indeed the human race shows itself ultimately incapable of effecting the new adjustments, the necessary next steps towards world-wide integration—and in that case it must relapse into disintegrated barbarism, made all the more horrible by its scientific equipment." [3]

From the start Tansley, like Huxley and Nicholson, raved against alleged world overpopulation. And they didn't just rave, they acted. One of the first "studies" the Nature Conservancy conducted under his leadership, in the early 1950s, was on the effect of DDT on birds. They would put 10,000 times as much DDT onto birds or their eggs as they could ever conceivably get otherwise, and some of the birds died. In 1962, Rachel Carson of the Nature Conservancy's branch in America issued her book *Silent Spring*, based on this research, with the intent to have DDT banned. And it ultimately was. Probably hundreds of millions of human beings have died needlessly due to that ban.

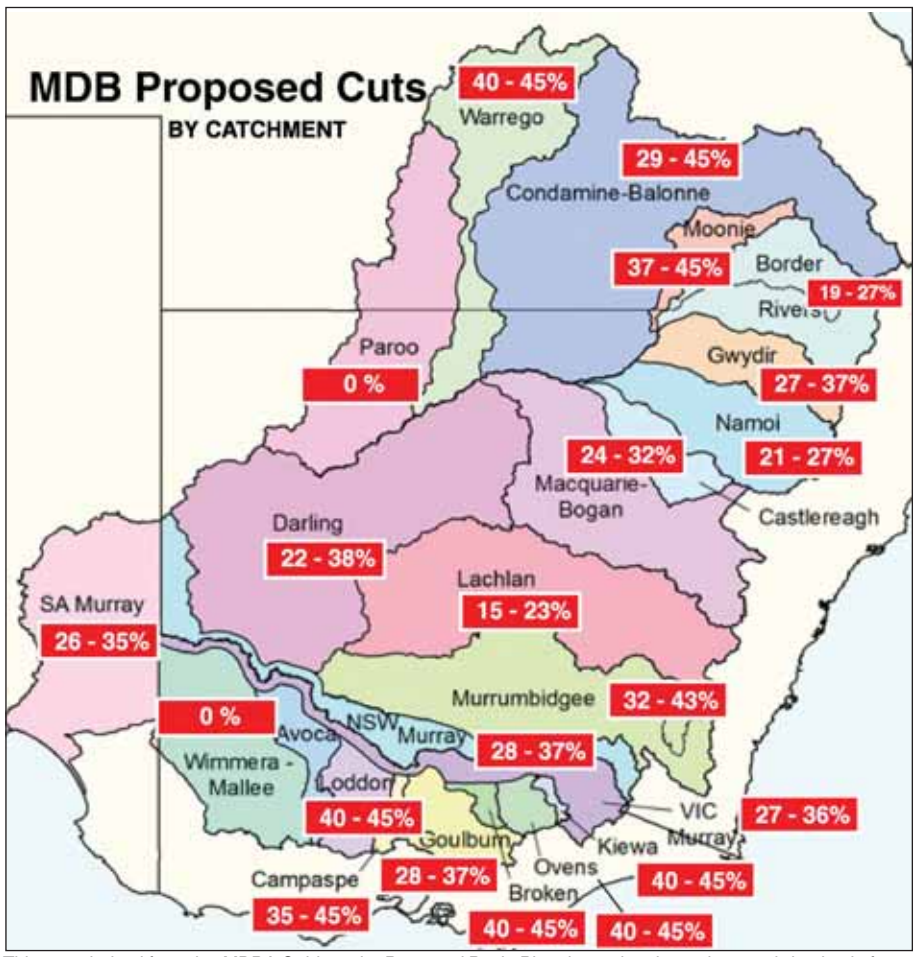
The Nature Conservancy also deployed two of its top agents to Australia, with devastating results. Derrick Ovington helped set up the ACF, and in 1973 became the first head of our National Parks system, which was designed to lock up land, preventing development. Over 12 per cent of our entire country is now affected. The second was Peter Bridgewater, probably *the* key figure in the plot to shut down the Murray-Darling Basin. He was the point man in Australia for RAMSAR, the international wetlands dictatorship set up by Max Nicholson in 1971. Bridgewater had been Chief Scientist for the Nature Conservancy in 1989-90, and then he was sent to Australia to succeed Ovington as head of the National Parks system. What, we couldn't find an Australian?! After heading our Parks System for a decade, Bridgewater became international Secretary General of RAMSAR Convention.

But the plot is to shut down not just Australia, of course, but the entire world.

Today the world's supposed authorities on Vernadsky have come up with a new hoax, intended to bury the real noösphere. They have proclaimed the *Anthropocene Era*. This notion mimics Vernadsky's noösphere: the Anthropocene Era scheme states that man is now the dominant geological force upon the Earth. But, they continue, that is a catastrophe! Promoters of the Anthropocene Era doctrine like Hans Joachim Schellnhuber, whom, as you know, our youth nailed as a genocidalist here in Australia this month, demand that humans shut down essentially all industrial production, or else the whole Earth will die.

It is clear that reviving the true work and outlook of the immortal genius Vladimir Vernadsky is one of our most powerful weapons to defeat Green Fascism.

Privy Council Secretary Max Nicholson, high priest of post-war British environmentalism, preached that "Ducks Unlimited means Sovereignty Superseded".



This map derived from the *MDBA Guide to the Proposed Basin Plan* shows the planned cuts to irrigation in farmland across the Murray-Darling Basin—Australia's food bowl. Prince Philip's ACF demanded more drastic cuts.

LaRouche Continues Vernadsky's Noösphere

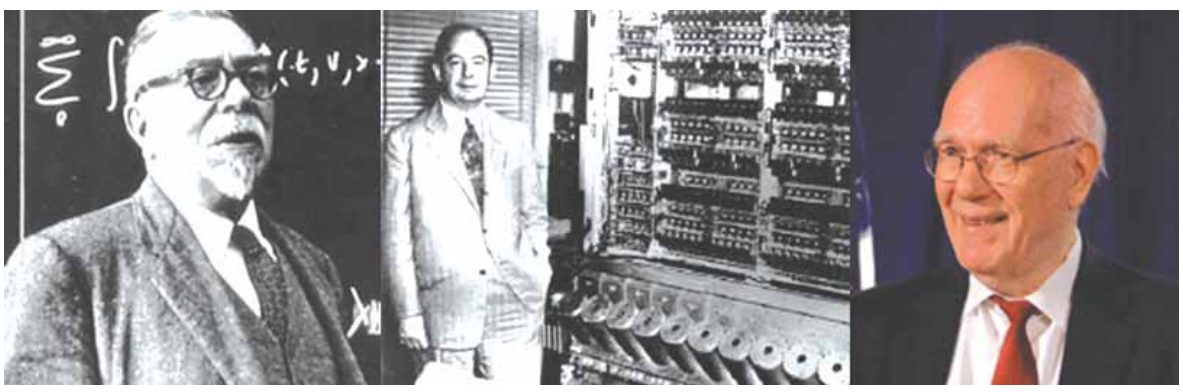
Now that you have a sense of the terror that the British Empire has had, and still has, against Vernadsky's work, I will move to the discussion of the most profound element of that work, which is his concept of the *noösphere*.

Around the time of Vernadsky's death in 1945, a young man in his twenties, Lyndon LaRouche, came to recognise the importance of Vernadsky's work, just in the period when he was refuting the "systems analysis" and "information theory" hoaxes of Bertrand Russell's protégés Norbert Weiner and John von Neumann. Weiner and von Neumann were attempting, in typical Sarpian fashion, to reduce everything in the Universe down to simple arithmetic, statistical and linear modes, with no respect for the principles that Vernadsky or LaRouche had recognised as governing the planet.

Over the last six decades, LaRouche has carried Vernadsky's key conceptions to higher levels than originally specified by Vernadsky, especially the conception of the three phase-spaces—non-living, living and noetic (the noösphere). Furthermore, LaRouche has defined the *principle of physical-economic anti-entropy* as the necessary functional character of the noösphere.

During the many years following his famous lectures in Paris in 1922-23, Vernadsky developed his concept of the noösphere in more and more profound ways, culminating in the optimism that is clearly audible in the 1938 article "On the Fundamental Material-Energetic Distinction between Living and Nonliving Natural Bodies of the Biosphere", quoted earlier. He said:

"We are living in a brand new, bright geological epoch. Man, through his labour—and his conscious relationship to life—is transforming the envelope of the Earth—the geological region of life, the biosphere. Man is shifting it into a new geological state: Through his labour and his consciousness, the biosphere is in a process of transition to the noösphere. Man is creating new biogeochemical processes, which never existed before. The biogeochemical history of the chemical elements—a planetary phenomenon—is drastically changing. Enormous masses of new, free metals and their alloys are being created on Earth, for example, ones which never existed here before, such as aluminium, magnesium, and calcium. Plant and animal life are being changed and disturbed in the most drastic manner. New species and races are being created. The face of the Earth is changing profoundly. The stage of the noösphere is being created. Within the Earth's biosphere, an intense blossoming is in process, the further history of which will be grandiose, it seems to us. In this geological process—which is fundamentally biogeochemical—a single individual unit of living matter, out of the totality of humanity—a great personality, whether a scientist, an inventor, or a statesman—can be of fundamental, decisive, directing importance, and can manifest himself as a *geological force*. This sort of manifestation of individuality in processes of enormous biogeochemical importance, is a new planetary phenomenon. It emerged, and began to manifest itself ever more sharply and profoundly in the course of time, *during the most recent tens of thousands of years*, on the background of billions of years of the prior history of the biosphere, when this phenomenon did not exist." (Emphasis added.)



Lyndon LaRouche (r.) forged his scientific method in the late 1940s by refuting the Sarpian "systems analysis" and "information theory" of Norbert Weiner (l.) and John von Neumann (c.). Simultaneously LaRouche recognised the importance of Vernadsky's work and proceeded to advance it.

Noösphere and Physical Economy

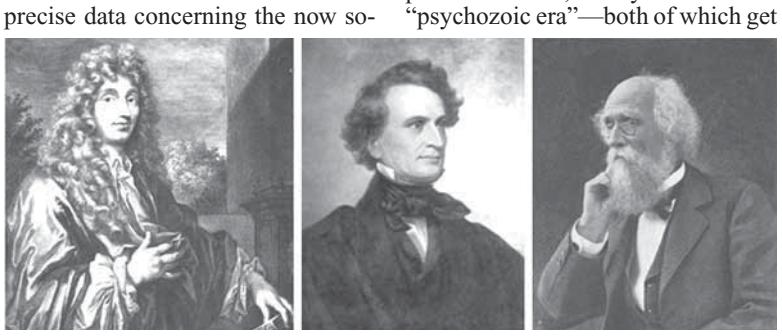
For Vernadsky his concept of the noösphere was not a religious or philosophical idea, but grounded in scientific method. He himself said that it was grounded, above all, in his work on physical economy. Vernadsky's discussion of the physical economy as the noösphere is coherent with LaRouche's idea of Physical Economy as the highest science. In 1994, LaRouche wrote a very important set of essays called "The Science of Physical Economy as the Platonic Epistemological Basis of All Branches of Human Knowledge". Vernadsky's account of the matter is stated right at the outset of one of his last articles, called "Some Words about the noösphere", which was written in 1943 and first published in English in 1945.

"In my own scientific work," he wrote, "the First World War was reflected in a most decisive way. It radically changed my geological conception of the world. It is in the atmosphere of that war that I have approached a conception of nature, at the time forgotten and thus new for myself and for others, a geochemical and biogeochemical conception embracing both nonliving and living nature from the same point of view….

"Twenty-eight years ago, in 1915, a Commission for the Study of the Productive Forces of our country, the so-called KEPS, was formed at the Academy of Sciences. That commission, of which I was elected president, played a noticeable role in the critical period of the First World War. Entirely unexpectedly, in the midst of the war, it became clear to the Academy of Sciences that in Tsarist Russia there were no precise data concerning the now so-called strategic raw materials."

In developing his concept of the noösphere, Vernadsky drew upon many great minds from the past. In this essay, "Some Words About the Noösphere", he presented the "idea of life as a Cosmic phenomenon", and quoted from the 17th-century Dutch scientist and teacher of Leibniz, Christiaan Huygens (1629-1695), who in his posthumously published book *Cosmotheros,* offered the scientific generalisation "life is a cosmic phenomenon, in some way sharply distinct from non-living matter". Vernadsky called this "the Huygens principle".

As part of trying to determine why Man has become a geological force, Vernadsky looked at the work of James Dana (1813-1895) and Joseph Le Conte (1823-1901), who both expounded the view that the "evolution of living matter is proceeding in a definite direction". This phenomenon was called by Dana "cephalisation", referring to the development of more powerful brains, and by Le Conte the "psychozoic era"—both of which get at the same idea.



Precursors of the "noösphere" concept (l. to r.): Christiaan Huygens, James Dana, Joseph Le Conte.

Vernadsky also quoted another Russian scientist, geologist A.P. Pavlov (1854-1929), who had spoken of the "anthropogenic" era, and said that man was becoming "a mighty and ever growing geological force", and "that this geological force was formed imperceptibly over a long period of time".

We can now see where the unique work of Lyndon LaRouche is crucial, because by itself, the concept of "cephalisation" does not adequately explain the process whereby man has become a mighty geological force. Vernadsky, I think, knew this, and from what I understand, he was going to write more on the elaborated concept of the noösphere in the third and final section of the book he was working on when he died, but it remained uncompleted.

Human Thought As a Geological Force

In "Some Words about the Noösphere" Vernadsky posed a riddle. He stated: "The noösphere is a new geological phenomenon on our planet. In it, for the first time man becomes a large-scale geological force. He can, and must, rebuild the province of his life by his work and thought, rebuild it radically in comparison with the past. Wider and wider creative possibilities open before him. It may be that the generation of our grandchildren will approach their blossoming. Here a new riddle has arisen before us. *Thought is not a form of energy*. How then can it

3. "British Ecology During the Past Quarter-Century: The Plant Community and the Ecosystem", *Journal of Ecology*, Vol. 27, No. 2, August 1939.

change material processes?"

Vernadsky, throughout his life's work, scientifically demonstrated the unbridgeable gap between inert and living processes. He demonstrated the two absolutely different space-time characteristics between inert and living matter.

LaRouche has continued to demonstrate (using Vernadsky's own standard of empirical generalisations) that there is another unbridgeable gap between the species nature of us human beings, who reside in Vernadsky's noösphere, and all other living processes. This unbridgeable gap has been empirically demonstrated by the fact that the human species has been able, through deliberate wilful changes and improvements both in individuals and in human society as a whole, to increase our overall population a *thousand-fold* over the course of the time that Man has been on Earth. No other living creature can wilfully increase its overall population, or, to use the scientific term from LaRouche's Physical Economy, its *relative potential population density*, in this way. This is purely a characteristic of mankind.

Man is therefore not an animal conforming to the population and biospheric constraints of other animals. We are a species set apart from all other species by our unique capacity of the wilful use of the creative powers of individual human reason to discover, assimilate and apply new scientific principles to the biosphere. This wilful creative quality makes us *Imago viva Dei*—the living image of God, and able to participate in His Creation.

From the standpoint of physical economy, LaRouche defined the *principle of physical-economic anti-entropy* as the property of the noösphere which explains how Man has become a growing "geological force".

He says in "The Truth About Temporal Eternity": "From the standpoint of physical economy, the validity of a scientific discovery lies in the demonstrable relative validity of the principle of discovery (Platonic higher hypothesis) which governs both the generation, and also the demonstration of that specific hypothesis. The relative validity of that higher hypothesis thus subsuming a generation of particular hypotheses is shown to physical economy by increase of the potential population-density of that society which governs its investment and production policies according to such higher hypothesis, or which, perversely demonstrably fails as a consequence of failing to do so. The validity of a mode of hypothesising the higher hypothesis is measured in terms of the study of human history and pre-history from this same standpoint of the science of physical economy." (*Fidelio,* Summer 1994, Vol. III, No. 2.)

If you reflect back to the Curies' discovery of radioactivity and a whole host of new "radioactive" elements, this was a scientific discovery of a new higher hypothesis. When they started their work, the Curies, like Becquerel, encountered a strange phenomenon within uranium rocks that could not be accounted for within the existing body of knowledge. We can call that "existing body of knowledge" an existing "hypothesis".

Through the processes of scientific investigation, quite often operating on intuition and hints, the Curies discovered "radioactivity", a new physical principle that transformed the previous existing poorer body of knowledge. They "hypothesised", that is "applied the process of discovery" and discovered "a higher hypothesis"—"radioactivity". In other words, there was a major *change* in the way phenomena were looked at, based on the discovery of this new principle of "radioactivity".

As we have witnessed, the development of nuclear power sources has provided a massive increase in the potential free energy available for mankind, and, when it is actually applied, this is *shown in the physical economy in the increase of the potential population density of that society*. Nuclear power gives us several magnitudes greater energy flux densities than coal or petroleum-based fuels, meaning that new, more efficient processes can be developed, above and beyond the existing body of knowledge based on the lower energy flux density forms.

Another simple example is to compare the horse and cart with a modern truck. The process of human creativity has made the necessary discoveries of physical principles, to harness energy to do more work for society as a whole. Tom Lawler Transport would have a great deal of difficulty employing horse and carts in their line of work (I can't imagine a crane mounted in a cart)!

But, the process does not stop at any given discovery of one principle. Human beings can go on "hypothesising the higher hypothesis" all the time, which is the reason that the population of the planet has increased at an exponential rate, and that man has become a geological force. There is a constant process of change from a lower form of technology to a higher, and then a higher, further changed form after that. The process of change here is known as the "invariant of the invariant" or the "hypothesising of the higher hypothesis".

Galactic Environmental Challenges

Mr. LaRouche and his Basement scientific research team have warned starkly over the past several weeks that our planet and the populations on it face a mass extinction threat due to the changing position of our solar system in the plane of our galaxy. We are moving into the upper region, above the plane of our galaxy, which will expose us to more and more cosmic radiations. We have been witnessing over the last year, an increasing frequency of phenomena like earthquakes and tsunamis, and we are at the mercy of a galaxy whose cyclical conditions could wipe us out. As you have heard **(page 18)**, this pattern of extinctions is not new; it has happened several times in the long life of the Earth, just not during the short time that Man has been around. Over 95 per cent of all the living species that ever existed have gone extinct because they were not able to control or modify their environment, or changes in their environment caused by galactic events, like the ones we are facing.

Hydraulic power, an advance over horse power, typifies the results of man's unique creative ability to discover and apply new physical principles.

Human beings, unlike animals, do not have to be hostage to any environment (or limited to a single planet). We have to transform our biosphere to help protect us from galactic extinction events.

Human beings, however, do not have to be hostages to *any* environment.

In order to protect ourselves, right now, we need to employ those powers of scientific discovery which are uniquely ours as human beings created *Imago Dei*, to make the discoveries necessary to harness energy sources such as fusion power and then matter and antimatter reactions. This requires us to search for the physical principles that make these energies possible, just as the Curies did, and with the new technologies we shall develop on the basis of those principles, transform the biosphere even further, and work towards protecting our populations from horrific galactic events.

Mind Is Superior to Sense Perception

But the sticking point today for us is to really understand that, unlike the beasts, we are not, provided we don't listen to Sarpi and company, defined by our pathetic senses, but rather by our God-like creative reason. This quality of reason does not exist in the brain, per se, the physical organ, but rather in the *mind,* for which the brain acts like some form of antenna, resonating with this principle.

As LaRouche said in his paper "At the Brink of Confusion: When Governments Crumble": "Mankind has a mind, or the ability to manifest a mind which is independent of sense-perception. Modern science gives us a very clear picture of that kind of evidence: That what we know, in the discovery of principles, is that the power of the human mind, the so-called creative powers, the powers to create a new state of mind, involve demonstrations of the use of artificial senses, as in the form of our sense-perceptions, as the faculties of our mind. Most people who are ignorant of this, will assume that you can trace what people think, and how they think, to the powers located in sense-perception, or in the so-called animal sense-perception, or the biological sense-perception. That is not true. The human mind is not a product of a mere brain, nor of sense-perception, but is actually a product of what we might call cosmic radiation, a peculiar feature of cosmic radiation, which gives man a special power that no other known living species has."(*Executive Intelligence Review*, 20 May 2011, Vol. 38, No. 20.)

Within Vernadsky's noösphere, man has become a large-scale geological force because of the unique quality of creativity located in the *mind* of Man, which is necessarily in harmony with the processes of the Cosmos in which it exists.

Coming back to Vernadsky's riddle that, "Thought is not a form of energy", it appears that thought, or creative reason, is in fact the most powerful force in the Universe, as we have discussed within LaRouche's work, and is the mover of the "large scale geological force" of Man. Wilful human creative reason, as a reflection of the universal principle of creativity also defines a new space-time geometry for the noösphere, just as non-life and life have their own Euclidean/reversible and Riemannian/irreversible characteristics respectively.

Ask yourself this: What are the characteristics of the space and time in which valid ideas exist? What are the characteristics of the space and time that human beings can exist in, if they do not reduce themselves down to mere animals?

Well, that is the meaning of Raphael's painting of the *School of Athens*, where we started this conference—the realm of ideas and thought!

As demonstrated by the *School of Athens*, ask yourself, "What is the character of the space that the ideas of this person here [in the *School of Athens*] exist in?" In 100 years clock time, would the space within which those ideas represented in the *School of Athens* today, have changed?

The space-time of the noösphere is universal and immortal. Living organisms and inert matter die and erode away. Their physical manifestations disappear and are absorbed into the biosphere.

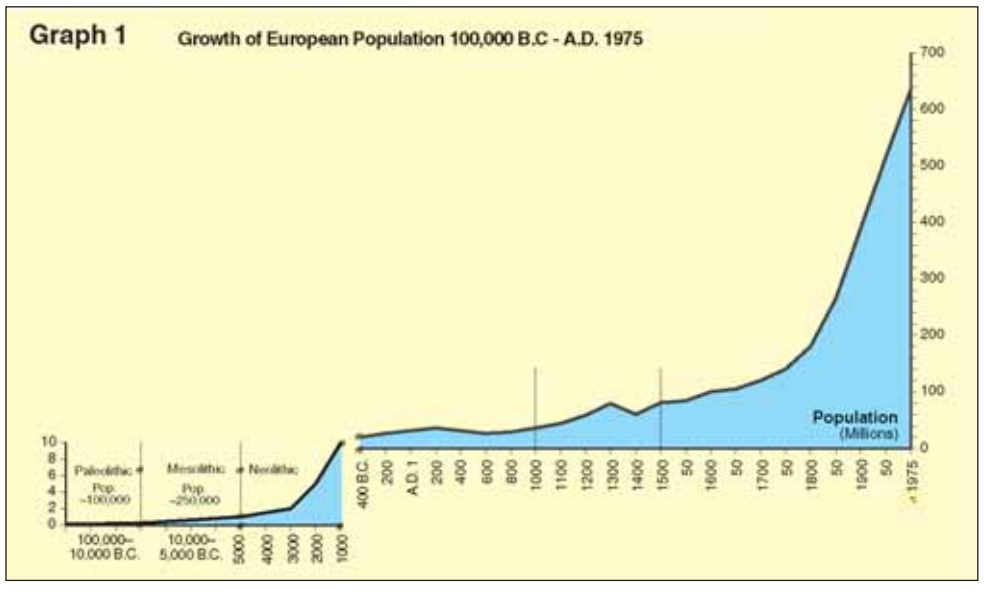
But we remember the name Marie Curie as the discoverer of the principle of radioactivity, so her discovery of this physical principle, and her life, become immortal.

As LaRouche said just Saturday last week, "Only humanity has a sense of a higher purpose, for anything that humanity is going to do, that the individual is going to participate in, and that is the advancement of the human species, to be, in effect, an immortal species. The individual member of the species may die, but the contribution which they contribute, in their role in the Universe, is immortal. And the intention, to an immortal purpose, an end, is the essence of what mankind requires as the motivation, to secure the future of humanity, in a higher form.

"So we go from a lower form, in which the human species is vulnerable, is fit only for extinction under the conditions which are developing now, into a higher form, in which the human species has increased its power in the Universe, as a means of expressing the human role in a higher form in the Universe at large. It's the meaning of human life. Only human life, insofar as we know life, in any part of the world—we may discover a lot of things out there, like that, but we don't know them yet; we have no evidence they exist.

"But we do know about humanity, that humanity has an immortal mission, to develop our skills, our capabilities, so we go from a lower form of life, to a higher form of life, without any necessary other biological transformation. Biological evolution is an irrelevant thing in this matter. It's the increase of man's power."

So, I would like to close this presentation and this conference with those very noble ideas, in *your* minds.



By applying scientific discoveries in the economy, humanity has achieved unparalleled population increases. No animal has demonstrated such a capability.

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