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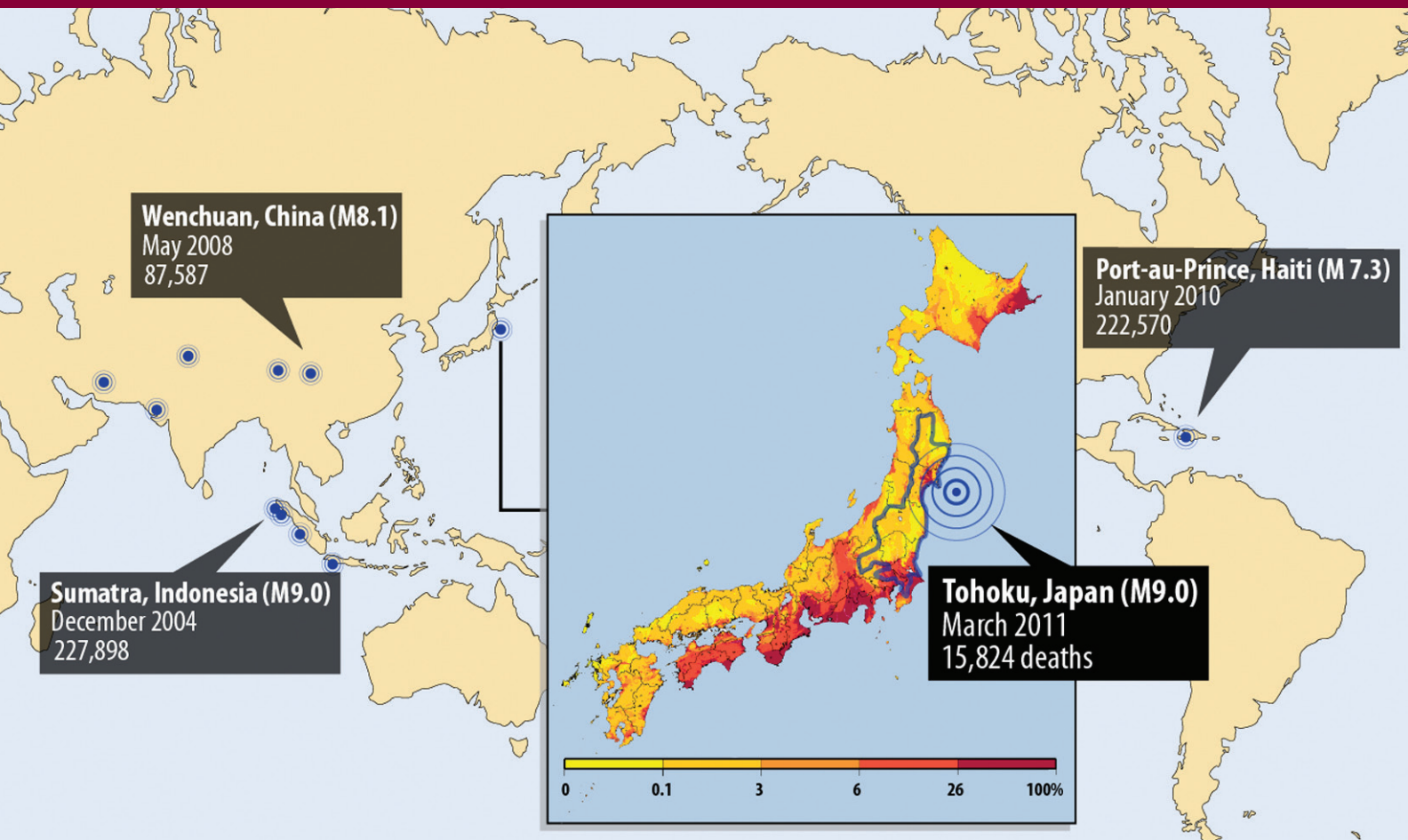
Executive Intelligence Review

April 13, 2012 Vol. 39 No. 15

www.larouchepub.com \$10.00

Showdown on Three Global War Fronts This Week
Obama Backs Nazi Doctrine; Constitution Under Attack
In Italy, Glass-Steagall Takes to the Streets

Planetary Defense: An Extraterrestrial Imperative



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EIR (ISSN 0273-6314) is published weekly
(50 issues), by EIR News Service, Inc.,
P.O. Box 17390, Washington, D.C. 20041-0390.
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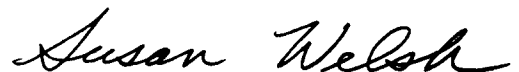
From the Managing Editor

Some may find our main cover headline puzzling: “Planetary Defense? Defense from whom or what?” No, it’s not from Aliens or invading UFOs; it’s from ourselves, and from the unpredictable she-nanigans of the galaxy and universe in which we are situated.

Our *Feature* states that since generalized warfare is no longer a tolerable option in a thermonuclear age, a new concept of strategic defense must be devised, informed by two primary considerations. The first is to replace our bankrupt, monetarist financial system with a Hamiltonian credit system that emphasizes capital-intensive physical economic activity, in the general welfare. The second requirement, which is the subject of this weighty document, is to squelch “green” ideology and show our fellow citizens that mankind exists within a universe that is *inherently anti-entropic*. Given the threat of natural disasters such as asteroid strikes or climate change due to galactic changes (*not* to man’s industrial processes!), the prevalent anti-science, anti-technology cultist belief-structure is the greatest danger we face. “In the context of a ceaselessly developing universe,” the authors state, “this means death.”

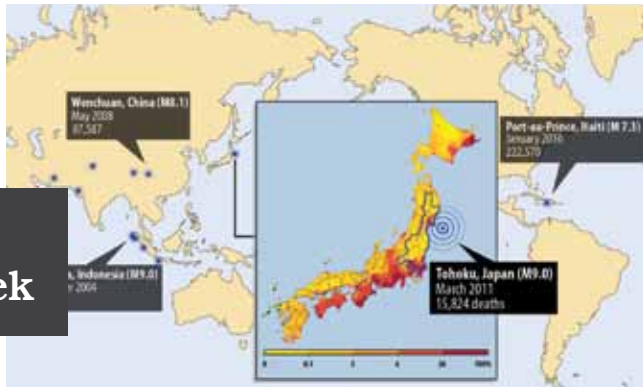
To satisfy this requirement for change in mankind’s understanding of his role in the universe, we require a greatly reinvigorated international space program, colonizing the Moon and moving on to Mars, solving the scientific problems that now stand in our way. We cannot simply project the future based on present conditions, the authors emphasize. “It is in the very nature of space science to operate at the very limit of knowledge, in which the most important gains to be made are not on tasks we can already foresee, but in the new questions that invariably arise when those limits are pushed. By committing to our extraterrestrial imperative, we give ourselves ever-expanding capabilities to answer those questions. Such is true economics. Such is true strategic defense.”

Our *World News* section offers updates to the battle “on the ground”: the continuing danger of thermonuclear war due to the insane policies of Obama and the British; the drive for dictatorship in both the U.S. and Europe; Jacques Cheminade’s campaign for President of France, against the financier oligarchy; and the initiative for Glass-Steagall by one of Italy’s leading parties.



Cover This Week

Between 2000 and 2011, the 12 deadliest earthquakes, shown on the maps, claimed some 700,000 lives.



LPAC-TV

4 Planetary Defense

By a Basement Research Team. Do we really have a choice of whether we want to progress or not? Does the universe ever stand still, waiting for us to make that decision? As the dinosaurs witnessed, the answer is no. Past and future threats to human lives, including extreme weather events, CMEs, earthquakes, asteroids, and more, show us that the ultimate defense in a developing and inherently creative universe is progress. What is presented in this LaRouchePAC policy paper is the ultimate war avoidance strategy.

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This report can be found online at <http://larouchepac.com/planetary-defense>.

INTRODUCTION

Because the ultimate defense is progress

This present report is written against the backdrop of an ongoing series of writings by Lyndon LaRouche, and is the product of the collaboration of the LaRouchePAC's Basement Team's ongoing work with him. The fullest understanding of the following will be gained from a reading in the context of his current international efforts and writings.¹

The world's population is still reeling from last year's natural disasters. Japan, a first-world nation, was brought to its knees by a magnitude 9.0 earthquake and subsequent tsunami in March; the US faced a record number of weather-related disasters; East Africa was hit with the worst drought in over half a century, putting 13 million people at risk; and the list goes on. If we find ourselves so vulnerable to threats which should be predictable, what hope do we have in the face of threats never before encountered?

In one sense, such natural disasters cannot be separated from those of man's making, such as the twin crises of the collapse of the trans-Atlantic-

1. Starting from his September 30, 2011 international webcast, and a subsequent series of writings, "Principle or Party?," "The Fall of the British Empire: Obama's Armageddon End-Game," "What is Creativity, Actually?: The Real Human Mind," "A World at Its Wits' End: The End of the World's Wars," "Reflections on a Work by Nicholas of Cusa," and, "To Keep a Promise: The Mystery in Your Time." All on LaRouchePAC.com



Damage following the March 11, 2011 magnitude 9.0 earthquake in Japan, one of a series of unusually severe natural disasters during 2011.

centered global financial system and the immediate specter of thermonuclear war. Both underscore the imperative to redirect global policy away from the contrived conflicts of oligarchical manipulation, which have kept mankind in a state of relative infancy, toward the conscious evolution of the human species.

Recently, circles in Russia have proposed to judo the current insanity of a drive towards war by invoking Lyndon LaRouche's principle of the Strategic Defense Initiative (SDI).² Termed the Strategic Defense of Earth (SDE), this new initiative would focus on cooperation between the USA and Russia for missile defense, as well as defense against the threat of asteroid or comet impacts.³ This is not the stuff of science fiction, as this very real threat was underscored by the recent near-miss of asteroid 2005 YU55.

This follows the same general intention expressed in a recent proposal for international collaboration on a network of satellite and Earth-based observation systems to

2. See the feature video, "A Brief History of Lyndon LaRouche's Strategic Defense Initiative," LaRouchePAC.com. Lyndon H. LaRouche, Jr., "SDI Revisited: In Defense of Strategy," *21st Century Science & Technology*, Summer 2000.

3. This initiative was proposed in October by current Deputy Prime Minister for Defense Dmitry Rogozin, then Russian ambassador to NATO. See, "As World War Threatens, Russia Proposes SDE," *Executive Intelligence Review*, November 25, 2011.

provide warnings of earthquakes, extreme weather, and other natural disasters before they occur, as well as help to coordinate any emergency response measures needed. The proposal, called IGMASS (International Global Monitoring Aerospace System), would monitor everything from the structures and changes in the Earth's crust (from mineral deposits to fault lines), to the electrical, magnetic, and particle conditions of the atmosphere, ionosphere and above, providing a comprehensive picture of the interactions of these Earth systems.⁴

These proposals come in the context of the emergence

of a new global frontier, the Arctic. As documented in a recent LPAC policy paper,⁵ Russia, China, and other leading nations have taken the first steps in what must become a full mobilization toward the development of this region—a prospect that should be seen as a new launching point for a renewed global focus on space colonization.

Generalized warfare is no longer a tolerable option for our species. As the SDE and IGMASS proposals indicate, we require a new concept of the strategic defense of the human species, which must be informed by two primary considerations:

1. If we wish to survive as a species, we must eliminate the ideology of monetarism, the false belief in an intrinsic value built into money, or any object for that

4. The project has been presented several times at the United Nations, and as of the summer of 2011, was being headed up by former Roscosmos Chief Anatoly Perminov. Several nations, including China, Ukraine, Argentina, and Indonesia have expressed their interest in this project. On April 4th, 2011, Perminov stated: "At the moment, China and NASA are seriously considering joining this project. I don't like to use the word 'saving mankind,' but we do need such a system to warn us about potential such threats... Every time I talk to somebody and explain why we need such a system, everybody supports the idea." See, "Russians Propose Global Monitoring," *Executive Intelligence Review*, April 22, 2011.
5. See, "Self-Developing Systems and Arctic Development: Economics for the Future of Mankind," by Sky Shields and Michelle Fuchs, <http://www.larouchepac.com/node/20987>.

matter. The immediate reinstatement of the original 1933 Glass-Steagall legislation is required to separate out the mass of hyperinflationary speculative debt of the presently failed monetary system, a debt to which a sovereign United States has no obligation. However, after decades of a severe lack of real, physical economic investment, the amount of money remaining after this separation would not be enough to fulfill our obligations to the future-oriented, capital intensive projects we require. This requires the employment of credit, as opposed to money per se, a unique kind of debt which has been and can be legally uttered by Congress for such productive purposes as we will outline here.⁶ A credit system, as opposed to a monetary system, is the means by which humanity ensures that future generations progress to successively higher levels of physical economic activity.

2. Mankind exists within a universe that is inherently anti-entropic. This means it is impossible to indefinitely maintain any fixed level of economic development, and any attempt to do so will guarantee the extinction of the human species. Most glaringly dangerous in this regard is the very existence of the “green” ideology, which calls for halting fundamental economic advancement (e.g., nuclear power) in the name of so-called “sustainability.”⁷ In the context of a ceaselessly developing universe, this means death.

Mankind’s ability to ensure his own existence depends absolutely upon our unique capability to consciously wield ever higher qualities of power sources, representing increases in levels of energy-flux density.⁸ Thus, the relatively immediate future existence of the human species will necessarily be characterized by mastery of what LaRouche has identified as the nuclear/thermonuclear economic platform, spearheaded by a Moon-Mars colonization perspective.⁹

6. The single biggest obstacle in this respect is President Obama, who has acted as an outright agent of the imperial forces of Wall Street and London. Whereas the current slate of Republican Presidential candidates falls pathetically short of addressing this reality, the necessary solutions are being presented by a LaRouche PAC-sponsored slate of federal candidates.

7. The policy of halting economic progress has been the explicit intention of the British Empire, and is part of its genocidal depopulation agenda. For example see, “Behind London’s War Drive: A Policy To Kill Billions,” by Nancy Spannaus, *Executive Intelligence Review*, Nov. 18, 2011.

8. For example, the succession of wood burning, to coal, to oil, and then nuclear fission. Each of these steps expresses a qualitative leap in the ability of the human species to support its own existence.

9. This must be accomplished with the perspective of matter-antimatter reactions already in mind as the next frontier.

In doing so, we will begin to gain a competent understanding of the “weather” conditions inherent to our galaxy, with which we must contend both on the Earth, and on any body we begin to inhabit. We must set out now to do what is presently unthinkable—to come to not only understand, but to increasingly control these forces.

But before getting back to this, we must ask ourselves the question: do we actually know enough about the threats that we face? Do we know our enemy adequately? In this report, we will examine the second of the two points listed above: that the real threat is not from events in a passive universe, but in the fact that the galaxy itself is evolving, and that its rate of evolution defines what must be our own.

1. Overturning the Big Lie

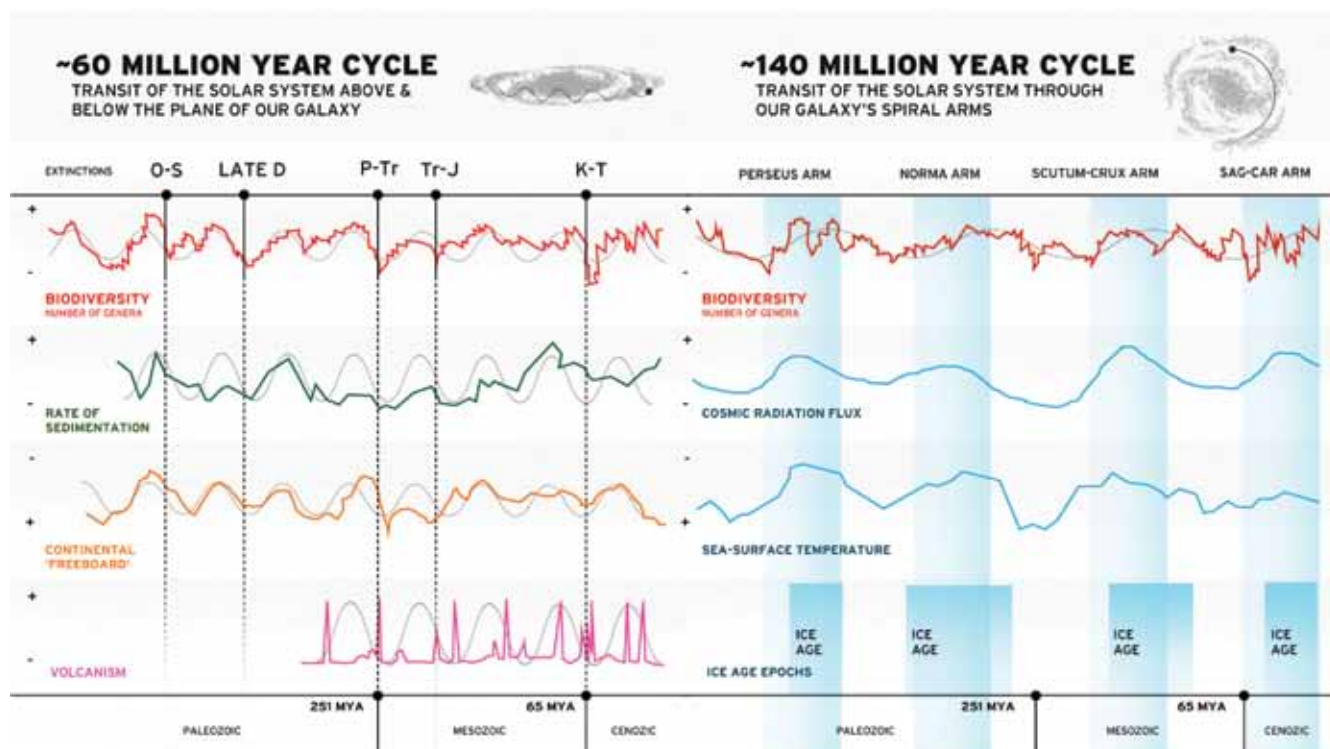
The story of humanity’s existence is one of a new-comer to our galaxy. Borrowing from President John F. Kennedy’s famous 1962 Rice University address, if we take the age of the Earth as one day, the development of complex life on Earth began about 3 hours ago.¹⁰ Humans have existed for a mere 3 minutes, and recorded human history began only within the last tenth of a second.

We can locate the mere several million years of mankind’s existence within the development of complex life over the past half billion years. Written in the fossil record is a history of ceaseless development and increasing activity, a process that can only be characterized as anti-entropic. (See Appendix 1: The Principle in Evolution.)

Reading this story, the development of life shows a clear periodicity of rise and fall, punctuated by great dips called mass extinctions. The overall trend of the increase in diversity and dominance of life is characterized by these cycles, one of about 60 million years, and another of about 143 million years—periods which mankind has yet to experience.¹¹

10. Beginning at the Cambrian explosion dated to approximately 540 million years ago.

11. The initial hint of a periodicity in the fossil record was noticed in the 1980’s, and thought to be about 30 million years. In 2005 a reanalysis with improved dating scales indicated a strong periodicity of 62 million years, and a weaker but significant period of 143 million years. See Rohde & Muller, “Cycles in fossil diversity,” *Nature*, Vol. 434, 2005; and, John Sepkoski, “What I Did With My Research Career—Or How



Graphical representation of the two theorized orbital cycles of our solar system through our galaxy, and the corresponding cycles in biodiversity and geophysical/climate activity. See: "Cycles in fossil diversity," R. Rohde & R. Muller; *Nature*, Vol. 434, March 10, 2005; A. Melott and R. Bambach, "A Ubiquitous ~62 Myr Periodic Function Superimposed on General Trends in Fossil Biodiversity: Part II," 2009, arXiv.org preprint; H. Svensmark, "Cosmoclimatology: A New Theory Emerges," *A&G*, Feb. 2007, Vol. 48; N. Shaviv, "Cosmic Ray Diffusion from the Galactic Spiral Arms, Iron Meteorites, and a possible climatic connection?" *Physical Review Letters*, Vol. 89, Issue 5; S. Peters, "Environmental Determinants of Extinction Selectivity in the Fossil Record," *Nature*, July 31, 2008, Vol. 454; A. Prokoph et al., "Time-Series Analysis of Large Igneous Provinces: 3500 Ma to Present," *The Journal of Geology*, Vol. 112, No. 1 (Jan., 2004), pp. 1-22.

The Earth as a whole appears to pulsate with the same cycles, like a heartbeat of our entire planet. The uplift and collapse of entire continents, as indicated by sedimentation rates and other records, has occurred on the same cycle of approximately 60 million years. Even periods of large-scale continental volcanism have been shown to have this same approximate 60-million-year cycle.¹²

Long-term climate variations of the entire planet, moving from global ice ages to global warm periods, occur on a period of about 143 million years, corresponding to one of the cycles of biodiversity mentioned above.¹³ The same cycle has also been teased out of the

clues left in meteorites, which have recorded changes of the cosmic radiation environment of our entire solar system.¹⁴

In trying to unravel the tale of these cyclical changes the Earth has experienced, we are directed beyond the reaches of our planet and our solar system. Even the longest cycles of Earth's motion with respect to our solar system, such as changes in the eccentricity of our planetary orbit, are only on the scale of hundreds of thousands of years. In searching for larger cycles, we are led to the motions of our solar system through our galaxy, cycles on commensurable time-scales to the major changes on Earth which we've outlined.

Research on Biodiversity Yielded Data on Extinction," found in the book, *The Mass Extinction Debates: How Science Works in a Crisis*, by William Glen; Stanford University Press, 1994.

12. Martinson, Peter, "The Importance of NAWAPA for Geophysical Research," on LaRouchePAC.com.

13. See "The Milky Way Galaxy's Spiral Arms and Ice-Age Epochs and

the Cosmic Ray Connection," by Nir Shaviv at Sciencebits.com/ice-ages, and "The Spiral Structure of the Milky Way, Cosmic Rays, and Ice Age Epochs on Earth."

14. Shaviv, "Cosmic ray diffusion from the galactic spiral arms, iron meteorites, and a possible climatic connection?" *Physical Review Letters*, Vol. 89, 2002.

Evidence of our travels through the galaxy has been recorded in the meteorite records just discussed, leading to the hypothesis that these fluctuations in cosmic radiation result from our periodic passage through the galaxy's spiral arms. In addition, several astronomers have made calculations of the possible period of our oscillation above and below the galactic disk.¹⁵ The entire perpendicular cycle, from one extreme and back again, would take on the order of 52-74 million years, matching both the cycle of geophysical pulsation of the Earth and the biodiversity cycle of life.

This evidence also indicates that we are heading into the same relative position with respect to our galactic plane as during the extinction that eliminated the dinosaurs 65 million years ago. It appears we are overdue for another such extinction/speciation event.

So, we have to look to our galactic environment to come to know our own Earth. But here, we run into a contradiction between the clear, anti-entropic evolution of life on Earth, and the fact that astronomical and cosmological investigation, including the study of our own galaxy, is dominated by a fraudulent extrapolation of the Second Law of Thermodynamics,¹⁶ a law of increasing entropy. This false doctrine is typified by the work of Pierre Simon Laplace. (See Appendix 2: Laplace's Fraud.)

But, there need not be a contradiction. There is a harmony between the anti-entropy evident in the development of life, and galactic processes. Life is not an exceptional case of "local anti-entropy," which, in order to exist, must increase entropy elsewhere. The universe is not a big box of gas, in which almost all cosmic phenomena of any significance are merely chaotic "explosions." There was never justification for Laplace's fraudulent ideology, claiming that any event could be predicted from the immediately preceding event, in a percussive process resulting in an increasing dissipation of free energy, ending in complete stasis.

15. E.g., Bahcall & Bahcall, "The Sun's motion perpendicular to the galactic plane," *Nature* vol. 316, 1985.

16. There is a general disagreement as to what exactly the Second Law of Thermodynamics even states. In its original form, it was a quite reasonable observation by Sadi Carnot, made in the course of his work on heat engines, that heat never flows from a colder body to a warmer one. This observation falls well within the domain of provable, experimental physics. In the hands of Rudolph Clausius, however, it became an irresponsible monstrosity, extrapolated to phenomena whose essential nature had never even been probed scientifically. It became essentially a sort of apocalyptic religious belief, the adherence to which no doubt contributed to poor Ludwig Boltzmann's choice of exit from this world.

The development of the Earth's biosphere has been an anti-entropic process, never reversing, but proceeding incessantly towards higher levels of energy-flux density. As the fate of the dinosaurs tell us, creatures that can't keep up go extinct. The persistent anti-entropic nature of life cannot be created from entropy, and as we will show, neither can the evolution of galaxies, whose long-period cycles resonate with the development of life on Earth.

The question remains: what is our galaxy, really?

The Anomalous Redshift

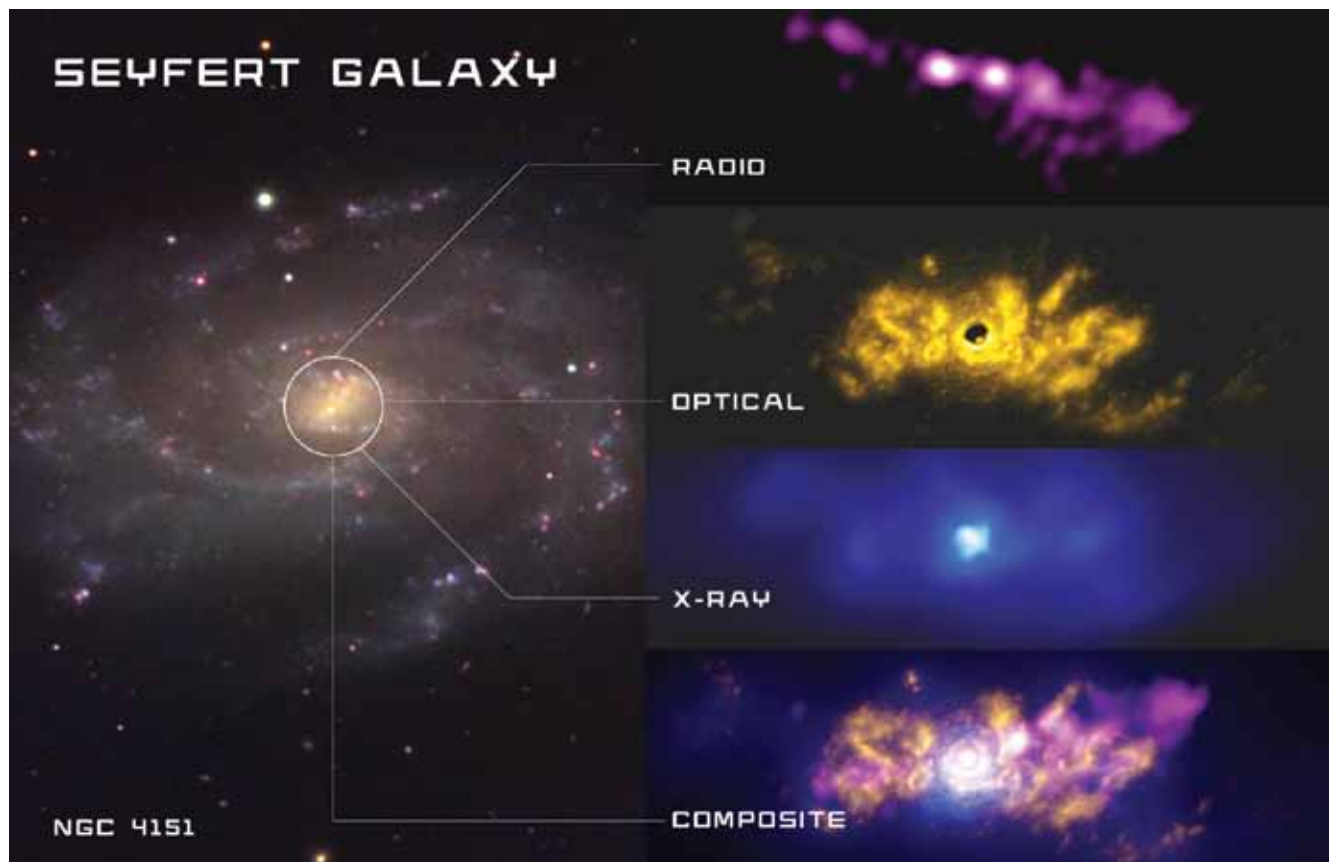
Here, we aim to permanently dispel the idea of an assumed entropic fate of heavenly bodies. What we can discover in a study of galaxies, unhindered by false assumptions, is the creation and growth of galaxies, evolving into new states—indicating not only a maturation (as opposed to death), but even what we could call creativity.

This evidence comes from the early work of the American astronomer Halton Arp, studying the systemic associations and physical interactions between very high-redshift galaxies and low-redshift galaxies, something which is prohibited in the doctrine of Second Law cosmology. (See Appendix 8: Redshift.) The entirety of present cosmology demands that two galaxies with vastly different redshifts must be greatly separated in space and in time—yet we see clear examples where this is not the case.¹⁷

This demonstration explodes the standard Big Bang theory. However, our focus here is not a treatment of the Big Bang as such, but of the much larger issue of the underlying assumption of the fraudulent Second Law of Thermodynamics.

There are two particular types of celestial objects which help to expose the fraud. The first type of object

17. The work of decades of research into this redshift anomaly is presented clearly in two successive books by Arp, *Quasars, Redshifts and Controversies*, 1988, and *Seeing Red*, 1998. However we are obliged to note a distinction between his observational work, and his theories explaining the new questions posed by the observations. Here we will stick to his observational demonstration of the existence of this anomalous redshift phenomenon, and draw implications, where we can, from there. A fuller treatment of his theories would require another occasion. With that said, credit should be given to Arp's commitment and continuity of work, despite decades of denial and attempted suppression by the academic institutions. By the early 1980's he was forced to move to Germany to continue his work, as he was increasingly denied access to the telescope at his previous occupation at the Palomar Observatory, despite his having worked there for 27 years, and despite the fact that he was considered one of the world's leading up-and-coming astronomers during his early career.



Left: Adam Block/NOAO/AURA/NSF; x-ray: NASA/CXC/CfA/J.Wang et al.; radio: NSF/NRAO/VLA; optical: Isaac Newton Group of Telescopes, La Palma/Jacobus Kapteyn Telescope

Example of a Seyfert galaxy, NGC 4151. Separate close-up images of the active nucleus are shown in radio, x-ray, optical wavelengths, and a composite of all three.

is a specific class of galaxy known as a Seyfert galaxy. These galaxies have very active central cores (nuclei) which shine much more brightly than the nuclei of other galaxies, and across a broad range of the electromagnetic spectrum.

The second type of object is known as a quasar.¹⁸ These are most well known by their extremely high redshifts, and when they are viewed in the sky, they appear relatively faint and small.¹⁹ Standard cosmological doc-

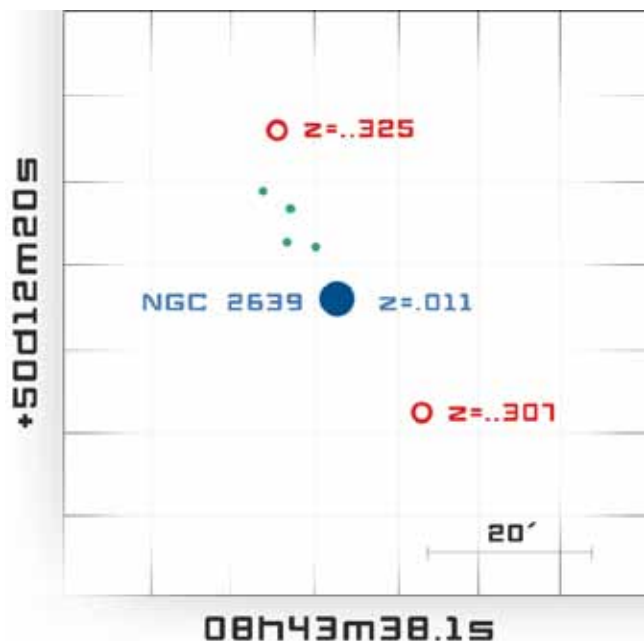
18. The name quasar comes from “quasi-stellar radio source.” “Radio source” because the first quasars were discovered from their strong radio emissions, and “quasi-stellar” because they visually appeared as singular point sources of light (similar to how we see stars within our galaxy), instead of nebulous blobs (as other galaxies appear to us). Their dramatic redshifts indicated that they lay well outside of our own galaxy.

19. Arp also identified other objects in the image which he thought would turn out to be more quasars. In 2004 they were investigated, and the four unmarked objects in the image above did turn out to be additional high redshift quasars. See, “QSOs and Active Galactic Nuclei Associated with NGC 2639,” E. M. Burbidge et al., *The Astrophysical Journal Supplement Series*, 153:159-163, 2004 July.

trine requires that these quasars, on account of their extremely high redshifts, be extremely far away—much, much farther away than the Seyfert galaxies we see.

However, Arp demonstrates that these two classes of objects, which should be vastly separated in space and time, and therefore should be absolutely unrelated to each other, are actually systemically associated. This means that in the general regions around Seyfert galaxies we find significantly higher densities of quasars than we should find were these two types of objects completely unrelated. This correlation suggests that an actual physical relationship between the two objects must exist, i.e., they are close to each other in space and time, meaning that the standard assumptions about redshift fall apart. There must be some other cause for the dramatic redshift of quasars.

Arp calls this anomalous redshift, which can not be attributed to anything within the framework of Second Law cosmology, the intrinsic redshift, a property shared by all galaxies as well as quasars. As will be discussed



Seyfert galaxy NGC 2639 with a pair of quasars perfectly aligned across it. This is an exceptionally good example, as the quasars have very similar redshifts as well. If redshifts were actually indicative of distances, these quasars would have to be ~20-30 times farther away than the galaxy. See Arp, “Seeing Red,” page 58. The redshift values are indicated by the letter z , and are usually given in one of two forms, either in terms of a special scale ranging from 0.0 to extremely high values of 8+, or the measure of kilometers per second, which is generally used for lower redshifts. (Even though the object may not actually be moving at that speed, this is still used as a convenient measure of the redshift value.)

below, this requires a new approach to physical phenomena, incorporating the notion of a fundamentally creative universe, whose properties require a thorough study of the phenomena of life and cognition.

Not only did Arp show that there is a general association between Seyfert galaxies and quasars, but also that there is a tendency for pairs, or even multiple pairs of quasars to line up perfectly across these active galaxies, as seen in the image here.

As both Seyfert galaxies and quasars are relatively rare objects, the chances of those in the image above being unrelated, and only accidentally seen near each other in the sky, is quite small. The chance of finding just two unrelated quasars with similar redshifts this close is only about 1 in 100. Add to this the probability of seeing a Seyfert galaxy this close to the pair, and the likelihood of being a chance occurrence drops dramatically. Include the fact that they all line up nearly per-

fectly, with the Seyfert galaxy almost exactly in the middle, and the likelihood that this is mere coincidence becomes vanishingly small.

Perhaps one or two incredibly rare exceptions could be tolerated, but by the mid-1990s Arp had identified dozens of very clear cases of such alignments.

Not only does this mean that these objects with dramatically different redshifts are located very close to each other in space and time (close in extra-galactic astronomical terms at least), but, as we will see below, these examples also point to the creative nature of galaxies, acting to generate new states of existence in the universe.

This evidence of the paired alignments, gathered from what were then new x-ray observations, fits in perfectly with decades of Arp’s earlier work, during which he had studied anomalous cases of galaxies that were known to be ejecting massive structures from their central cores.²⁰

These earlier studies uncovered numerous cases of objects with very high redshifts in close proximity and along the same direction as the jets of ejected material, and sometimes even within the jets, showing that these high redshift objects were actually being ejected from much lower redshift galaxies. This evidence has long indicated that it’s not just quasars that have this intrinsic redshift property, but that all galaxies do.

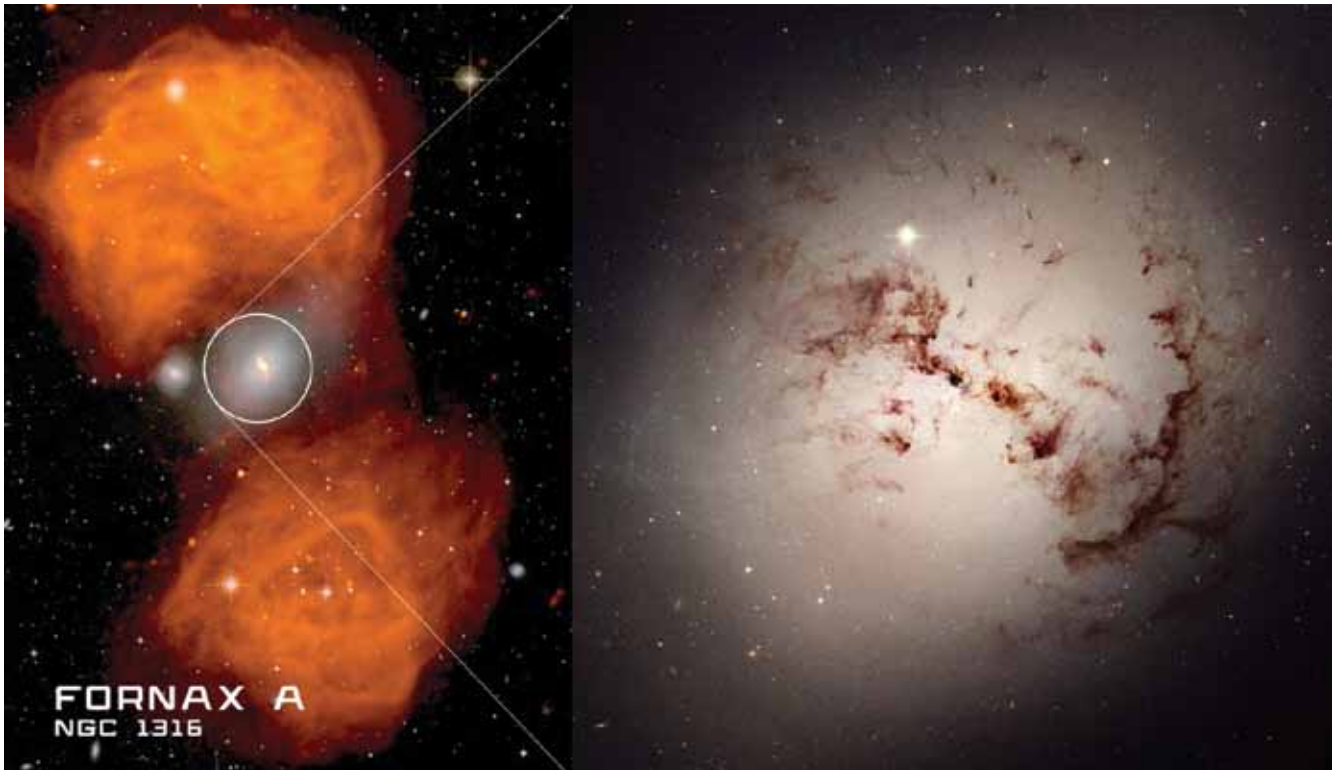
Creative Galaxies

The intrinsic redshift evidence shows us a creative universe, in which galactic systems are created and then evolve and develop, more closely resembling the morphogenesis of a living organism than any Second Law, entropic process.²¹

Though more work needs to be done to determine the exact nature of these processes, the intrinsic redshift values observed for different quasars and galaxies

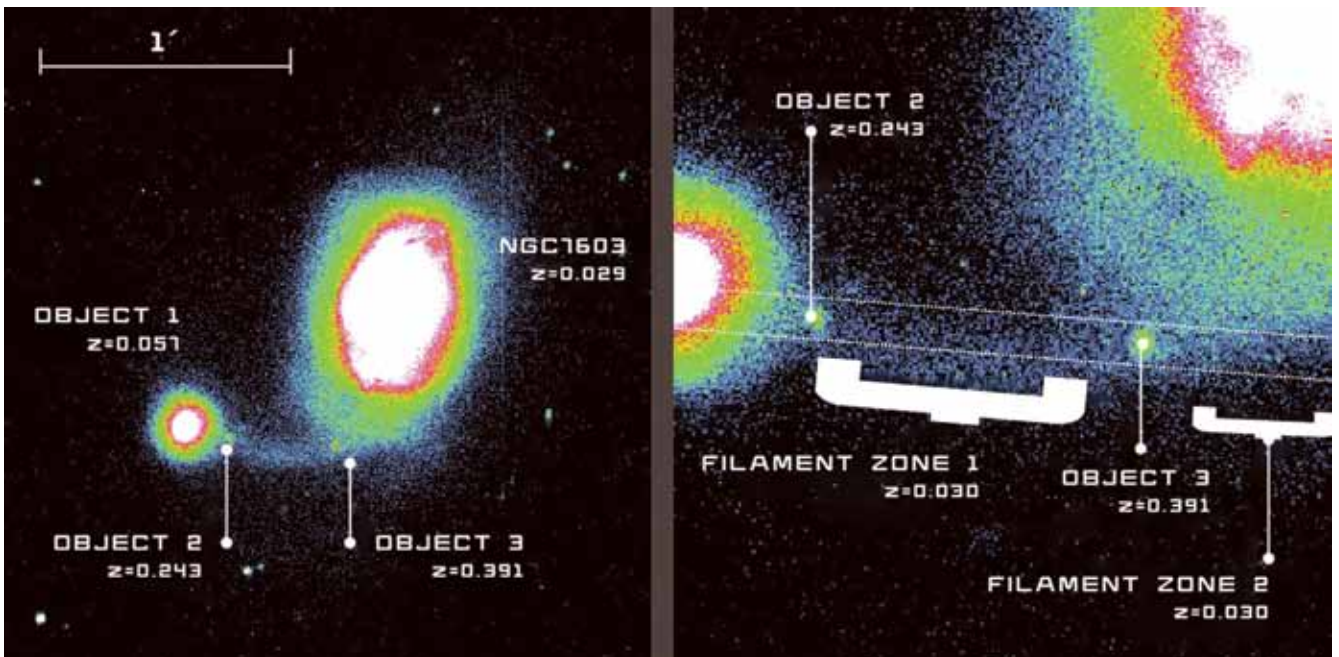
20. The idea of galaxies ejecting any material should be seen as problematic for the doctrine of Second Law cosmology, as that doctrine describes the core as an incredibly dense region of matter which should be gravitationally pulling material in, not ejecting it out.

21. Arp, in collaboration with Jayant Narlikar, developed a theory which attempts to explain the relation of redshift to a galaxy’s evolution. This present report is not intended to treat the specifics of their theory. Instead we will propose an approach which is methodologically fundamentally different than that taken by Arp and Narlikar. This new approach, as we will discuss in the following section, is grounded in a superior current of scientific thought, a current which has nearly disappeared from a modern science dominated by reductionism.



Radio image courtesy of NRAO/AUI and J.M. Uson

NGC 1316, also known as Fornax A. On the right is an optical image from the Hubble space telescope, and the left includes an overlaid radio image, showing the massive lobes of ejected material dwarfing the size of the galaxy.



M. López-Corredoira, C.M. Gutiérrez, 2002, "Two emission line objects with $z > 0.2$ in the optical filament apparently connecting the Seyfert galaxy NGC 7603 to its companion," A&A, 390, L15.

The famous case of the Seyfert galaxy NGC 7603. A bridge of ejected material stretches out from the main galaxy to a smaller companion galaxy with twice the redshift. Two quasars with much higher redshifts also appear to have been ejected along with this bridge.

appear to correspond to distinct stages of galactic evolution, in which quasars may represent something akin to an embryonic stage, characterized by very high intrinsic redshift values, which then progressively decrease as the quasars evolve into full-fledged galaxies.²²

Further insight into how redshift indicates an evolutionary stage, can be gained by looking at relatively small systems of galaxies understood to be physically associated with each other because of their similar locations in the sky and similar luminosities and sizes. These are called galaxy groups.

One of the closest and best studied groups is the M81 group, so named because its brightest and largest member is the galaxy M81. (See image.)

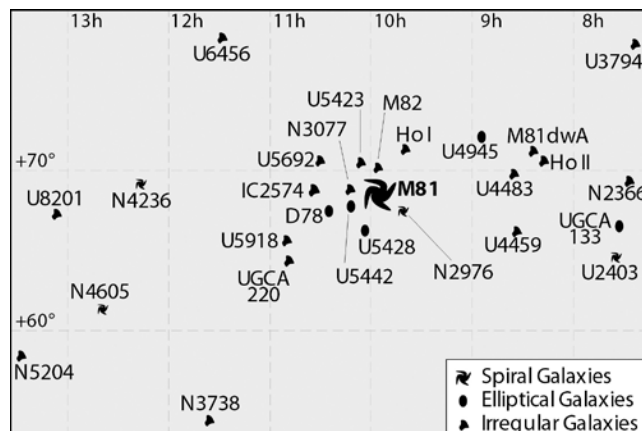
As Arp shows, if we take all the galaxies of the M81 group and plot them by their redshift we see that all of the companion galaxies surrounding M81 have a higher redshift than this parent galaxy. (See image.)

This phenomenon of smaller companion galaxies having consistently higher redshifts than the respective dominant parents of their group was confirmed in other groups studied, as well as in studies of the entire Virgo cluster of galaxies.²³ This adds further proof that the intrinsic redshift we measure is an indication of the stage of evolution of a galactic system, and that new galaxies are being created, developing, and growing.

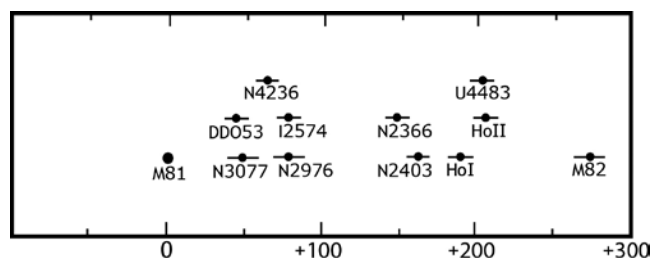
Looking back to our home, our own Local Group of galaxies, of which our Milky Way is a member, is no exception. For our Local Group, the dominant galaxy is the Andromeda galaxy (M31), and again, all of the major companion galaxies around it, including our own, have higher redshifts. (See image.)

Combining the M31 and M81 groups, and plotting the members by their galaxy type and by their redshift, we again see how the larger, older spirals galaxies (M81 and M31), have lower redshifts than their companions.

When we observe the Andromeda galaxy from the Earth, we see it as one of the rare galaxies with a negative redshift (blueshift). The standard assumption of attributing shifting spectral lines to the effect of relative motion has led to the popularly stated claim that our



Map of the M81 group as observed in the sky. Galaxy sizes are not to scale.



Main members of the M81 Group of galaxies plotted by their redshifts relative to M81 mapped along the x-axis. (See Arp, "Seeing Red," page 63.) With additional studies and the development of better telescopes, more members of this group have been identified since the 1998 publication of this study. These newly discovered members tend to be either smaller irregular galaxies or so-called "dwarf galaxies," and their redshifts are consistently higher than their parent, M81.

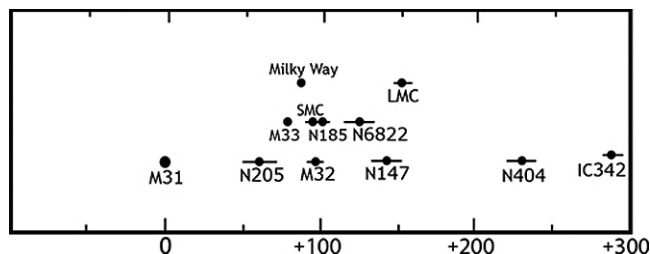
own galaxy and Andromeda are crashing towards each other, destined to collide in some 2 to 5 billion years. But we have already shown this to be an unfounded assumption.

What does this then imply for our own Milky Way galaxy? Since our galaxy is a companion to Andromeda, the parent galaxy of our Local Group, we should have our own intrinsic redshift relative to our parent, indicating the continual growth and development of our own galaxy. This rate of development of our own Galaxy constitutes the baseline rate of development for survival within that Galaxy. If mankind does not maintain or exceed this rate of growth, we face the same fate as countless species before us, who were similarly outpaced by the increase in energy-flux density requirements.

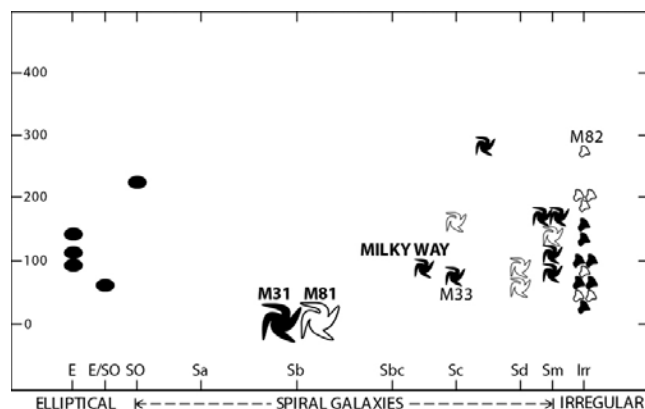
There was never any justification for a universal Second Law of Thermodynamics—we are not living in

22. There is also evidence that the values of the intrinsic redshift of galaxies sometimes tend to cluster around certain quantized values. This is not always the case, but there are numerous surveys of systems of galaxies in which certain values of intrinsic redshift are more common than other values.

23. The Virgo Cluster is composed of somewhere between 1,000 and 2,000 galaxies. For more on this study see: Arp, *Astrophysical Journal* 430, 74, 1994.



Main members of our Local Group of galaxies plotted by their redshifts relative to M31 mapped along the x-axis. See Arp, "Seeing Red," page 63. Again, more members of our Local Group have been identified since 1998, and their redshifts confirm that M31 has the lowest intrinsic redshift of the group.



Main members of the M81 group (outlines) and the M31 group (solids) plotted by their galaxy types and redshifts, again taken relative to the parents M81 and M31. Redshift is along the vertical axis. See Arp, "Seeing Red," page 66.

a giant box of gas cooling in empty space. We find our home in a developing galactic system, located amongst countless other developing galactic systems. The redshift case provides us with an insight into how the universe evolves into higher states of organization in the very large, and where we must locate the crafting of national and international economic policy to guarantee our continued existence within this system.

In other words, it's difficult to build a home that lasts, if you don't understand the changing grounds on which you build.

What does this galactic evolution look like, and how does it appear from the inside of a galaxy? What type of weather might a species living on a single body of that system experience as the entire system changes?

Mankind can never measure his existence against a fixed reference frame. The environmentalist doctrine of so-called sustainability is synonymous with extinction. Even maintaining a set level of economic activity requires that we continually advance technologically, just

to maintain our relation with the progressing systems of the biosphere and of the galaxy. Economic progress is measured by the rate at which our rate of advance outpaces the changing universe, a reality which must determine how we shape policy as nations. From the fate of the dinosaurs, to redshift messages from entire galaxies, the universe is expressing the same unifying doctrine: progress or die.

2. The State of Galactic Spacetime

How is a galaxy able to act as a single system such that we observe this unified effect? That is, when we look at another galaxy, what we see is the result of light being emitted from millions to trillions of seemingly discrete stars,²⁴ yet we do not see a variety of redshifts: rather, we see one intrinsic redshift of the whole system.²⁵ Since the galaxy as a whole possesses this intrinsic redshift, how does each individual star of that galaxy know to emit light of the same intrinsic redshift? Or, more simply, since each star is emitting its own light, how do they all act in harmony to a single effect?²⁶

This underscores the importance of eliminating the empty-space conceptions of our universe. We have to rid ourselves of the fallacy that a galaxy is simply an accumulation of stars held together only by gravitational attractions—stars which would otherwise be autonomous, discrete objects. The above considerations require that we understand that stars don't compose the galaxy, but the galaxy composes the stars.

Along with other observational anomalies (see Appendix 3: Galactic Harmonics), these considerations raise the question of how to investigate our own galaxy as a self-bounded, developing system, and what this implies for our own existence within our galaxy's solar system.

The work of Albert Einstein and Vladimir Vernadsky provide a fundamental basis for investigating this question.

24. In addition to the emissions from the stars there can be strong emissions from the galactic nucleus if it is active, as discussed briefly above.

25. There are some small deviations, but mostly on account of the rotational motion of the galaxy and its stars. The galactic system has one intrinsic redshift.

26. If we include the evidence that some galactic systems tend towards specific quantized values of redshift, then this adds another dimension to the question of how a galactic system organizes itself.

With Einstein's work on special relativity, it was realized that new causes for redshift were possible. In special relativity, objects travelling at extremely high velocities relative to one another, approximating the speed of light, observe each other undergoing a distortion of their respective measures of distance and time. Light emitted from such a "slower" time will appear to have a lower frequency. The observer who receives this light will thus experience it to be shifted toward the red end of the spectrum, just as with the Doppler redshift. This redshift, however, is in a sense native to the observed object, as it is a product of a transformation of the internal spacetime relationships that the object experiences.

What if there are other means to effect this sort of spacetime distortion? It is feasible that two adjacent objects, experiencing no relative motion between them, could yet manifest totally different redshifts due to a difference in their respective spacetimes. It is even conceivable that more intricate distortions of the expected spectral lines could arise, shifting the different spectral bands of different elements in distinct ways, such as those currently being attributed to a change in the fine structure constant.

(See Appendix 5: Fine Structure, Constant?)

In fact, such a heterogeneous spacetime is required by the later work of Vernadsky.

In the 1930's Vernadsky had reexamined the qualitative distinction between life and non-life (an area broached earlier by Louis Pasteur and then Pierre Curie) from the standpoint of the work of Bernhard Riemann, opening up an entirely new depth of understanding of this distinction.²⁷

The product of this work is reflected in a trilogy of papers on the Problems of Biogeochemistry and On the States of Physical Space.²⁸ In these works Vernadsky demonstrates that the concepts of absolute space and absolute time must be thrown out. The physical properties of the space and time can not be brought in from outside assumptions, but are determined by the phase-space of the process itself, and thus become a

subject of empirical investigation.

(See Appendix 4: Vernadsky's States of Space.)

All this combines again to make us ask: What actually are the spacetime properties of an anti-entropically developing galaxy? To what phase space do they belong? Are we justified in the assumption that they belong to the abiotic? Might they in fact belong to the biotic? The cognitive? Something else entirely?

This will only be determined by an investigation of the galactic system itself, and how it changes and develops.

Message from a Guest Star

Our own solar system, though billions of years old, is still a relatively recent addition to our evolving galactic home. Only a fraction of that relationship is recorded in the cycles of the development of complex life on our tiny planet over the past half-billion years, as discussed above. We are left to wonder, with the human species existing on this planet only for a few million years (not even the length of one complete cycle), how has our entire galaxy changed over the course of even just these "recent" galactic cycles?

Even much shorter than the period of the existence of our species, all of recorded human history becomes an almost infinitesimal slice of one of these galactic cycles. Yet, as just discussed, absolute time does not exist. The metric of physical action—changes in physical action, and changes in the potential for physical action—is where reality lies.

Probably the most famous expression of the constant development of our galaxy is the Crab Nebula. This amazing anomaly of the night-time sky is an incredibly recent addition. Though the nebula was first observed with a telescope in 1731, later taking the first place in the famous Messier catalogue, its location corresponds to that of a supernova observed by Chinese astronomers in 1054 AD. This gives the Crab a birth-date well within the limits of human history, less than a thousand years ago, more recent than the reign of Charlemagne.²⁹

Since that recent date, the Crab has risen to become the most conspicuous character in our evolving gal-

27. The applicability of Riemann's work to the work of Vernadsky would make the spacetime effects more reminiscent of the sorts of phenomena that occur with general relativity. This would only approximate the ramifications of Vernadsky's later work, however, and a more thorough discussion will have to be undertaken in another location.

28. See, "The Problems of Biogeochemistry" I and II, and "The States of Space," available from *21st Century Science & Technology* magazine. (<http://www.21centurysciencetech.com/>)

29. Though, if we take into account the great distance to the Crab Nebula—probably several thousand light years—the time of its actual birth, as opposed to the time its light reached Earth, might actually coincide more closely with the time of the flooding of the Black Sea, about 5,600 B.C. On this scale, however, time and simultaneity become rather tricky things, as we know.

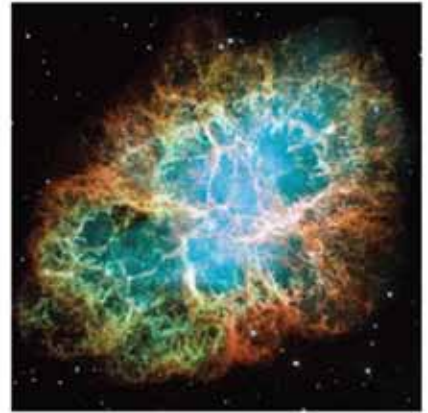
CRAB NEBULA



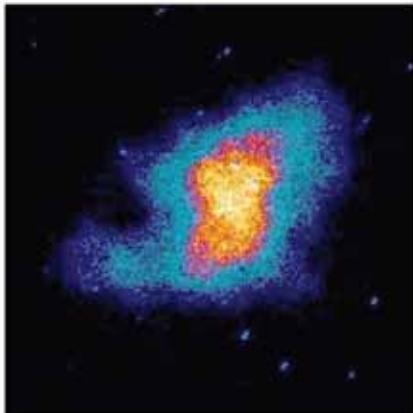
RADIO WAVE [VLA]



INFRARED RADIATION [SPITZER]



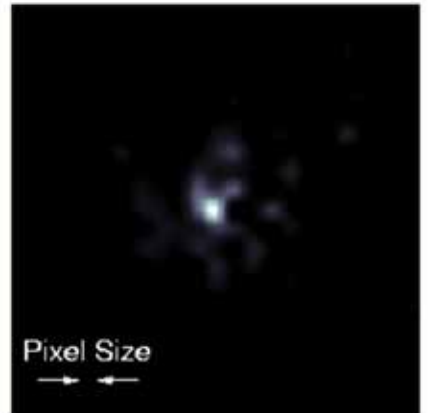
Visible Light [Hubble]



ULTRAVIOLET[ASTRO-1]



LOW-ENERGY X-RAY [CHANDRA]



High-Energy X-ray (HEFT)
15 min exposure

axy.³⁰ Currently expanding at a rate of 1,000 kilometers per second, a transformation which is clearly visible in photographs taken over decades,³¹ the Crab boasts, as one of the first shocks that it delivered to astronomers, the fact that its expansion is in fact accelerating rather than winding down—behavior rather uncharacteristic of a simple explosion or a dying star. Again, we see a universe whose character is in fact developing and growing, and this at accelerating rates.

This steady transformation of the Crab has not ceased. Beginning in 2009, the relatively recently

launched Fermi Gamma Ray Space Telescope and also the Italian AGILE telescope began observing short, intense flare-ups of gamma rays possessing energies of

30. “The Crab has played a leading role in so many aspects of astrophysics that it was often said (at least by astronomers studying this object) that there are two branches of the field [of astrophysics]—studies that dealt with the Crab, and all the rest.”—*The Sky at Einstein’s Feet* by William C. Keel.

31. NASA’s December 27th, 2001 Picture of the Day animates this change.

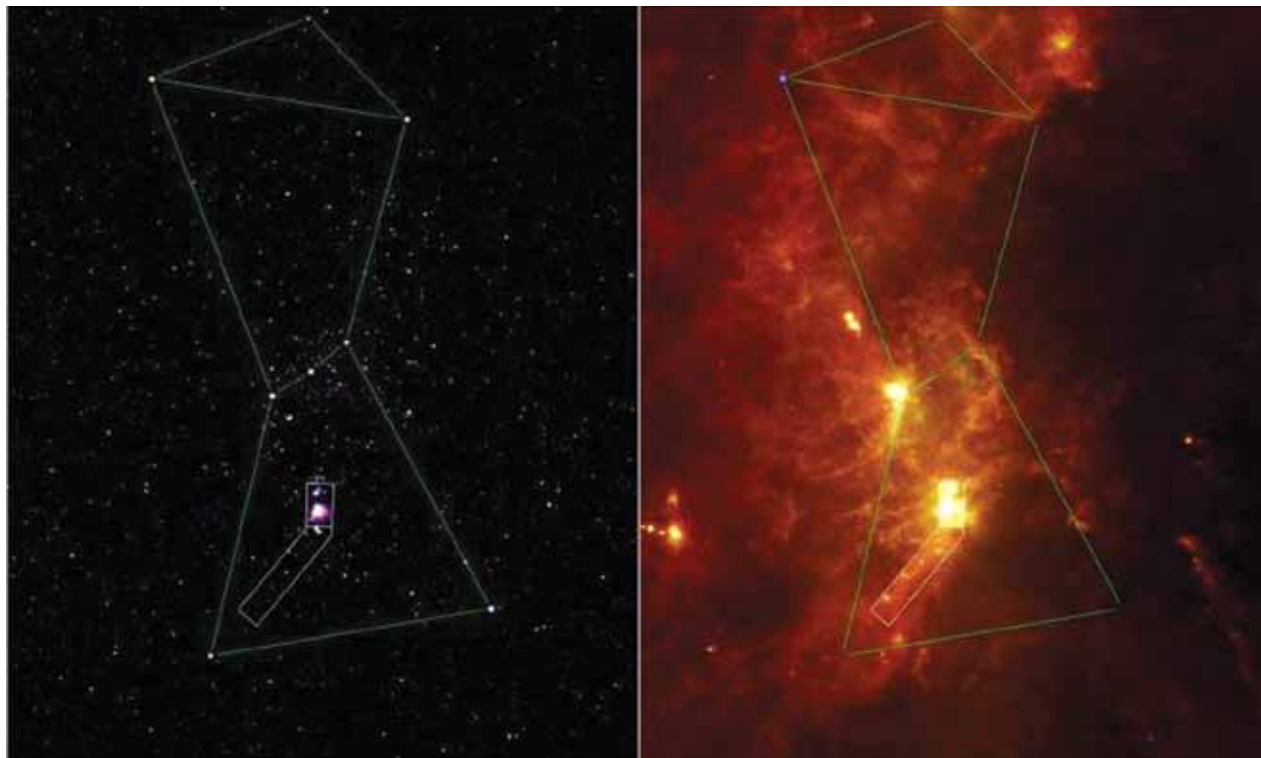


Our solar system relative to the Crab Nebula. Note the interesting alignment from the galactic center.

up to 10 quadrillion electron volts. But then, on April 12 and 16 of 2011, two “super flares” occurred which were over five times brighter than anything previously observed in our neighborhood. The source and cause of these flares are still entirely unknown. When the Chandra x-ray telescope was turned to observe the Crab on

these dates, absolutely no changes in the x-ray structure of the Crab were recorded. In fact no changes in any other frequencies were observed by other telescopes.

The rate at which these gamma ray flare-ups occur and then die down precludes the possibility that these emissions could arise from any known method of heat-



Empty Space

The psychologist Wolfgang Köhler diagnosed the pervasive belief in Newtonian absolute space to be a mental illness which arises from an excessive belief in sense perception.¹ The limitations of our sense of vision cause us to tend to separate our visual field into “objects” and “background.” Our extended electromagnetic sensorium, however, shows us that what we refer to as background is nothing of the sort.

Seen above is the constellation Orion. On the left,

it is viewed in the familiar visible spectrum. On the right, it is viewed through the Spitzer infrared space telescope. The image on the right gives us a slightly better idea of the nature of the environment through which humans will travel during our colonization of outer space. Also, given the level of activity of this invisible medium, as documented in this report, it is not inaccurate to liken this medium to the cytoplasm of a cell—while less obvious than the organelles, it is nonetheless more primary. We should take advice from the Scottish poet Robbie Burns, and learn to “see ourselves as others see us.” Observers standing on the Orion nebula, using their own version of the Spitzer infrared telescope, would not see the Earth floating through empty space; they would see us interacting with a lively medium which looks very much like the image on the right.

¹ Wolfgang Köhler, *The Place of Value in a World of Facts*, Liveright Publishing Corporation, 1938.

ing of the nebula's gases—the “cooling” phase would be far too rapid to be explained. However, if the suggested alternative is true, that electrons are being accelerated rapidly enough to produce the high-energy gamma radiation from their acceleration, these would be the highest-energy electrons connected to any known astronomical body. Add to this the fact that the largest flares occurred over the span of hours, and astronomers are at a complete loss for how such acceleration of electrons to such energies would occur. Is there perhaps some other possibility for the source of these flares?

Considered from the standpoint of the implications of our own galactic redshift, the more interesting likelihood is that we may not be able to explain the flare-ups by means of mechanisms occurring within the Crab itself.³² In this case we must have recourse to a cause that is imposed upon the Crab, by its home galaxy, which renders the Crab a true expression of the development of that galaxy as a totality. Thus, what is usually discussed as a chaotic “explosion” actually displays some of the most remarkable expressions of change and development of our own galactic system—a process that we have witnessed over the course of relatively recent recorded human history.

Looking back to the Earth, we find our own home is as much an integral part of the intrinsic redshift-bound spacetime of our galaxy as the Crab nebula. What are the full implications of this for the inhabitants of our planet? As we will see below, the existential challenge—something only the human species has demonstrated the potential to address—is to define the needed science-driver program which will provide mankind with both a greater understanding of the totality of our relationship with our galactic system, as well as insights into how we can increasingly bring these interactions under our own control.

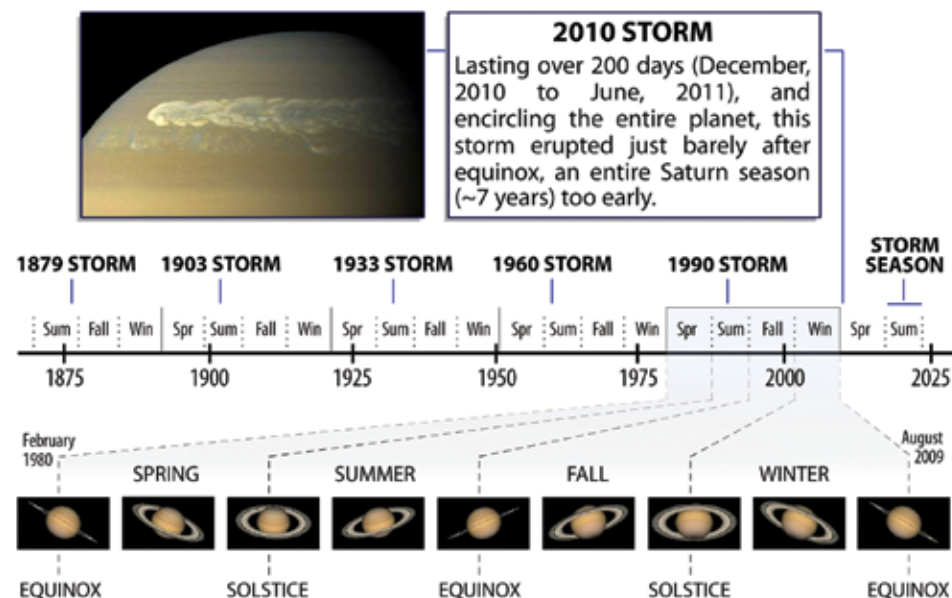
32. This would not make the Crab alone in this respect. It has been proposed that the peculiar character of our own Sun might be similar. The hottest region of the Sun is the solar corona, farthest from the Sun's center. As far as we can tell from our vantage point, the coolest regions of the Sun are within the sunspots—the closest we can yet observe to the Sun's center. This would imply a heating that moves from the outside in, rather than from the inside out. The current hypotheses about the centers of bodies such as the Sun and our Earth are just that, hypotheses. We have literally not even scratched the surface of any of these objects, including Earth. It is only Aristotelian prejudice that causes us to place the cause for their electromagnetic activities within the isolated bodies themselves, when so much evidence points to the primacy of their interaction and the medium which unites them. (See Box, p. 16.)

3. Local Weather from Your Local Group?

2011 gives us an intimation of what we may be in for. It all began with a gigantic blizzard in the American Midwest on Groundhog Day, which exploded as part of a dramatic, unforecasted shift within the atmospheric pressure regimes around the Arctic Circle. What followed was a series of deadly storms, earthquakes, and other major disasters, which now ranks 2011 as one of the most devastating years on record, globally, for natural disasters. Among the disasters: the massive magnitude 9.0 earthquake and subsequent tsunami in Japan; the extreme flooding in Australia; the six tornado outbreaks in the United States; the simultaneous evils of extreme drought in the south, and extreme flooding in the north of the U.S.; the deadly monsoon floods in Pakistan, China, and Southeast Asia, with almost 1,500 people in the Philippines being killed by one storm; the active tropical cyclone cycle, including both Hurricane Irene and Tropical Storm Washi; the Alaska super-storm; the Halloween Nor'easter that dumped three feet of snow on parts of New England; the East African drought, which killed over 30,000 African children alone over the summer. The list goes on.

Throughout the year, as the disasters mounted, the British Monarchy's environmentalist attack dogs struggled to pin the blame on man-made global warming. Not only is their analysis unscientific, and just flat wrong, but the solution proposed by these genocidalists would far exceed the Final Solution attempted by Adolf Hitler, the previous manifestation of British green policy. It were wise to remember that an earlier employee of the British Empire, Thomas Malthus, advocated both the initiation of warfare, and the encouragement of famine, disease, and other natural disasters, to reduce the population to levels manageable by the empire. The attempt to halt scientific and technological progress, in order to address a straw man created by minions, not scientists, of the British Empire, would reduce the world's population at a rate that very well could lead to the extinction of our species.³³

33. This is the immediate strategic intention of the British Empire, as the Queen's Royal Consort, Prince Philip, for example, has openly expressed such intentions to “cull” the vast majority of the human population. President Obama's acceptance of this policy of literal global genocide provides the grounds, and moral necessity, for his immediate



140 years of Saturn storms, with the anomalous 2010 storm indicated.

The British “humanity did it” dogma is not only wrong, but ignores the fact that our entire Solar System has erupted with unusual activity in the recent few years. For example, in December 2010, a massive, planet-wide storm flared up on Saturn, and lasted until July 2011. This is the largest storm we have ever observed on the planet, and nobody knows why it started now. Typically, large storms have been observed on Saturn every 30 years or so, which coincides with its orbital period. They have always developed right around the time that Saturn entered into its northern hemisphere summer, and may have a kinship with the tornado season that hits our planet every northern hemisphere spring. But, this time, the storm initiated much too early. Saturn shouldn’t transition to the stormy season for at least another seven years—some other factor caused this megastorm. Perhaps there are some who might claim that human emission of carbon dioxide on Earth is causing this extreme weather, also?

The Sun, itself, is transforming dramatically, in a way we haven’t seen for at least 400 years. All important indicators of solar activity are telling us that the Sun is going into a new phase of activity, a Grand Solar Minimum possibly like the great Maunder Minimum of the 17th Century. After coming out of an anomalous solar minimum, which lasted over two years, the Sun

removal from office. His intended healthcare “reform” has been drafted from exactly this same intention.

exploded with two large X-class, x-ray flares in early 2011.³⁴ This was followed by months in which several processes became decoupled. The northern hemisphere experienced surges of x-ray flares, while the southern hemisphere remained strangely quiet until later in the year. Seemingly independent of the flares, the Sun became amazingly productive in coronal mass ejections,³⁵ some of which struck the Earth. Although the solar maximum for this cycle is forecasted to happen in 2013, various indicators are now saying that the solar

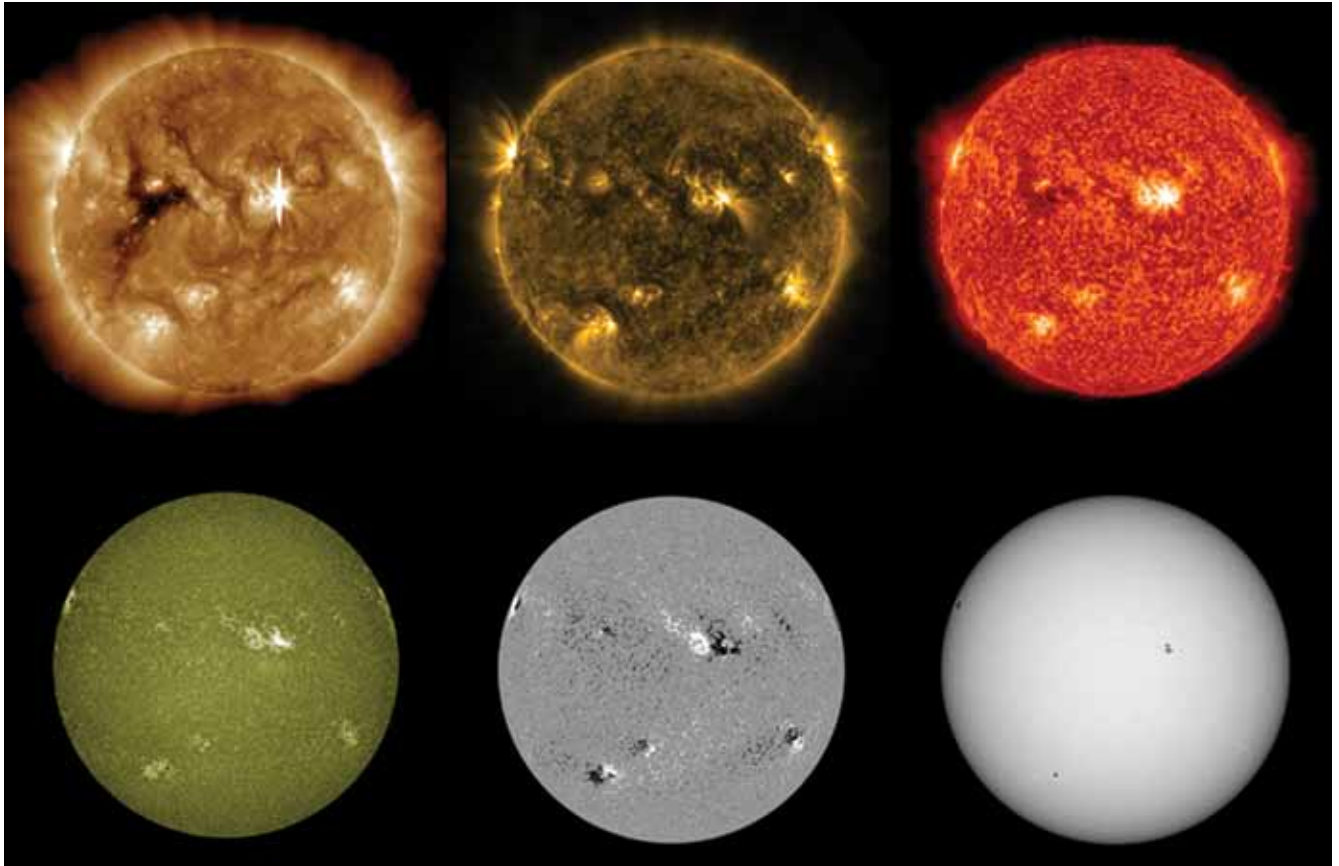
activity abruptly accelerated late in the year, and that we had already reached maximum by late 2011.

It is important to note here, that this poses a threat to human civilization in the near future. When a coronal mass ejection strikes our geomagnetic field, it can set off a geomagnetic storm, which, if powerful enough, could destroy electrical equipment through induced currents. The danger is that, should we suffer a direct hit by a large coronal mass ejection, it could blow out crucial elements of existing electricity transmission networks, crucial elements that can no longer be manufactured and replaced quickly by our devastated economy. Studies conducted to assess our vulnerability to such an event have shown that half the US population could be left without power for over a year, a situation which would lead to dark age conditions literally overnight.³⁶ As one person involved in the studies com-

34. It may not be a coincidence, that both of these large flares occurred only a few days before two of the most deadly earthquakes of the year, the magnitude 6.3 in Christchurch, New Zealand, and the magnitude 9.0 in Japan.

35. A coronal mass ejection, or CME, is an explosive ejection of a chunk of the Sun’s atmosphere (corona).

36. See Laurence Hecht, “The Solar Storm Threat to America’s Power Grid,” *21st Century Science & Technology*. In 2008, a report was published from a National Research Council workshop (under the National Academy of Sciences). In January 2010, the Metatech Corporation issued a report (commissioned under the 2006 Executive Order 13407), “Geomagnetic Storms and Their Impacts on the U.S. Power Grid.” In June 2010, a joint report was released by the North American Electric



NASA Solar Dynamics Observatory, sdo.gsfc.nasa.gov

Six images of the Sun taken at the same time, but in different wavelengths and using various imaging techniques. The corona is captured well in the top left image, with a dark coronal hole seen in the left center of that image. The bottom center image is a mapping of the magnetic polarity. Notice how the same sunspot appears differently in different images.

mented, imagine the aftermath of Hurricane Katrina, but happening simultaneously in 10-20 major cities, and lasting well over a year.

During the second half of 2011, we witnessed several coronal mass ejections that, had they happened only a few days earlier or later, might have been able to inflict such devastation. Some of the largest geomagnetic storms we suffered this year, were the result of grazing near-misses by some of these magnetic megablasts.

This “Fireball of Damocles,” under which we precariously stand, is a very conspicuous reminder of how little we still know about our own solar neighborhood. The entire system is transforming, as a system. Within this context, the development of a true strategic defense

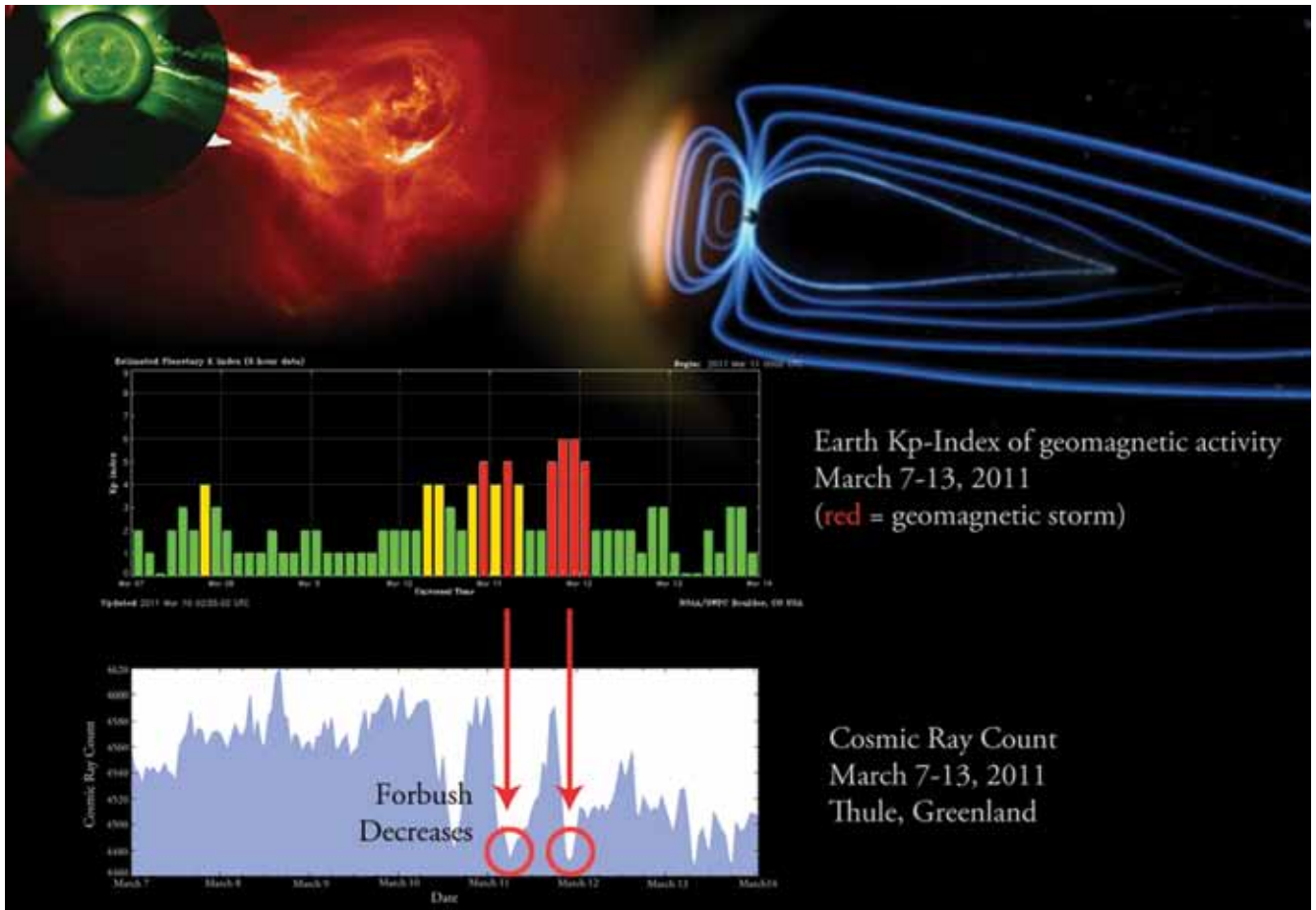
policy means that we must understand what drives that transformation. This capability is what the genocidalist green agenda, spearheaded by the global warming hoax, is blocking.

Cloudy with a Chance of Cosmic Rays

The unscientific basis of current carbon-obsessed climatology has been most notably exposed by the work of Henrik Svensmark and others on cosmic rays and cloud formation.³⁷ Low level cloud formation can be catalyzed by ionization from incoming cosmic radi-

Reliability Corporation and the Department of Energy, “High-Impact, Low-Frequency Event Risk to the North American Bulk Power System.” These have detailed some of the “knowns and unknowns” of the threats from intense solar activity.

37. It is widely acknowledged that the single largest source of uncertainty in climate models is the behavior of clouds, whose formation appears to be governed by various electrodynamic processes in the atmosphere, through which diffuse electrical currents constantly flow. This has been rather simplistically termed the “Global Electric Circuit,” which actually refers to a set of processes representing the combined interaction of terrestrial (lithosphere and biosphere), solar, and galactic influences. See, for example, Carslaw, Harrison, and Kirkby, “Cosmic Rays, Clouds, and Climate,” *Science* 29 November 2002: Vol. 298 no. 5599, pp. 1732-1737.



The Sun threw off a coronal mass ejection late on March 7, 2011. This CME (the fastest since 2005, at ~2,200 km/s) struck the Earth's geomagnetic field early on March 11, setting off a series of two strong reverberations over the next 48 hours (in red). Both of these strong geomagnetic storms were immediately followed by a sudden drop in cosmic ray flux, as measured from the neutron detector in Thule, Greenland. These drops in cosmic ray flux, due to the sudden onset of geomagnetic storms, are called Forbush Decreases, after the man who discovered the correlation, Scott Forbush.

ation interacting with our atmosphere, playing a significant role in mediating a cooling and warming effect on Earth, as well as affecting precipitation. According to this theory, the influx of cosmic radiation catalyzing this process is mediated by galactic changes, galactic cosmic rays being the greatest known source of cosmic radiation, while solar activity plays a further mediating role. When the Sun is more magnetically active, the electrically-charged cosmic rays tend to get deflected from the Earth by solar wind. This includes outbursts from such events as coronal mass ejections, leading to so-called Forbush Decreases in galactic cosmic rays.

In 2008, scientists Sergey Pulintets and V.G. Bondur authored a paper called "Role of Variations in Galactic Cosmic Rays in Tropical Cyclogenesis," which examined a different manifestation of precisely this kind of effect on the Earth's weather systems, treating the case

of hurricanes, specifically the 2005 Hurricane Katrina.³⁸ In the days prior to this devastating hurricane, the Sun unleashed a coronal mass ejection, which caused a geomagnetic storm here on Earth. Pulintets and Bondur showed evidence that the decreased cosmic radiation influx as the result of this solar event caused a decrease in atmospheric ionization normally caused by the cosmic rays. Condensation around these ions normally releases large amounts of latent heat. According to the authors, the sudden decrease in latent heat release high in the troposphere could have affected the atmospheric convection enough to cause an intensification and a change of the path of the hurricane, all ultimately po-

38. Bondur and Pulintets, "The Role of Galactic Cosmic Rays in Tropical Cyclogenesis: Evidence of Hurricane Katrina," *Doklady Earth Sciences*, 2008 Vol. 422, No.2, pp. 244-249.

tentially being driven by the change in galactic cosmic radiation interacting with the Earth's atmosphere.

The hypothesis of a significant cosmoclimatic effect is also supported by the recent CLOUD experiment at the CERN particle physics laboratory, which showed that cosmic ray ionization increases potential cloud condensation centers by at least a factor of ten.³⁹ This study also resulted in more questions than answers about the science of climatology, including the role of atmospheric gases in cloud formation—the study revealed that even the basic atmospheric aerosol composition of clouds itself is far from being understood. The promotion of the anthropogenic climate change agenda has thus increasingly revealed itself to be nothing more than a British imperial program to push for deindustrialization and depopulation, as well as a fraudulent excuse for the onset of famines and other weather disasters.

However, human-induced climate change itself is inevitable, and, in fact, necessary for a proper understanding of climatic processes. There have been long-standing experiments to induce rainfall, for example, largely through cloud-seeding. In recent years, a new approach to weather modification based on artificial ionization of the atmosphere has been gaining traction, drawing on the insights gained from cosmoclimatology.⁴⁰ This has the potential to give us greater leverage over key parts of the hydrological cycle. In combination with large-scale water management projects like the North American Water and Power Alliance (NAWAPA), which will increase the moisture available in arid regions, the direct manipulation of atmospheric parameters such as ionization can improve rainfall patterns, as well as mitigate destructive storms such as hurricanes.⁴¹

Investigation of atmospheric physics also gives us insight into processes deep below the surface of the planet.

We have renewed reason to conceive of seismic and weather phenomena, normally viewed as completely

distinct kinds of processes, as different expressions of the same, much larger, environmental changes. This is typified by, but not limited to, the study of atmospheric earthquake precursors.⁴² These atmospheric earthquake precursors are tied to the Earth's Global Electric Circuit, which is also the case for weather events such as thunderstorms and lightning. But on a broader scale, these different kinds of punctuated events also express changes occurring within our Sun, our galaxy, and beyond. Let's explore further the case of earthquakes and earthquake precursors.

The Fallacy of Simply 'Geo'-physics

Official seismology continues to treat megaquakes, such as that which devastated Japan in March 2011, as essentially random events. Indeed, every single one of the most deadly earthquakes of the past decade has been off the charts of the U.N.-sanctioned Global Seismic Hazard Assessment Map, which is based on statistical extrapolations of worldwide seismic data from roughly the last hundred years. In other words, megaquakes such as the one that struck Japan each came as a total surprise to seismologists. Clearly, statistics alone will fail in precisely those dangerous situations that depart from the assumed norm, with the price for such failure paid for in human lives.

This does not mean, however, that earthquakes are inherently unpredictable.

In fact, it has been clearly demonstrated by a number of scientists working in different countries, nearly all without government support, that large earthquakes are preceded by an array of measurable non-seismic precursor signals which could be incorporated into an early warning system. These precursors are the result of a complex and largely unseen process of physical preparation, of which the rupture of a fault zone is only the most dramatic manifestation.

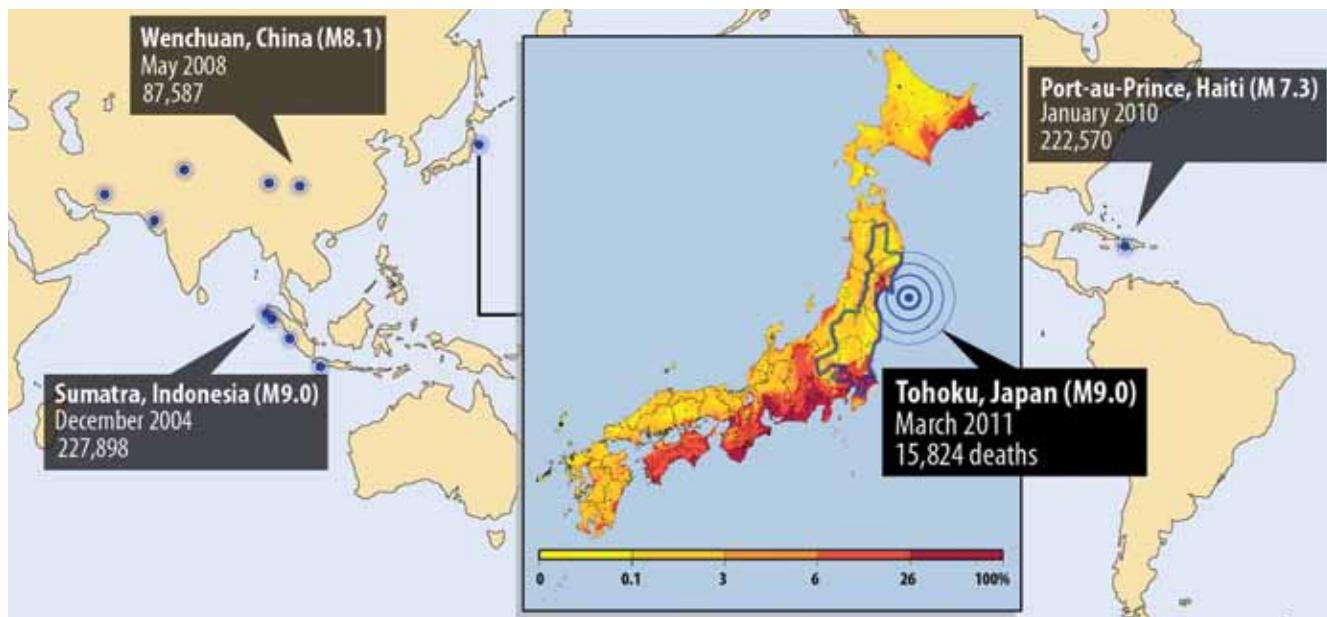
Many of these signals are projected as subtle electromagnetic fluctuations within the roughly 100-mile-thick curtain of atmosphere that extends from the weather-producing troposphere up to the electrically-conductive ionosphere, which interfaces directly with cosmic and solar radiation. For example, prior to the Japan quake, instruments registered atmospheric heat-

39. Jasper Kirkby et al, "Role of sulphuric acid, ammonia, and galactic cosmic rays in atmospheric aerosol nucleation," *Science*, 2011.

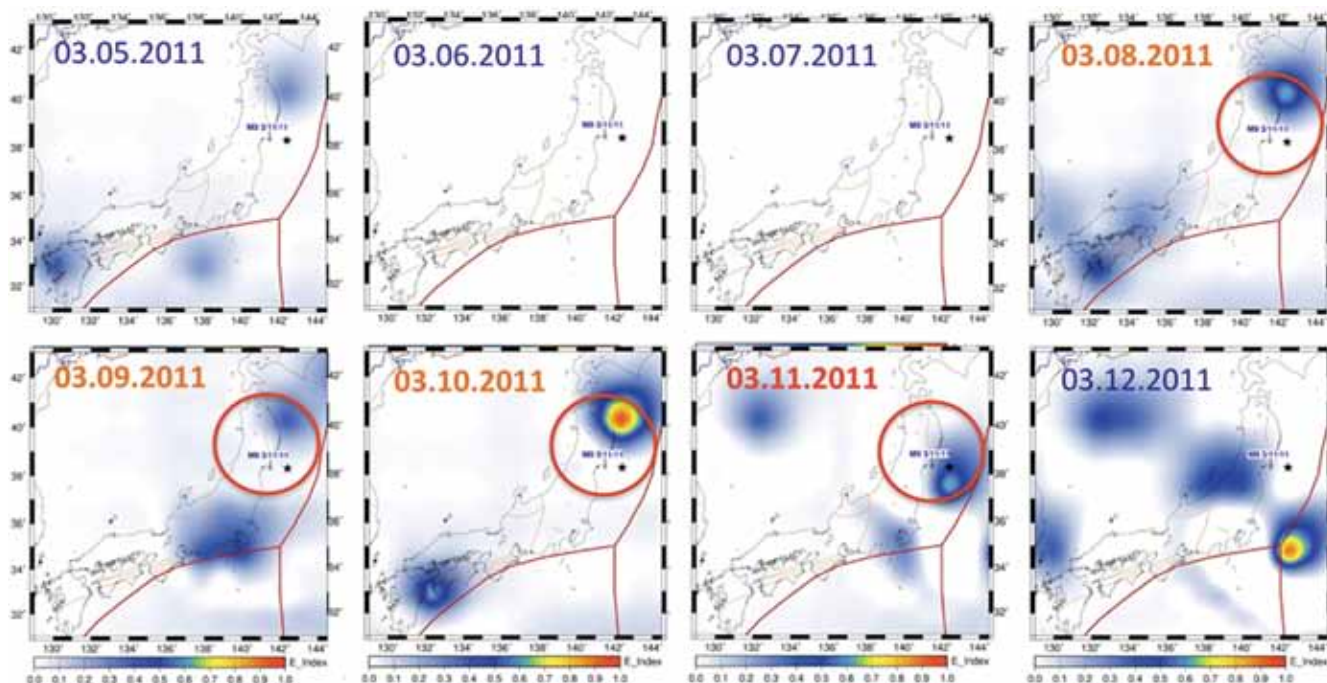
40. This technique has been pioneered by Russian scientist Lev Pokhmelnikh. See, for example, Sergey Pulinets, "Weather Control? Yes, it is really possible..." on recent experimental work on laser-induced condensation by Jerome Kasparian et al.

41. See video "NAWAPA and Biospheric Engineering" on LaRouchePAC.com, and other detailed material on the project at LaRouchePAC.com/infrastructure

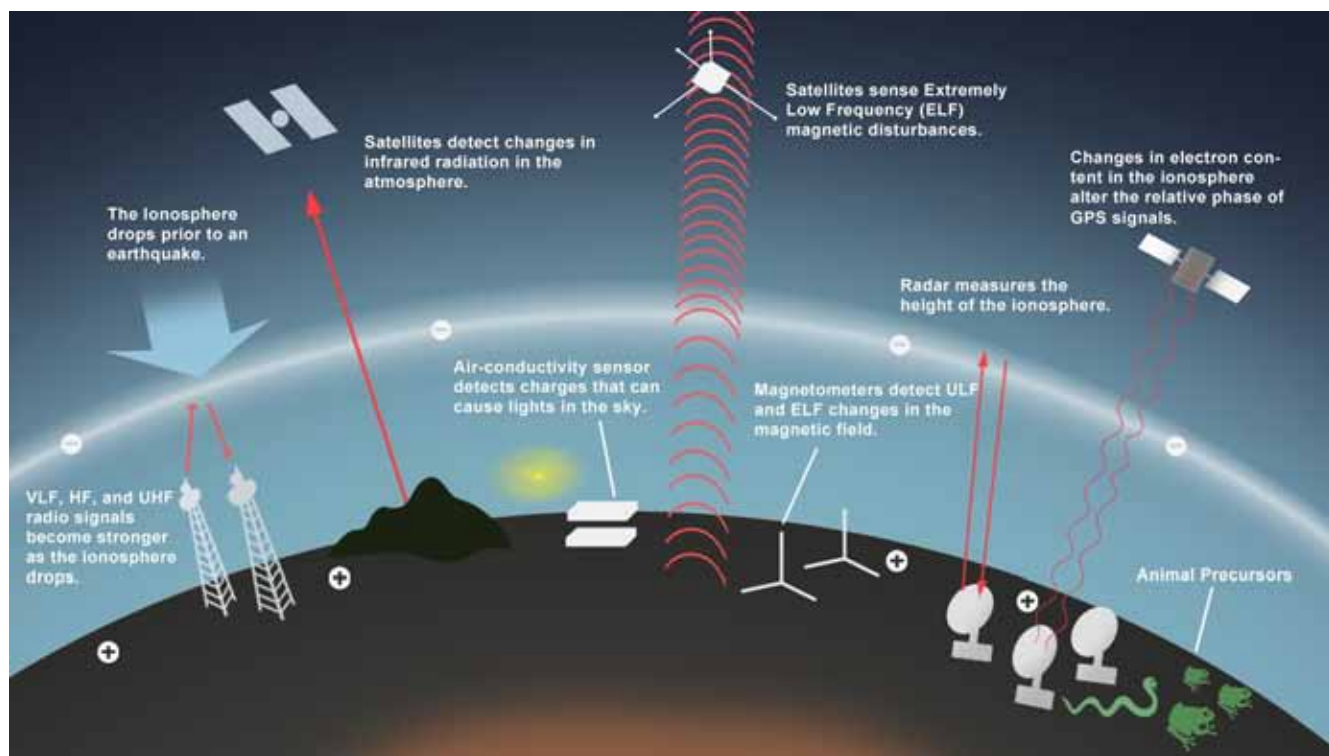
42. S. Pulinets, D. Ouzounov, "Lithosphere–Atmosphere–Ionosphere Coupling (LAIC) model—A unified concept for earthquake precursors validation," *Journal of Asian Earth Sciences*, Volume 41, Issues 4–5, 5 June 2011, pp. 371–382.



Between 2000-2011, the 12 deadliest earthquakes (11 are shown on the map) claimed some 700,000 lives. In every case, the actual seismic intensity of the earthquake exceeded the maximum predicted by the Global Seismic Hazard Assessment Program (GSHAP) map published in 1999, which is used as a standard government reference respecting building codes and emergency response. On the map of Japan, which has the densest network of seismometers in the world, the colored bars indicate the government's predictions of the probability of a "high hazard" or "very high hazard" (according to the GSHAP seismic intensity criteria) earthquake occurring within 30 years, beginning in January 2009. As can be seen from the blue outline, the region that actually experienced this level of seismic intensity from the March 11, 2011 earthquake was generally assessed as a relatively low-hazard region. Sources: Vladimir Kossobokov, International Institute of Earthquake Prediction Theory and Mathematical Geophysics, Russian Academy of Sciences; Japan Meteorological Agency.



Satellite observations of anomalous infrared emissions starting three days before the March 11, 2011 Tohoku, Japan earthquake, and appearing near the epicenter. Source: D. Ouzounov et al., "Atmosphere-Ionosphere Response to the M9 Tohoku Earthquake Revealed by Joined Satellite and Ground Observations. Preliminary results," 2011.



LPAC

Various forms of non-seismic precursors to large earthquakes.

ing above the future epicenter, as well as perturbations in Very Low Frequency and Low Frequency radio signals in the ionosphere. With an adequate array of ground- and satellite-based remote sensing instruments (such as that called for in IGMASS and similar proposals⁴³) and dedicated real-time monitoring of precursor signals, these “whispers from the Earth” can not only tell us of impending disasters, but hint at the possibilities for breaking down the artificial barrier between space physics and geophysics.⁴⁴

43. The proposed Russia-U.K. collaborative project TwinSat is intended to be such a dedicated set of microsatellites searching for earthquake precursors, and has been proposed to be subsumed in the broader international IGMASS collaboration. The two satellites are planned to contain instrumentation to measure such electromagnetic effects in the ionosphere as have been observed to be related to earthquakes and other seismic phenomena. Separately, the Chinese plan to launch the first of three dedicated earthquake precursor monitoring satellites beginning in 2014, as part of a broader program of ground- and satellite-based precursor monitoring. The U.S. DESDynI (Deformation, Ecosystem Structure & Dynamics of Ice) natural hazard monitoring satellite was cut by the Obama Administration in 2011.

44. And, also, the possibility of acting directly on the seismogenic process. Beginning in the 1970s and 80s, Soviet Academician E.P. Velikhov pioneered the experimental use of magnetohydrodynamic pulses to induce electrical currents in the crust down to depths of tens of kilometers, which reportedly is capable of inducing small earthquakes. Such

work could shed further light on the still poorly understood electrodynamic processes in the Earth’s crust. See Novikov et al., “Discharge of Tectonic Stresses in the Earth Crust by High-power Electric Pulses for Earthquake Hazard Mitigation,” 2nd International Conference on Urban Disaster Reduction, 2007.

For example, several studies have pointed to a correlation between earthquake activity and the 11-year solar cycle.⁴⁵ Most recently two researchers at Kyushu University, Japan, took the 4,108 large, shallow earthquakes from 1963-2010, and compared them with the phases of the last four solar cycles.⁴⁶ What they showed was that for each magnitude range there were consistently more earthquakes during the declining phase of the solar cycle through solar minimum, when compared with the ascending phase through the solar maximum. This discrepancy was most pronounced for the largest earthquakes.

45. The solar cycle is measured by the approximately 11-year cycle of increase and decrease of the number of sunspots seen on the surface of the Sun, though the exact length of the cycle can vary. The cause of this cycle, and causes of the variations in the cycle, are not completely known.

46. “Large” refers to magnitude 4.0 and above, and shallow earthquakes have epicenters of 100 km or less. See, “Possible Correlation between Solar Activity and Global Seismicity,” by Jusoh Mohamad Huzaimy and Kiyohumi Yumoto; proceeding of the 2011 IEEE International conference on space science and communication (IconSpace) 12-13 July 2011, Penang, Malaysia.

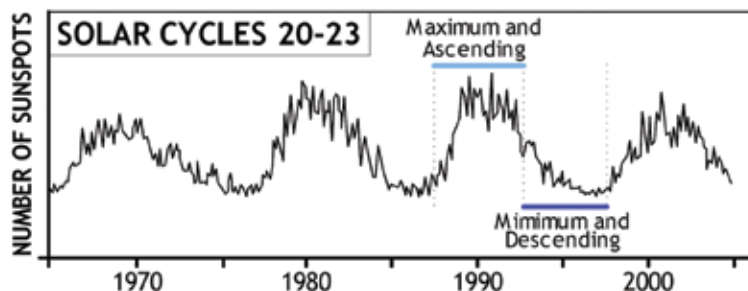
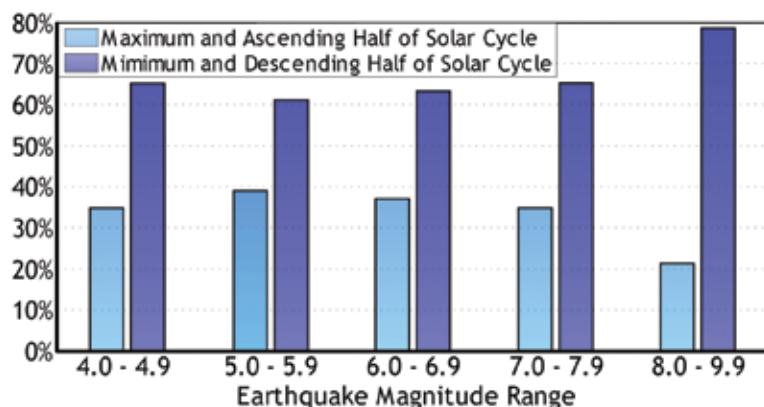
The last decade, which contained the longest solar minimum of the century, also saw the greatest number of magnitude 8.0+ earthquakes and of large volcanic eruptions of any decade over the past century.⁴⁷

These relations should cause us to consider what types of similar activity might be occurring on other bodies of our solar system. Unfortunately, the best data we have is from the eight years during which we had operational seismometers on the Moon (1969-1977, left behind from some of the Apollo missions). During this operational window, out of the thousands of registered lunar seismic events, only 28 of them originated below the lunar surface (for example, not due to surface impacts by meteorites), and have been identified as “shallow moonquakes.” Their very existence is a mystery, as there are no active plate tectonics on the Moon.

What is remarkable is that 23 of those 28 moonquakes occurred during the half of the Moon’s orbit when the near side of the Moon (on which the seismometers were placed) was facing a specific direction relative to the fixed stars, indicating a relationship not even to solar activity, but, as the author of the study says, to something originating outside of our solar system.⁴⁸ (See image.)

In light of this evidence for extraterrestrial influences on earthquakes, the deployment of a network of planetary seismometers, beginning with the Moon, should be an included feature of any comprehensive natural hazard monitoring program.

PERCENTAGE OF EARTHQUAKES DURING SOLAR CYCLES 20 TO 23



Percentage of shallow earthquakes by magnitude occurring during the solar minimum and the descending half of the solar cycle, or during the solar maximum and the ascending half of the solar cycle. Analysis of the last four complete solar cycles from 1964-2008, indicated by monthly average of sunspots. Data from Yumoto et al., 2011.

Solar Cycles: Something To Sneeze At

As with the deadly earthquakes discussed above, the challenges posed by our interactions with our solar system and galaxy are life or death issues for humanity. The potential already exists for monitoring atmospheric and ionospheric precursor signals of impending earthquakes to provide early warnings, a capability we must develop and expand with the needed satellite and Earth-based monitoring systems. But how might we expand such programs to incorporate the broadest range of threats?

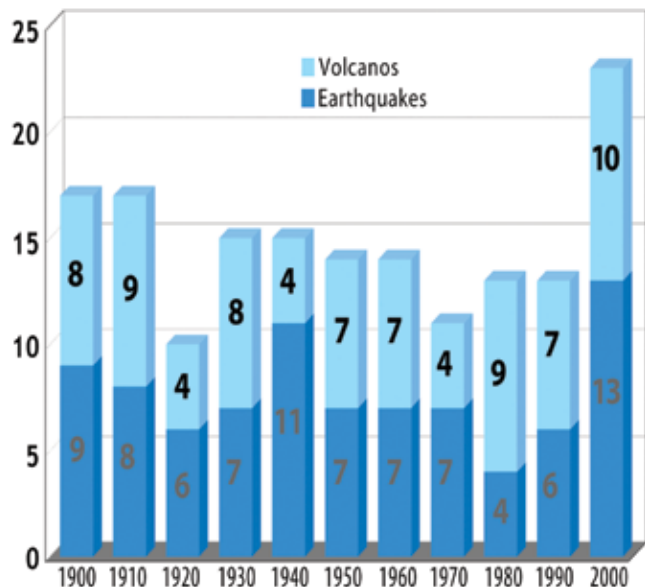
For example, one of the largest periodic causes of mass death has been the outbreak of disease.

There is long-standing evidence showing that the incidence of diseases fluctuates with the Earth-Sun relationship. The most well known of these fluctuations is the seasonal flu pandemic. None of the conventional explanations for why influenza flares up during the northern hemisphere winter (environmental humidity, vitamin D deficiency, etc.) has yet been validated, yet the seasonal variations are very real. Further, this cycle

47. The argument is often made from the standpoint of thermodynamics that solar phenomena such as flares do not contain enough energy equal to that released in a seismic event here on Earth. This reasoning against a cause and effect relation between the two does not hold, however. A pointed stick may not contain the same energy as the difference between a sleeping bear and an angry bear, but it is nonetheless capable of bringing such a change about.

48. This study was led by a world expert on lunar seismic activity, Dr. Yosio Nakamura, sometimes referred to as Mr. Moonquake, of the University of Texas at Austin. While the data set of 28 moonquakes is admittedly small, the evidence is too provocative to ignore. See “Possible Extra-Solar-System cause for Certain Lunar Seismic Events,” by Yosio Nakamura and Cliff Frohlich; *Lunar and Planetary Sciences XXXVII* (2006).

EARTHQUAKES M 8.0+ AND VOLCANOES VEI 4+



The decade-by-decade totals of “great” earthquakes (magnitude 8.0 and above), and large volcanic eruptions, measuring VEI 4 or greater (VEI = Volcanic Explosivity Index). Sources: USGS Earthquake Hazard Program; Smithsonian Global Volcanism Program; and Laurence Hecht, unpublished report.

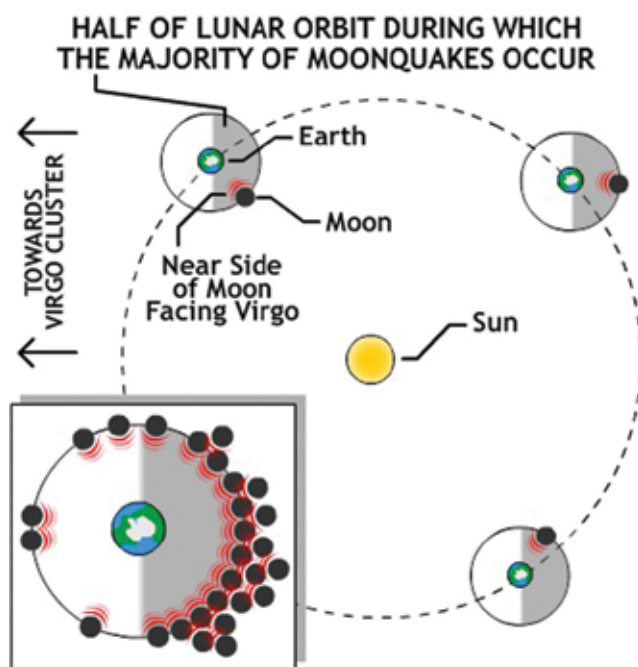
of seasonal outbreaks is also a cycle of the evolution of the virus itself, a phenomenon which has not been explained by the standard models of mutation and selection. This seasonal variation would seem to imply a relationship between influenza outbreaks and the location of our planet with respect to the Sun. (See Appendix VI: Cosmic Contagion.)

In fact, looking beyond the yearly variations, the major flu pandemics of the past century exhibit an interesting pattern: the dates were 1946, 1957, 1968, and 1977, which imply a period of roughly 11 years, provocatively matching the sunspot cycle over this period.

Taking this back farther, if we map the major flu pandemics⁴⁹ against the cycles of sunspot numbers for the last 300 years we get the following plot.

Here, you might not immediately see a correlation between specific solar cycle maxima and pandemics,

49. At the very dawn of viral studies, it was recognized already that viruses were sensitive to certain types of radiation. The example of UV radiation and lambda phage was elaborated by S.E. Luria, as in his “Radiation and Viruses” (1955). The work done by Alexander Gurwitsch on mitogenetic radiation, a unique kind of UV radiation produced by life, may enable the determination of even more precise effects.



Twenty-three of the 28 moonquakes recorded from 1969 to 1977 occurred when the Moon occupied the half of the lunar orbit during which the seismic network on the Moon's near side faced in a certain direction in the fixed stars. This suggests a yet unknown influence coming from outside the solar system.

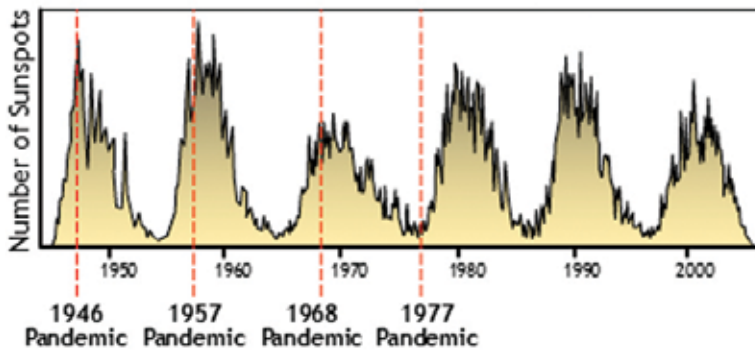
but you can see that the pandemics occur in clusters. If we connect the sunspot peaks, which indicate how solar activity changes from one cycle to the next, then we see that the pandemic clusters occur during periods of more active successive solar cycles.

An initial hypothesis might be that such a correlation implies a relationship between some solar parameter, such as ultraviolet radiation, and influenza pandemics.

Notable exceptions to this correlation—specifically, the cases where pandemics fall on years of sunspot minima—point to a causal agent on a grander scale. Researcher Yu Zhen-Dong has shown evidence that pandemics occurring during solar minima show a close coincidence with bright supernovae and other sources of ground-level cosmic radiation.⁵⁰ This implies a galactic rather than solar driver of the phenomenon, with cosmic radiation influx from outside of our solar system as the main culprit, rather than incident solar UV radiation. That is, the changes associated with solar activity are

50. Yu, Zhen-Dong, “Using the Information of Cosmic Rays to Predict Influenza Epidemics.” NASA Goddard Space Flight Center 19th Intern. Cosmic Ray Conf., Vol. 5 pp 525-528 (SEE N85-34991 23-93) 1985.

INFLUENZA PANDEMICS DURING THE PAST 6 SOLAR CYCLES



The 1946, 1957, 1968, and 1977 pandemics shown over the last six solar cycles. Source: Tapping, Matthias, and Surkan, 2001.

likely rather caused by the Sun's well-known role in moderating the influx of cosmic radiation into our solar system, mentioned above.

If we take into account the increasing recognition of the role of viruses, particularly retroviruses, in human and animal evolution,⁵¹ we see a means by which the long-term development of life on our planet can be closely tied to such galactic cycles. This begins to point to the idea that what we currently call disease is instead simply a malfunction of a broader process of evolution. Many of the important biological traits in both humans and animals are seen to have a viral origin to them,

when we look at the role of endogenous retroviruses (sequences in the genome thought to be derived from ancient viral infections).

Further, real-time examples of the mediating role of viruses in the development and interaction of organisms is seen in the case of ocean viruses. By far the most abundant biological entity in the ocean, they play a very specific role in moderating the evolutionary development of life there. For instance, viruses have been discovered which contain all of the genetic material necessary for photosynthesis.⁵² This material is not used by the virus itself, obviously, because viruses do not photosynthesize. It exists only so that the

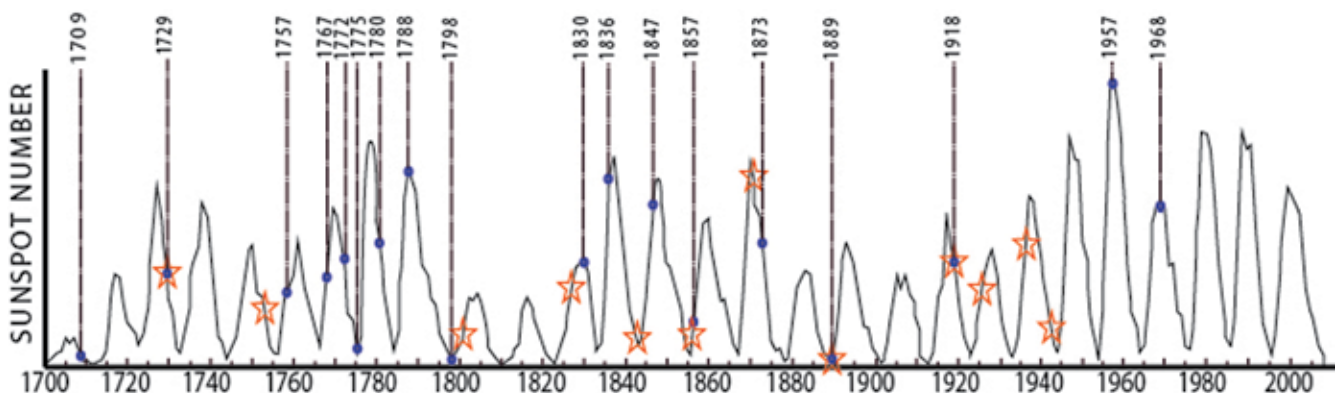
virus can "infect" some other organism with this capability for photosynthesis. In fact, 60% of all photosystem A genes are from viruses which infect bacteria, and it is likely that 10% of all photosynthesis globally is carried out by photosystems with a viral origin.⁵³ Likewise, the vast majority of viruses "infecting" humans are not causing any sort of illness.

The number of symbiotic viruses contained within the healthy human body is currently unknown, though a recent viral census of only the human intestinal tract uncovered 4,000 different viruses, 80% of which had been previously unknown. What role do these viruses play, if not as disease agents? In fact, compared to the relative infrequency with which a human being suffers

51. Villareal, L., "Can viruses make us human?" *Proceedings of the American Philosophical Society* vol. 148, no. 3, September 2004; and Ryan, F., "Violution," Collins, 2009. Also see LPAC's recent video reviewing a case study of viruses and evolution: "Strategic Defense of Earth: What You Didn't Know About Viruses," Episodes I and II, LaRouchePAC.com.

52. Sharon, I., et al., "Photosystem I gene cassettes are present in marine virus genomes," *Nature* 461, 258-262 (10 September 2009).

53. Rohwer, F., "Viruses manipulate the marine environment," *Nature* 459, 207-212 (14 May 2009).



Pandemic influenza mapped against sunspot number and nova occurrences (mostly flare-ups of our near neighbor Nova Carinae) for the past 300 years.

from pathogenic viral infections (two to three colds a year), it would seem that the vast majority of viral infections are either innocuous or—as is the case with human gut bacteria—perhaps helpful and necessary. There may in fact be no means to control such processes of disease without taking voluntary control of such evolutionary processes in their entirety. Such control, tied as it is to larger-scale galactic processes, would evidently not be possible from our currently limited location here on the surface of the Earth. The research potential for the study of viruses is necessarily and greatly expanded when viewed in this context, and gives us another important application for any collaborative monitoring and defense system. How must we expand these global monitoring and defense systems in light of these considerations?

Remote sensing has already begun to be used to search for “disease precursors” on Earth. A 2009 paper titled “Using Satellite Technology to Model Prediction of Cholera Outbreaks,” reported that remote imaging technologies developed by NASA “have been used to relate sea surface temperature, sea surface height, and chlorophyll A levels to cholera outbreaks.” What we are discussing here is somewhat different, however. The role of viruses in such large-scale evolutionary processes and their relation to development on galactic and supergalactic scales presents us with the exciting but daunting prospect that, in order to control disease on Earth, mankind will likely have to take control of the very processes on a galactic scale which fuel such evolutionary development. Could Earth’s cosmic radiation environment be consciously managed to such effect?

The Way Forward

The challenge now becomes to craft a policy outside of the fraudulent conceptions of empty space and absolute time. From extreme weather and large-scale, disastrous earthquakes, to the biological domain of disease outbreaks, and from the mystery of the moonquakes, to the harmony of atomic, chemical, and biological reactions, we have an array of seemingly independent anomalies, all of which point to one grand, integrated geo-solar-galactic process, invisible to anyone studying any one of these anomalies alone.

(See Appendix 7: The Very Large in the Very Small.)

On our single, tiny planet, mankind has walked, worked, and lived for merely a few million years, mostly unaware of the deep interconnection between what we register with our senses as, seemingly, differ-



Note the position of our Sun with respect to the Orion Spur.

ent phenomena we experience “here,” and the observed, or unobserved, activity “out there” amongst the stars. The continued existence of mankind demands that we rid ourselves of this ignorance. Our relatively short occupation of this planet comes nowhere near matching even one of the cycles of galactic change over the past half-billion years of the evolution of complex life, and there is no guarantee that we will escape the fate of countless other species which have gone extinct.

For example, our present journey into what astronomers call the Orion Spur, which appears to be an intense star-forming region which splits off from the Sagittarius-Carina arm, possibly sets for us the same challenge that faced the dinosaurs. But, we are not mere animals. As Shakespeare would agree, the fault is not in our stars, but in ourselves: mankind has demonstrated the ability to escape this inevitability through the application of his unique, self-conscious creativity. But, the application of creative discovery to secure the immortality of our species, is a willful act. This now re-situates the subject of strategic defense as a divine mandate.

4. The Extraterrestrial Imperative or Extinction

The idea that a person might be born, grow up, and die without ever leaving the confines of his or her village sounds today like a quaint relic of a primitive and superstitious past. In the same vein, future civilization will wonder at the parochialism of a humanity that once thought itself fixed within the confines of the planet Earth.

Our world, said the space pioneer Krafft Ehricke, is finite only to the extent that we limit ourselves to the pessimistic decay of a zero-growth ideology, and it is infinite to the extent that we embrace what he called

mankind's Extraterrestrial Imperative. "By expanding through the universe, man fulfills his destiny as an element of life, endowed with the power of reason and the wisdom of the moral law within himself."⁵⁴

That imperative for man in space is dictated by the principles of physical economy. We require a constant net increase in applied energy-flux densities of production sufficient to outpace both the attritional effects of consumption, as well as evolutionary processes that have, in the past, imposed the penalty of extinction upon species which have failed to contribute to the rising requirements for energy throughput of the biosphere as a whole.

Put another way, the millennia of relatively stable environmental conditions humanity has enjoyed thus far, should be thought of as a grace period afforded us to develop the means of recreating habitable worlds away from the cradle of Earth.

The proving ground for this will be a manned mission to Mars, a goal which subsumes virtually all of the necessary breakthroughs at the horizon of science and culture visible today.

The Endless Frontier

Mars lies at the edge of the inner solar system, from which the Earth appears as nothing more than a bluish dot in the sky. Nuclear fusion propulsion will put our planetary neighbor within reach, by reducing transit times for human passengers to weeks or days, rather than the hazardous six-to-nine months it would take with chemical rockets.⁵⁵ The several decades lead time likely needed to develop this crucial technology, must meanwhile be expended in the industrialization of the Moon—our nearest neighbor, and the virtual front porch

of our earthly home in the local solar neighborhood.⁵⁶

With no atmosphere or magnetic field of its own to speak of, the lunar surface is exposed to a constant flux of meteoroids and micrometeoroids, cosmic radiation, and solar wind. These have etched into the lunar regolith a historic record of galactic evolution over the past several billion years as experienced by our solar system's travel through the galaxy, complementing and extending our geological and fossil record on Earth.

The Moon's exposure to cosmic and solar radiation has also left its surface laden with such readily available riches as the rare isotope Helium-3, a key fuel source for future thermonuclear fusion reactors, and—in what came as a major surprise in the last several years—a significant amount of water ice. The lunar regolith itself can be processed to fabricate building materials for research and mining installations, powered initially by nuclear fission. Projected back onto Earth, these achievements will have a special resonance for frontiers such as the Arctic and Antarctic. For example, life-support systems developed for the harsh conditions of space have already proved indispensable in designs for the planned self-sufficient Russian city of Umka, north of the Arctic Circle.⁵⁷

Rather than simply leaping from one isolated body to the next, the goal of human expansion outward from Earth should be nothing less than what NASA's Apollo-era Administrator James Webb called "a total capability in space."⁵⁸ Anchored by lunar exploration, industrialization, and settlement, this capability will include everything from asteroid deflection and resource mining, to biomedical advances for extended deployments in zero- and reduced-gravity conditions, to accurate solar forecasting to warn of impending radiation storms.

54. Freeman, Marsha, *Krafft Ehrlicke's Extraterrestrial Imperative*, Apogee, 2009.

55. As a rough approximation, consider that the combustion of 13 tons (about the weight of a large school bus) of liquid hydrogen and oxygen, a commonly used rocket fuel, releases an equivalent amount of energy as 0.5 grams (the weight of a single Tylenol pill) of deuterium in a conventional deuterium-tritium fusion reaction. A more complete appraisal of the relative difference in energy-flux density would have to take into account the qualitative changes that come with the mastery of an entirely new set of physical principles—a concept foreign to President Obama, as shown in remarks he made in September 2010: "We wouldn't need new technologies. We wouldn't need to invent some fancy new fusion energy or anything. If we just took our existing building stock in homes and insulated them, had new windows . . . we could squeeze huge efficiencies out of that."

56. Video: "From Moon to Mars—The New Economics" I & II, both at LaRouchePAC.com.

57. Contrast these prospects to President Obama's April 2010 remarks justifying his cancellation of NASA's Moon-Mars Constellation Program: "I understand that some believe we should attempt a return to the surface of the Moon first, as previously planned . . . But I just have to say pretty bluntly here: We've been there before."

58. The lunar landing itself was the fruit of a vision that pre-dated the Cold War, promoted by a small group of German space enthusiasts, which included Krafft Ehrlicke and Wernher von Braun, the father of the Saturn V Moon rocket. Von Braun's 1960s design for the Apollo program saw the lunar landings as mere prelude to a manned Mars landing by 1984, a plausibility at the time, given President Kennedy's early support for the nuclear rocket program (which was terminated in the early 1970s).



NASA/Bruce MCall

Settlement of Mars will give humanity a foothold on the entire solar system.

Developed as Earth's "seventh continent," the Moon becomes not only the gateway to Mars, but the test of humanity's commitment to its own willful evolution. As Ehricke wrote in his *Lunar Industrialization and Settlement*:

"The Moon is the touchstone of the human future. Instead of searching for and speculating about life elsewhere, we will put it there. Forthwith, civilization will be three-dimensional, and life will be polyglobal. Living at the ethereal shores of heliocentric space, the Selenians will be the Cosmopolynesians of the solar system, navigating between worlds. They will build the bridge between a dim past under terrestrial skies, where the great legends of human emergence tower, and a deathless civilization in a stellar future whose shadows beckon and long to be given substance."

Indeed, if lunar colonization represents the childhood of humanity's maturation outside the womb of the Earth, then Mars colonization will mark its adolescence. With the transition to a fusion-powered physical-economic platform, the sphere of human civilization widens to encompass the entire inner solar system.

Think: "interplanetary infrastructure."

For example, by conducting interferometry between

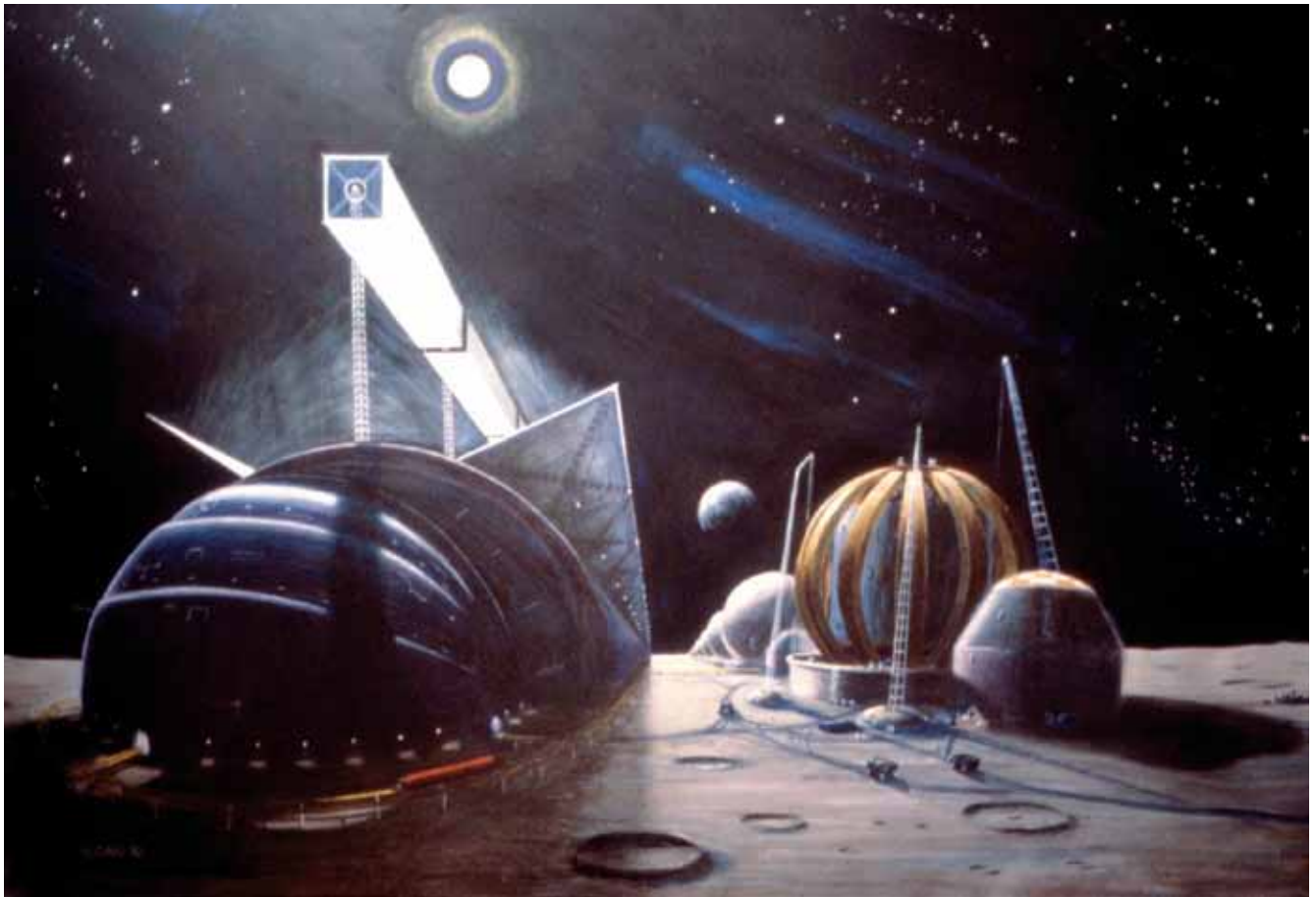
orbiting arrays of radio telescopes as far out as Mars, constructed and serviced by scientific teams based on the surface, we can essentially create an "eye" with a diameter equivalent to Mars' orbit, a scale befitting what should be our galactic ambitions as a species. After all, as the observational anomalies in astronomy discussed above should remind us, trying to draw certain conclusions about galactic and extragalactic processes without ever leaving Earth isn't much different than trying to map the New World without ever leaving Europe.

But the ultimate Martian experiment will be the planting of the first trees there—that is, the eventual transformation

of the Martian surface into a habitable biosphere, a feat of planetary engineering whose achievement will bring to bear virtually the entirety of human knowledge. On Earth, humanity has increasingly modified existing biogeochemical flows of materials, such as the hydrological cycle, through such practices as dam building, large-scale irrigation, and industrial production. In a few cases, such as the production of biologically useful nitrogen, we have overtaken the natural cycle. On Mars, however, the biogenic migration of atoms (as Vernadsky called it) will have to be created virtually from scratch. This is not simply a question of a biochemistry experiment scaled up to planetary dimensions; rather, we will be faced with the conscious tuning of solar and cosmic radiation with the specific geochemical environment of Mars.⁵⁹

Though such a prospect is many generations distant, the considerations involved in this challenge allow us

59. Given the the dependence of terrestrial life on the geomagnetic field for both radiation protection as well as regulation of such functions as circadian rhythms, we must ask: Might we need to create an artificial magnetic field on Mars? See, for example, Oyang Teng, "Onward to Mars: The Triumph of the Weak Forces," LaRouchePAC, 2010, on LaRouchePAC.com.



Fusion Energy Foundation/Christopher Sloan

Krafft Ehrlicke's vision for Selenopolis, the first city on the Moon. Depicted on the right is the construction of a giant tokamak (toroidal) fusion reactor, which is able to take advantage of the natural high vacuum of the Moon's surface as well as the abundant helium-3 fuel in the regolith.

to put weather modification on Earth in proper perspective. We spoke above about artificial ionization to enhance (or in some cases, mitigate) rainfall. This local modification of the global electric circuit could point the way toward the eventual planet-wide modulation of our electromagnetic environment, which will one day be an integral part of what is considered basic economic infrastructure.

It is perhaps appropriate that the greatest stimulus in our understanding of the Earth environment has come with the advent of the Space Age. Only with observations from orbit could we begin to measure the interaction of key terrestrial processes such as cloud cover and sea surface temperature in their global aspect, as well as begin to appreciate how much these processes depend on solar and cosmic radiations that were previously undetectable from the surface.

What of our broader environment in which we actu-

ally exist? When it comes to interplanetary space (not to speak of interstellar space),⁶⁰ how much are we like the early ocean explorers, blindly plumbing the depths with nothing more than weighted ropes thrown overboard?

In the face of such potential threats as asteroid collisions, coronal mass ejections, extreme weather, and earthquakes, including those we have yet to fully define, the question, "What's out there?" is more than a matter of curiosity; it is one of survival. It is one which cannot be met by any one nation, but requires the close cooperation of all.

In this light, it is all the more significant that, in the

60. If our own solar environment is still largely enigmatic, interstellar space is even more of a mystery. Voyagers 1 and 2 are the farthest objects sent out from Earth, launched in 1977 to study the outer planets and now sailing through the outer reaches of the heliosphere. They will be the first human objects to directly sample interstellar space, some 40 years after their departure from Earth.

fields of natural hazard monitoring and space exploration, China and Russia have made important commitments as matters of policy. Not only is an adversarial relationship between the United States and these two natural allies completely unnecessary; in a world of thermonuclear weapons, it is suicidal. The proposal from Russian government officials for war avoidance as well as asteroid defense through the Strategic Defense of Earth only typifies the potential framework for a fundamentally new quality of cooperation around the common aims of mankind.

A redefinition of the notion of strategic defense also implies a corresponding redefinition of the role of the military, the institution traditionally tasked with this mandate. Our republican military tradition, typified by the founding of the Army's West Point Academy as an engineering institution, was once dedicated to nation-building, by securing and defending the frontier. What might this entail for the frontiers of space?

These and other questions related to the strategic defense of the human species cannot be answered by simply projecting from present conditions. It is in the very nature of space science to operate at the very limit of knowledge, in which the most important gains to be made are not on tasks we can already foresee, but in the new questions that invariably arise when those limits are pushed. By committing to our extraterrestrial imperative, we give ourselves ever-expanding capabilities to answer these questions.

Such is true economics. Such is true strategic defense.

APPENDIX I

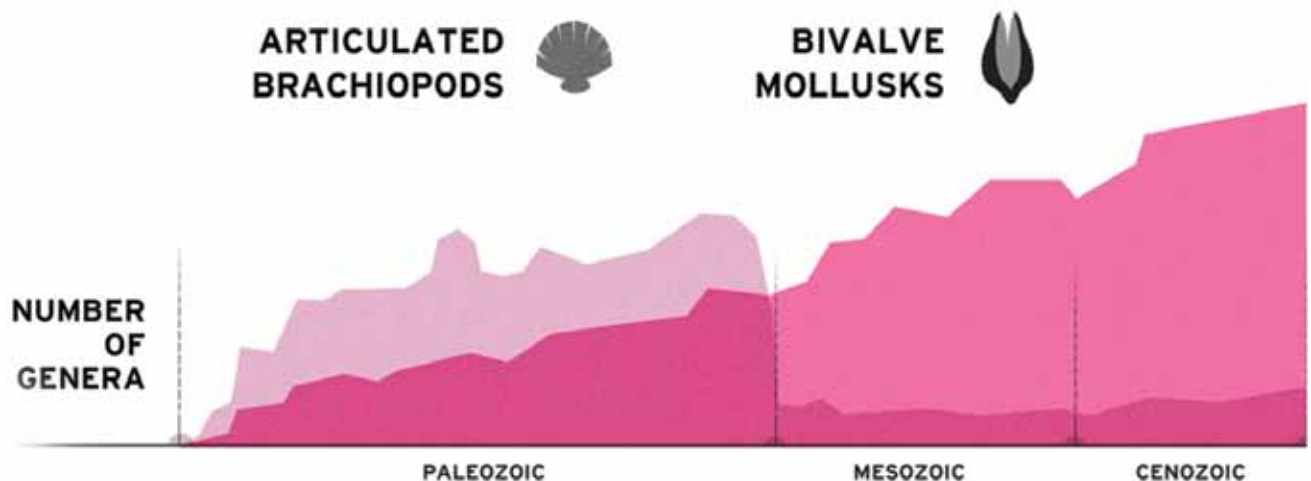
The Principle of Evolution

As Vladimir Vernadsky first demonstrated, living organisms act as the driving force in the utilization of solar and cosmic radiation for the continuous transformation of the planet Earth, generating energetic and chemical conditions on which further life depends.⁶¹ Over the course of evolutionary history, life has always created pathways for higher and higher levels of energy-flux density, increasing the rate at which it transforms the surface of the Earth, and expanding the extent of its reach.⁶² We witness this development in the fossil records uncovered in the layers of the Earth's crust, which also express the development of the galactic environment which life on Earth has experienced over this period.

In this process we see that the species that are fixed to lower levels of energy-flux density, and are incapable of adapting to a higher system, are wiped out. Periodic extinctions, and even mass extinctions are necessary

61. See *The Biosphere*, and his trilogy of essays, "The Problems of Biogeochemistry I and II," and "The States of Space." *The Biosphere* (Complete Annotated Edition), Springer, 1998. *21st Century Science & Technology*, Winter 2000, Winter 2005, & Winter 2007.

62. A classic example is the case of life's creation of a free oxygen atmosphere, a high state of disequilibrium, which would disappear in a geological instant if life were to stop acting. For more on the Basement team's study of the history of life, see the video reports on the LPAC Evolution webpage: larouhepac.com/evolution.



Biodiversity levels of articulated brachiopods and bivalves, measured in the total number of Families existing at the indicated times over the past 600 million years. Image based on records provided by Gould and Calloway, 1980.

consequences, as the system of life moves forward.

To highlight one illustrative example, examine the tale of two forms of shelled sea creatures: “articulated brachiopods” and “bivalve mollusks.”

Despite the fact that these two types of sea creatures clearly have a very similar general structure, composed of two half-shells hinged together on one side, protecting a fleshy creature inside, according to the standard biologist’s “tree” of life they are in completely different phyla and are not at all closely related. In fact, according to this standard view, their “closest common relatives” existed over 600 million years ago (creatures which did not visually resemble either of these two examples), and they are said to have since evolved separately, independently coming to have similar physiological structures. This is referred to as a case of “convergent evolution.”

They also occupy similar positions in the food chain. They are generally of the same size, can live in similar locations, eat the same types of food, and are preyed upon by similar predators.

Whereas the brachiopods were extremely diverse and prolific during the Paleozoic Era (lasting from ~540 to ~250 million years ago), they are much rarer in our modern times, in which the bivalves dominate (for example, clams, oysters, mussels, and scallops are all bivalves).

For years the ascendancy of the bivalves was assumed to be a classic case of “survival of the fittest,” by which one type of organism gradually replaced another through competition. However when paleontologists uncovered a clear enough reading of the fossil record, it was seen that this was simply not the case.

Instead, despite sharing many physiological characteristics, as well as occupying the same general location in the food web, the mass extinction of the Permian-Triassic boundary selectively devastated the brachiopod populations, but hardly affected the bivalves.

Top-level experts in applying lazy reasoning to the field of paleontology claim that there is no overall structure to this process, and that it simply played out this way because one form just happened to be eliminated instead of another.

What the record shows is that the Permian-Triassic mass extinction (which is estimated to have resulted in the extinction of ~96% of all marine species), is one of the largest inflection points in the rising energy-flux density of the system of the biosphere as a whole. The periods following the P-T extinction are characterized

by the dominance of qualitatively more energy-dense forms of life, as well as an overall increase in the energy of the biosphere as a whole, supported by qualitative transformations in the photosynthetic activity in both the oceans and on land.

As an expression of this, we see that the bivalve mollusks are characteristic of a biosphere of a higher rate of energy-flux density, when compared with the articulated brachiopods. The bivalves have a metabolic rate roughly 10 times greater, contain a significantly greater relative amount of fleshy biomass (even when the shells are the same size), and are overall more active and mobile.

References:

“Clams and Brachiopods—Ships that Pass in the Night,” 1980, by Stephen Jay Gould and C. Bradford Calloway; “Seafood Through Time: Changes in Biomass, Energetics, and Productivity in the Marine Ecosystem,” 1993, by Richard K. Bambach; Video: “The Ecology of Anti-Entropy” at LaRouchePAC.com.

APPENDIX II

Laplace’s Fraud

For those who think you do not know Pierre Simon Laplace, you do. The philosophy which Laplace propounded is so prevalent in scientific education and otherwise today that it has infected everyday reasoning.

Kepler’s revolutionary work firmly established that only a Platonic/Pythagorean worldview was capable of accounting rigorously for the phenomena of the physical universe, because only that worldview was capable of accounting for the hidden causes which lay behind the illusions presented to us by our sense perceptions. Kepler held Mind to be a central principle in physical phenomena, not as a mystical cause, but a manifestation of the fact that final causes—something akin to intention—always governed what the reductionist viewed as a collection of bottom-up efficient causes.⁶³

63. This difference between final and efficient causes is best illustrated by Plato’s Socrates in his *Phaedo* dialogue, where he discusses Mind as cause (final cause) in contrast to the bones and muscle (efficient cause of the Laplacian sort): “I found [Anaxagoras] altogether forsaking Mind or any other principle of order, but having recourse to air, and ether, and water, and other eccentricities. I might compare him to a person who began by maintaining generally that Mind is the cause of the actions of Socrates, but who, when he endeavored to explain the causes of my several actions in detail, went on to show that I sit here because my body is made up of bones and muscles; and the bones, as he would say, are hard

After Kepler's death, two projects were launched with the intention of destroying this Pythagorean conception of knowable causes, and replacing them with the type of a priori assumptions favored by imperial worldviews. The first, launched in Europe, was the promotion of the philosophy of René Descartes. The second, was the refurbishing of Descartes' philosophy and its subsequent redeployment into England under the name of Isaac Newton. As Gottfried Leibniz quickly realized, the goal of Newton's "philosophy without hypotheses" was exactly the opposite of that which it claimed. Under Newton, science was separated from any notion of ultimate causes, and physical phenomena were instead reduced to the actions of pieces of impenetrable matter upon one another, by means of unexplainable "forces."

This view did not immediately take hold in continental Europe, however, where the successive work of Gottfried Leibniz⁶⁴ and Abraham Kästner defended Kepler's ideas and prevented the Newtonian fallacies of absolute space, absolute time, mysterious forces and impenetrable matter from swindling a credulous population, despite the fact that a project to popularize Newton was launched by Voltaire in 1730, upon his return from England. As Newton's contemporary John Flamsteed quickly realized after reading the first published edition of Newton's *Principia*, for most practical astronomers Newton's theory of gravitation remained exactly that: a theory, with little or no practical application otherwise. Its actual intent was the effect to which it was deployed in Europe by Voltaire: to pro-

mote the spread of the vicious anti-human pessimism of the Enlightenment. Newton's world of unknowable causes and mechanical effects formed the perfect basis for the claims of the Enlightenment philosophers that Mind and morality were to be shunned as archaic notions.

It was not until after the death of Kästner, and with the work of Pierre-Simon Laplace, that the promoters of Newton were able to work up the audacity to finally claim victory for the Newtonian worldview. Laplace's five-volume *Mécanique Céleste*, which began to appear in 1799, consolidated and refined earlier attempts by both Euler and Lagrange to reduce celestial phenomena to the kind of soulless mechanical processes which the Newtonian worldview demanded.

Take for example, an excerpt from the beginning of his *Mécanique Céleste*:

"A body appears to us to be in motion, when it changes its relative situation with respect to a system of bodies supposed to be at rest; but as all bodies, even those which appear in the most perfect repose, may be in motion; a space is conceived of, without bounds, immovable, and penetrable by the particles of matter; and we refer in our mind the position of bodies to the parts of this real, or ideal space, supposing the bodies to be in motion, when they correspond, in successive moments, to different parts of this space.

"The nature of that singular modification, by means of which a body is transported from one place to another, is now, and always will be, unknown; it is denoted by the name Force. We can only ascertain its effects, and the laws of its action."

Laplace follows this with several hundred pages of kinetically detailed calculations of these "forces." What else is there to investigate or discover in cosmology, or anything, when cause cannot be inquired of? This last statement of Laplace's is the kernel of modern reductionist thinking.

Laplace presents two aspects of the same philosophy. First, that space just is. That is, processes and objects of the universe don't compose space, rather they are in it, technically placing space outside the universe. Secondly, since objects are now floating in empty space, no action of one could possibly act on the whole, but can only act kinetically, like billiard balls, on each other. Thus, aside from these immediate interactions, the processes which govern lawful action or change in this imagined, dead and arbitrary

and have ligaments which divide them, and the muscles are elastic, and they cover the bones . . . and as the bones are lifted at their joints by the contraction or relaxation of the muscles, I am able to bend my limbs, and this is why I am sitting here in a curved posture: that is what he would say, and he would have a similar explanation of my talking to you, which he would attribute to sound, and air, and hearing, and he would assign ten thousand other causes of the same sort, forgetting to mention the true cause, which is that the Athenians have thought fit to condemn me, and accordingly I have thought it better and more right to remain here and undergo my sentence . . . There is surely a strange confusion of causes and conditions in all this. It may be said, indeed, that without bones and muscles and the other parts of the body I cannot execute my purposes. But to say that I do as I do because of them, and that this is the way in which mind acts, and not from the choice of the best, is a very careless and idle mode of speaking. I wonder that they cannot distinguish the cause from the condition, which the many, feeling about in the dark, are always mistaking and misnaming."

64. Leibniz's explicit amplification of Plato's argument in the *Phaedo* above can be found in his *Discourse on Metaphysics*, among other locations.

space, if there is anything at all governing, cannot be known.

Far from some naïve hypothesis, what Laplace presents here was an intentional fraud.

Laplace was the most extreme proponent of Newton's reductionist worldview, insisting that all phenomena in the world were reducible to forces between particles of matter. His opposition to Kepler's program was spelled out in the title of his *Mécanique Céleste*—*Celestial Mechanics*. The concept of intention, and thus Mind, was alien to this universe of Laplace. In his book, *A Philosophical Essay on Probabilities*, Laplace sophistically attacks Leibniz's notion of intention, or Final Cause.

Laplace's view of causality requires that the cause for any effect be found only in the state which immediately precedes it, temporally. A universe which contains free will, however, is incompatible with such a domino-like causality. It requires, as in human activity, that the future be able to act efficiently back on the present, at the same time that action in the present is being taken to affect the future. This quality of time is an artifact of what we experience as intention.

Laplace then makes a brief, delphic attack on Leibniz by name, where he attempts to equate Leibniz's principle of sufficient reason with Laplace's own mechanistic causality, despite the fact that Leibniz himself associates his principle of sufficient reason with the top-down, final cause causality expressed in Plato's *Phaedo* dialogue. Laplace then formulates in opposition to that notion of Final Cause, the argument which came to be known as Laplace's Demon:

"We ought then to regard the present state of the universe as the effect of its anterior state and as the cause of the one which is to follow. Given for one instant an intelligence which could comprehend all the forces by which nature is animated and the respective situation of the beings who compose it—an intelligence sufficiently vast to submit these data to analysis—it would embrace in the same formula the movements of the greatest bodies of the universe and those of the lightest atom; for it, nothing would be uncertain and the future, as the past, would be present to its eyes."

The importance of such an attack on final cause is difficult, if not impossible to overestimate. It forms the basis for all of the flaws inherent in modern cosmology. If all of your actions to be taken a moment from now are derivable (in fact, calculable, by Laplace's "intelligence") from the current state in which you find your-

self, then the phenomenon you experience as your mind is simply an illusion. Your "free will" is only the mechanistic unfolding of pre-existing conditions. Similarly, Mind is banished as a force in the universe, as well.

For Kepler and Leibniz, however, like Vernadsky and his conception of the Noösphere later, Mind is an efficient force which pervades the physical universe. There is nothing mystical at all about this notion, any more than the recognition of human creative reason is mystical. It simply requires a different notion of time and causality than that espoused by Laplace's simplistic Newtonian mechanism. And in fact, such a reworking of the notion of time is to be found in the works of Vernadsky, and later in the economic science of Lyndon LaRouche.⁶⁵

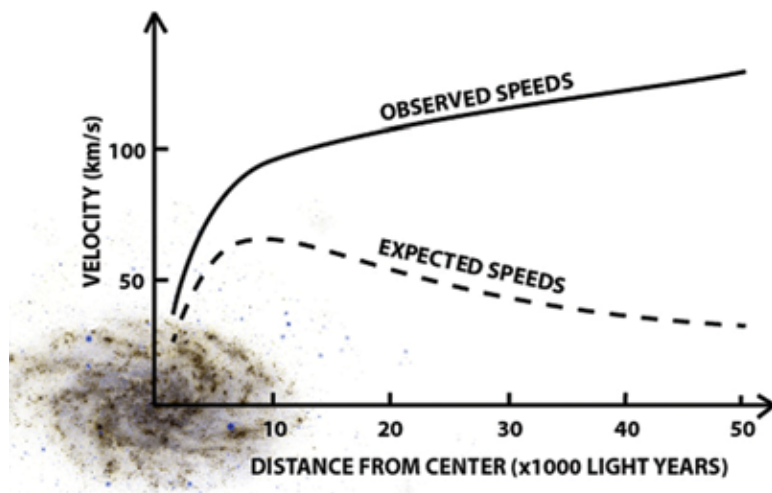
APPENDIX III

Galactic Harmonies

The contradictions inherent in the Newtonian-Laplacian ideology are easily avoided by returning to the fundamental concepts of the ideas of Johannes Kepler, which they were meant to overthrow. Looking at the interplanetary medium and its relationship to the singular events which occur within it should remind the reader of Kepler's work on his *Harmonice Mundi*. Kepler described a universe which was not put together by the point-to-point interactions among isolated bodies. Rather, it was a system in which the necessary harmonic relations presaged the bodies themselves. These harmonics of Kepler were not the simple harmonics of vibrating strings or simple resonances, but were rather the types of creative structures we find associated with actual classical musical composition. Kepler saw Mind acting on this scale, and derived his laws of planetary motion explicitly from this principle.

The increasing recognition of the role of the interplanetary and interstellar medium in celestial phenomena puts Kepler's program squarely back on the table. In looking for the role of musical harmonies in the Solar

65. It is worth noting, that such a notion of physical time will tend to agree with the peculiar sorts of causality that seems to pervade so-called quantum phenomena. A reworking of the notion of time from Vernadsky's standpoint will not only put cosmology back on its proper course, away from the misdirection effected by Laplace—it also promises to clear away the train wreck known as "quantum mechanics," and replace it with a new, more substantial physical science.



Rotation curve for Triangulum galaxy M33; speed of stars measured against their distances from the center of the galaxy. The observed rotation curve for M33 is contrasted to that expected for any galaxy, according to current theories.

System, Kepler quickly realizes that they will not be discovered in solid matter, but rather in processes of motion and change. If we recognize that there is in fact no such thing as empty space, but a highly structured and dynamic plenum of electromagnetic and other phenomena, we can recognize celestial objects as simply singularities in this plenum. This might remind us of a living cell, whose organelles function only as singular expressions of the relatively invisible cytoplasm in which they exist.

The existence of celestial structures which defy explanation by forces “in the small” is indicative of this kind of harmonic organization of a plenum in the large. In most cases these structures in the large are accounted for by invoking fictional forces, such as those of “dark” energy, or “dark” matter. One example of this is seen in the anomalous nature of what are referred to as the “rotation curves” of galaxies (see image). In our solar system, planets farther away from the Sun travel more slowly. In a galaxy, the inverse seems to be true. The farther away from the center, the faster the stars and gas travel.

Simply put, the speed of rotation seen in the stars of many galaxies is too fast to be accounted for by the amount of matter that has been detected in the galaxies. The problem becomes worse, the farther from the center of the galaxy we look, creating a remarkable discrepancy between what we observe on the one hand, and what we can explain on the other.

The only way to attempt to fit this huge discrepancy

within the textbook laws of gravitation is with the invention of a new form of invisible matter, which does not interact with electromagnetic radiation (e.g., light) in any way, and as such is undetectable—the mystical “dark matter.” For many cases, in order to pull on each part of the galaxy in just the right way to get the equations to work, this dark matter would have to be distributed in a massive, but very specific spherical distribution well outside the bounds of the galaxy.

Instead of resorting to the creation of fictional new forces in attempting to save the absurd empty-space conception of the universe, we already have Kepler’s demonstration of a harmonically ordered universe, a concept that gains new depth once we include the work of Vladimir Vernadsky, as we have seen in the body of this report.⁶⁶

APPENDIX IV

Vernadsky’s States of Space

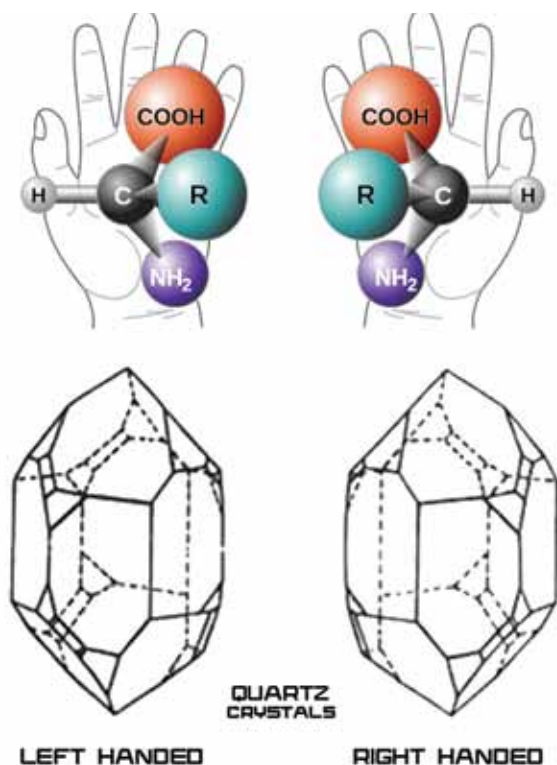
Russian-Ukrainian biogeochemist Vladimir Vernadsky used the experimental work of Louis Pasteur to draw the conclusion that the spacetime characteristics of life are fundamentally distinct from the space and time of the mathematician or geometer. Such a concept of a malleable space and time is probably best known from the work of Albert Einstein, but Vernadsky’s application of such an idea to the field of life is instructive for the investigation of unique physical spacetimes of other processes, even at the cosmic level.

Immanuel Kant wrote on the problem of handedness, and concluded that left and right were fundamentally the same, except for an arbitrary choice in choosing their names. Outside of that choice in naming, there would be no way to distinguish a priori, with geometry and without referring to other objects of reference,⁶⁷ a left from a right hand. However, living processes disagree with the world of Immanuel Kant.

Louis Pasteur showed the unique preference which a living organism has for either the left or right hand, or

66. E.g., not the simple “harmonics” with Jupiter’s orbital period that are currently used to explain the Kirkwood gaps in the asteroid belt.

67. That is, without comparing to something like the letters L and J, or on which side of your chest your heart is found.

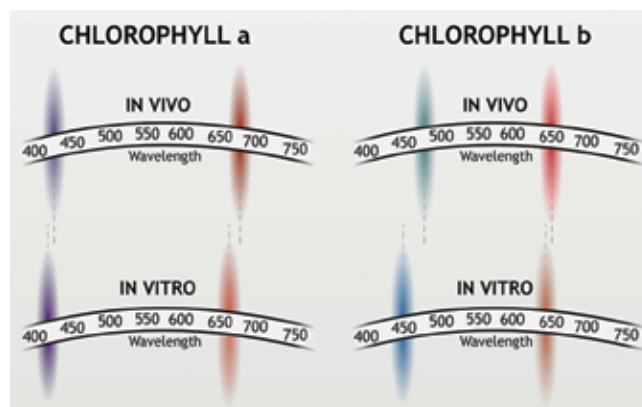


Top: Generic structure of an amino acid. The left-handed form is predominant in life. Bottom: Left-handed and right-handed quartz crystals.

enantiomer, of a given chemical compound when the compound exists in such a handed form. The rotation of the plane of polarization in polarized light either to the left or right by an organic solution prompted Pasteur to investigate at what level this handedness existed.

For the organic compounds, it could not have been at the level of the larger crystal structure, since quartz crystals (a non-organic compound) will rotate the plane of polarization in their crystal form, but will not do so when dissolved, whereas the organic compounds do rotate the polarization in their dissolved form. This led Pasteur to hypothesize a unique molecular asymmetry of living matter, such as the right-handed character of naturally occurring tartaric acid. It is now known that with few exceptions, sugars used by living organisms are right-handed and amino acids are left-handed.⁶⁸ Any variation has shown the opposite handedness to have a completely different physiological effect, such

68. There are various conventions for defining “left” and “right” handedness for chemical compounds. Here, by left and right we refer to the L/D naming convention which compares the structure of a molecule to that of glyceraldehyde. This is not the same thing as dextro- and levorotation of polarized light.



Here we see two cases of a biological redshift for chlorophyll pigments. The top left shows the mean absorption wavelengths for chlorophyll-a in vivo (435, 675 nm), and the bottom left, in vitro (420, 660 nm). On the right we have the same for chlorophyll-b in vivo (480, 650 nm), and in vitro (453, 643 nm). Notice that the magnitude of the shift is not the same. The same irregular shift (and occasionally, a splitting of the mean wavelength) exists for other pigments.

as the case of rare left-handed sugars and right-handed amino acids.

There are also notable cases of medications which show the effect of a change in handedness, such as dextromethorphan (Robitussin), the well-known cough suppressant, whose mirror-image levomethorphan, an opiate painkiller, will have no effect on your cough. The sense of smell also registers the difference between two enantiomers, caraway and spearmint being two among many examples, chemically identical except for their effect on our noses.

However, Kant’s original question remains: If, in Euclidean space, it is impossible to privilege left over right, what metric do organisms use to make such a radical distinction? If this a priori distinction does not in fact exist in Euclidean space, might it exist for some other geometry?

This problem coincides with yet another, which might at first seem distinct. Just as Euclidean space is incapable of distinguishing a priori between left and right, the simple linear time of Newton and Laplace is incapable of distinguishing between progress and regress. It was just this problem that drove Ludwig Boltzmann to his premature death by suicide. Life, however, seems to encounter no such problem in making this distinction. Space and time measurements, as we now know well from Einstein, are also fundamentally linked to one another. If the space of life has fundamentally unique properties, would not the tempo-

ral characteristics also require the same?

These unique characteristics of the physical spacetime of life ought, however, to express themselves in other ways. In particular, we might expect that such variations in spacetime geometry ought to manifest in a distinct behavior of electromagnetic radiation, just as we see in special and general relativity, usually manifested on an astrophysical scale, but perhaps more intricate—a sort of biological redshift.⁶⁹ The difficulty here would seem to be observing the spectral lines produced by a compound while it was still within a living process⁷⁰ and then comparing those to the ones produced by the same compound while it was no longer part of a living process. In fact, such an experiment can be carried out using the biological process of photosynthesis.

Within a given organism (in vivo), the responsiveness of a photosynthetic pigment like chlorophyll to specific types of light can be measured by observing its effects on the organism's metabolism. The same pigment can then be measured outside of the organism (in vitro) by the usual methods. We observe that it is in fact the case that a given mean absorption wavelength of light of a photosynthetic pigment is shifted (and at times split) when inside versus outside of the organism. This is a shifting of the spectral lines more reminiscent of what we observe in what is now being attributed to a change in the fine structure constant (see Appendix 5: Fine Structure, Constant?).

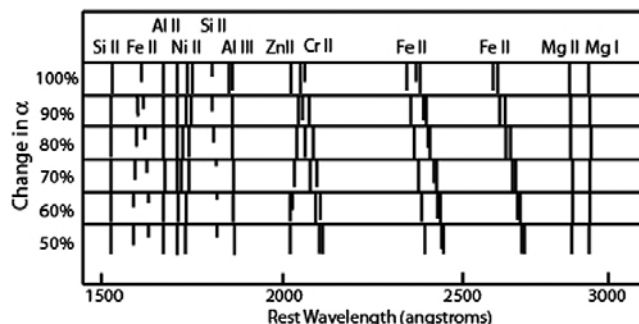
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- Pierre Curie, *Oeuvres*, and *Pierre Curie*, by Marie Curie.
- Kant, "Concerning the ultimate ground of the differentiation of direction in space," 1768.
- Uwe Meierhenric, "Minority Report: Life's Chiral Molecules of Opposite Handedness," *Amino Acids and the Asymmetry of Life* (Springer, 2008)
- Eugene Rabinowitch and Govinjee, *Photosynthesis*.

69. The unique characteristics of the physical spacetime of life, such as its handedness, were hypothesized by Vernadsky and Pasteur before him to have important implications for the study of spiral galaxies and the intrinsic structure of cosmic space. After their time, the case of redshift in a biological process, something generally only studied in cosmology, indicates how the study of biological space time which they pioneered can also inform astronomical investigations.

70. A living squirrel, placed in a Bunsen burner, unfortunately ceases to be a living squirrel.

SPECTRAL LINES SHIFT WITH DIFFERENT α



Alpha is the fine structure "constant." The top row gives the absorption spectra of various elements as measured in the laboratory. Source: John Webb, "Are the Law of Nature Changing with Time?" *Physics World*, April 2003.

APPENDIX V

Fine Structure, Constant?

In addition to intrinsic redshift, there is another peculiar property of galaxies worth noting. A recent study of the absorption lines of distant galaxies yielded yet an additional shift, this one of an unusual character. Once the overall redshift from these objects is normalized, an irregular distribution becomes clear. That is, the amount of redshift of various spectral lines can not be completely attributable to a simple red- or blueshift (see image). The hypothesis of the investigators is that this might correspond to the irregular shifting of spectral lines associated with a change in the fine structure constant, a physical constant which is derived from a study of the interaction of electromagnetic radiation and matter at the atomic scale.

Since we have already discussed the existence of an intrinsic redshift effect as expressive of the stage of evolution of a galaxy, might this also be an intrinsic effect? It would be indicative of the physical spacetime which characterizes these objects. As we've discussed above, Vernadsky's work might give us other potential sources for such an irregular variation. In fact, it may be similar to the sort of irregular spectral shifting that we see with chlorophyll.

APPENDIX VI

Cosmic Contagion

The flu has a curious—as yet unexplained—behavior pattern, although it is one to which we have become accustomed. Every year, it appears to circle the world,

appearing and disappearing with the seasons. Upon every return, the virus has transformed itself enough that it is entirely unrecognizable to our immune systems. Therefore, although catching the flu or receiving a vaccination in one year is enough to keep you from catching it again that year, by the next year it has transformed so much that, as far as your body is concerned, it is quite a different illness.

This would imply a rapid rate of mutation during the epidemic season, since a virus can only mutate while being replicated, that is, during an infection. Investigations have revealed very little mutation during the epidemic period, however. This would suggest that the flu, if it is mutating, must be doing its mutating during its “off season.”

However, being seasonal, the off season for the flu is simply an epidemic season elsewhere in the world. As the Earth orbits the Sun, its inclination towards or away from the Sun changes on a yearly cycle, due to its slight tilt. This tilt causes what we experience as seasons. But when the Northern hemisphere is tilted towards the Sun (our summer, and therefore no flu) the Southern hemisphere is tilted away, experiencing its winter. And in fact, genetic analysis of successive flu outbreaks between the Southern and Northern hemispheres would seem to give an evolutionary cycle for the flu which appears to oscillate back and forth across the equator

In other respects, though, the flu does not behave as though it is a travelling virus.

First off, in order for a virus to travel, it requires either a host, a sick individual, or some sort of vector, such as an animal or insect. Today, we might expect that such a vector might be provided by air traffic across the equator. However, these epidemic patterns existed long before rapid transit of human beings. In fact, studies show that epidemic patterns for the flu have not changed in Great Britain for over four centuries.

Furthermore, a study of 25 successive flu epidemics in France and the United States, showed that not only was the onset of the flu simultaneous in the two very different populations, but the peak of the epidemic always occurred within a mean of four days of one another. This would imply that the entire life cycle of the flu, and not just its transmission, is governed by some sort of outside cue. It's significant that none of this depends on running out of potential victims. As we know, not everybody who could catch the seasonal flu will catch it before it vanishes. It simply leaves when it's time to leave, not because it ran out of things to do.

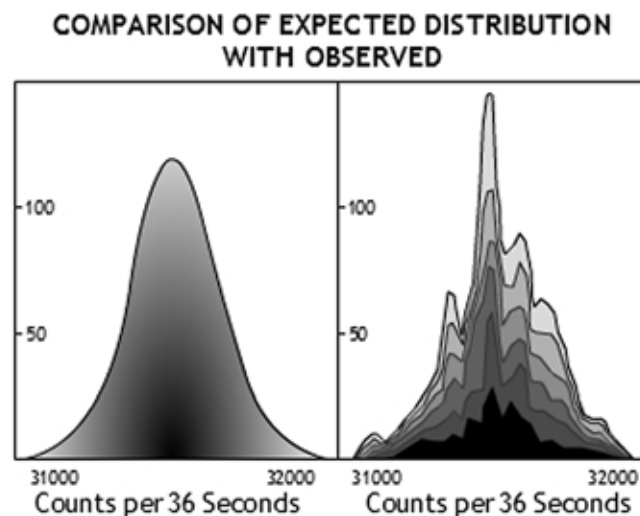
And finally, laboratory experiments have shown that it is actually incredibly difficult to intentionally infect healthy people with the flu, even when a combination of bronchial and nasal mucous from feverish, bedridden patients is directly sprayed into the nostrils, throats, and eyes of healthy individuals. (In this particular experiment, none of the healthy volunteers became ill.)

From this, we might conclude that the cyclical nature of the flu behaves as though it is ordered by a causal factor which lies entirely outside of the process itself, rather than by any point-to-point transmission, daisy-chain style, over long distances, nor dependent upon something which lies in the seasons themselves.

APPENDIX VII

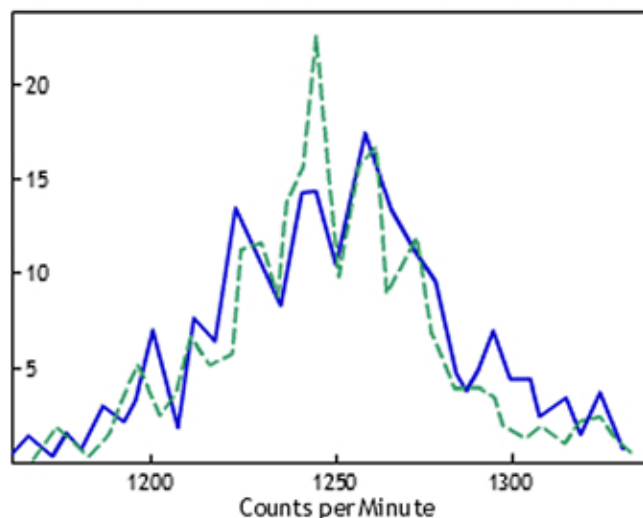
The Very Large in the Very Small

Over the past few years an apparent interplay between the astrophysical and submicroscopic domains has been revealed in the relationship between nuclear decay rates and solar activity. Conventional physics dictates that the decay rates of radioactive elements are



The left shows a (Gaussian) distribution curve. If the process were completely random, an increase in the number of measurements would lead to a histogram cumulatively approaching this curve. However, the real histogram on the right shows the results of 1,200 consecutive measurements of the decay rate of a sample of iron-55, each measurement lasting 36 seconds. Successive samplings are shown in different shades of gray. Notice on the right how the peaks and troughs of the distribution become more exaggerated as the data set gets larger (with each layer representing 200 measurements), rather than more smoothed out. The experiment was conducted in Russia, on Feb. 18, 1982. Source: Shnoll et al., 1998, Figure 1.

SYNCHRONOUS MEASUREMENT OF TWO SAMPLES OF RADIOACTIVE CARBON 14



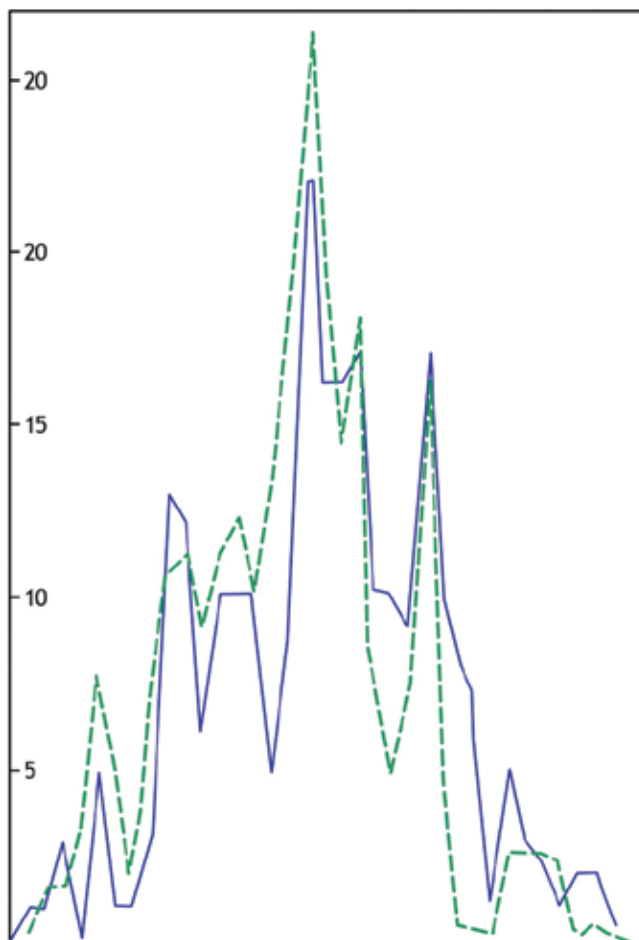
Synchronous measurements of the radioactivity of two separate samples of carbon 14, using two independent measuring stations. Notice how similar they are to each other, but how they differ from the image above. Source: Shnoll et al., 1998, Figure 9.

supposed to be an intrinsic property of the nucleus, not influenced by any outside factors. However, within the last four years, a series of studies have been published showing that the decay rates of samples of Radon-226 and Silicon-32 varied on a yearly cycle, corresponding with the changing Earth-Sun distance.⁷¹ A follow up study showed that singular solar outbursts also can have an effect, as the decay rate of a sample of Manganese-54 was shown to have dropped at the same time as a significant solar flare in 2006.⁷²

Despite the fact that these studies are still being fiercely contested by ardent reductionists, it is not a real surprise. Indications of even more interesting extraterrestrial influences on radioactive decay have been demonstrated by experiments over the past half century.

A team led by Russian researcher Simon Shnoll has published a series of studies based on over five decades of observation of the non-random fine structure of decay

SYNCHRONOUS MEASUREMENTS OF RADIOACTIVE DECAY AND A BIOCHEMICAL REACTION



Synchronous measurements of the rate of beta decay of a sample of carbon 14, and the reaction rate of vitamin C with the chemical DCPIP. Source: Shnoll et al., 1998, Figure 10.

rates and other processes.⁷³ They were not measuring the long-term variation in decay rates over time as in the above study, but were instead examining the fine structure of fluctuations over scales of seconds or minutes. It was expected that there would only be random variations in the rate of activity, averaging to a random distribution curve. However, what they found was remarkable.

71. See J. H. Jenkins, et al., 2008, "Evidence for Correlations Between Nuclear Decay Rates and Earth-Sun Distance."

72. It is also interesting to note that when the flare occurred it was in the middle of the night for the lab which contained the Manganese samples, meaning that if the variation in decay rate was an effect of some form of solar radiation, then the radiation would have had to travel through the Earth to affect the lab on the night side of the Earth. See J. H. Jenkins and E. Fishbach, 2008, "Perturbation of Nuclear Decay Rates During the Solar Flare of 13 December 2006."

73. This reference to Shnoll's work on the "fine structure" of decay rates and other processes is not the same subject as the changes in the "fine structure constant," which is discussed elsewhere in this report. Hopefully, no confusion arises from the similarity of the names chosen for these two subjects. For more on Shnoll's work see, Shnoll et al., 1998, "Realization of Discrete States during Fluctuations in Macroscopic Processes"; and "Russian Discovery Challenges Existence of 'Absolute Time,'" by Jonathan Tennenbaum, Summer 2000, *21st Century Science & Technology*.

They did not get random distribution curves, but curves with specific peaks and troughs which would become more and more pronounced as the measurements went on (instead of averaging out, as expected).

This non-random signature alone was interesting, but was only the very beginning of the story. It was shown that these fine structures would change over time. However, when two independent samples were measured at the same time—despite the fact that they were independent samples, measured by independent instruments, and could even be in different cities—they showed extremely similar fine structures.

Still, this relationship goes even beyond separate samples of the same radioactive element, as different elements, even with different types of decay, show similar fine structures, when they are measured at the same time. Even completely different types of reactions, such as radioactive decay and biochemical reactions, will show similar fine structures when compared with each other if the reactions are occurring at the same time.

These remarkable results indicate the need for a revolution in our basic understanding of the context for physical, chemical, and biological reactions. Despite the vast difference in the types of activity, the energy levels involved, and the scales (from macromolecules to atoms), Shnoll shows an intimate connection between the fine structures of their activity.

Could this indicate an intimate connection with the entire galaxy as well?

The fine structures for these reactions change with time, and when Shnoll compared different fine structures separated by intervals with no physical significance, say 11.5 days for example, they showed no similarity. But when the intervals between measurements did have a physical significance, such as one day, one year, or 27 days (perhaps either relating to the rotation of the Sun, or the orbit of the Moon) then they again showed remarkably similar fine structures! This indicates the influence of these large astronomical cycles on activity in the small.

So what were supposed to be purely random fluctuations of the rate of atomic, chemical, and biological reactions (all seemingly distinct types of reactions), actually express a harmony with each other, and with astronomical cycles.

To add to this wonderful anomaly, the daily period in the fine structure was found not to be a perfect 24 hours (the period of the Earth's rotation relative to the

Sun), but ~23 hours and 56 minutes, a very precise match with the period of rotation of the Earth relative to the fixed stars—pointing to a relation outside of our solar system, and into our galactic environment.

Shnoll and some of his colleagues suggest that this indicates that time itself is heterogeneous, that each moment is different from another.⁷⁴ Might we be seeing in the very small the expression of the physical space-time of the entire galaxy, perhaps relating to what the redshift case implies?

APPENDIX VIII

Redshift

When an element, say hydrogen, is heated, it will emit light. If that light is sent through a prism, we see that the element did not emit colors evenly through the entire spectrum. It instead sent out a set of specific colors which, taken together as a signature pattern, is called its emission spectrum. Like a characteristic finger print, each element has its own particular set of colors unique to it.⁷⁵

Whenever we examine the emission spectrum of a given element on the Earth, we see the same set of colors. When we examine the emission spectrum of something like the Sun, we see an enormous mess of spectral lines. These lines can be untangled to reveal which elements exist in the solar atmosphere. In this way, the light from our Sun, and other astronomical bodies each give us their personal spectral fingerprints. However, in viewing more distant bodies, such as other galaxies, we find familiar spectral line sequences get shifted towards the red end of the spectrum. What causes this phenomenon, called the redshift?

One thing we know is that a simple Doppler effect, due to a recessional motion between the emitting object and the observer, causes the light waves to be stretched.⁷⁶

Because the more distant objects have greater redshift, this would imply that the farther a galaxy is from us, the faster it must be moving away from us. The pe-

74. This heterogeneity of time is different from, but complementary to, what Vernadsky refers to as a "heterogeneity of spacetime."

75. Also, if a continuous spectrum of light is shined through a cold gas, say hydrogen again, the gas will absorb the same particular set of colors characteristic of that element. Analyzing the affected light shows an absorption spectrum, as opposed to the emission spectrum.

76. This is how a radar gun operates.

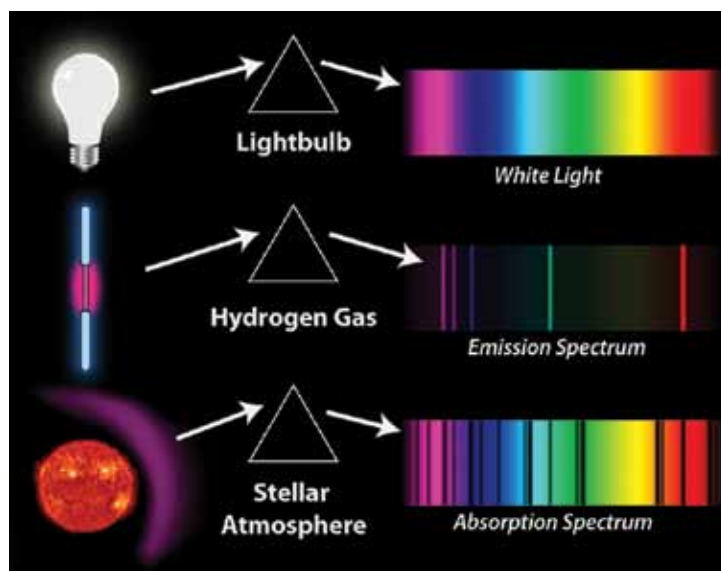
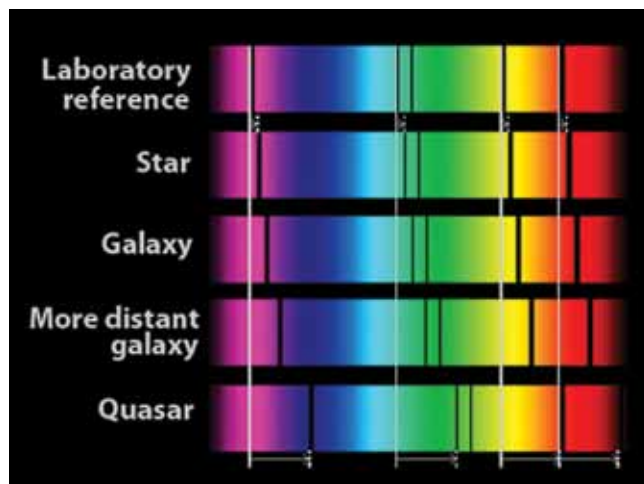
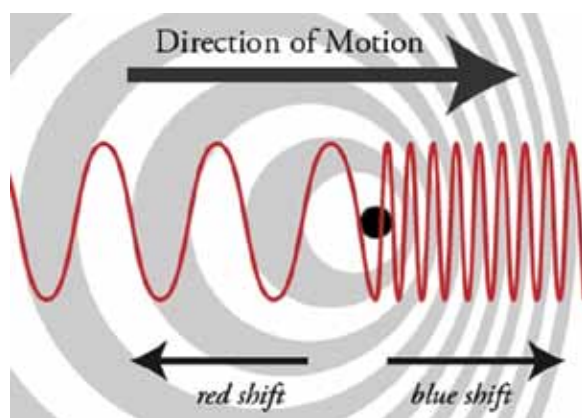


Illustration of spectral lines.



Heuristic example of redshifts.

cular fabulist, Edwin Hubble, used this evidence to claim that all the matter in the universe was rapidly moving outward, from an initial event that others ridiculed with the name “Big Bang.” However, the redshift evidence also fit with an earlier mathematical derivation from Einstein’s General Theory of Relativity, not relying on simple recessional arguments, which said that the spacetime of the universe, itself, was expanding. This expansion of space is claimed to stretch the light traveling through it, also causing a redshift effect. Thus the further the light traveled, the greater redshift it should have by this theory, regardless of how fast the actual light-emitting bodies were moving relative to each other.



When an object that is emitting electromagnetic waves travels away from an observer, the waves that reach the observer will have been stretched out. The observer will thus sense light that is more red than does an observer moving along with the object. If the object is moving towards the observer, the waves will be compressed, and will be seen by the observer to be more blue. This is called the Doppler Shift, after the man who first described the effect.

Thus, according to this framework, redshift must always correlate with distance. Whenever there is an object observed with a very high redshift, then it must necessarily be very far away, such that the space through which its light traveled could be stretched enough to account for the redshift measured.⁷⁷

A fundamental corollary of this, is that there should never be two galaxies with dramatically different redshifts located physically near each other. However, contrary to all presently taught cosmology, this is exactly what we do see, as seen in the body of this report.

APPENDIX IX

Energy-Flux Density

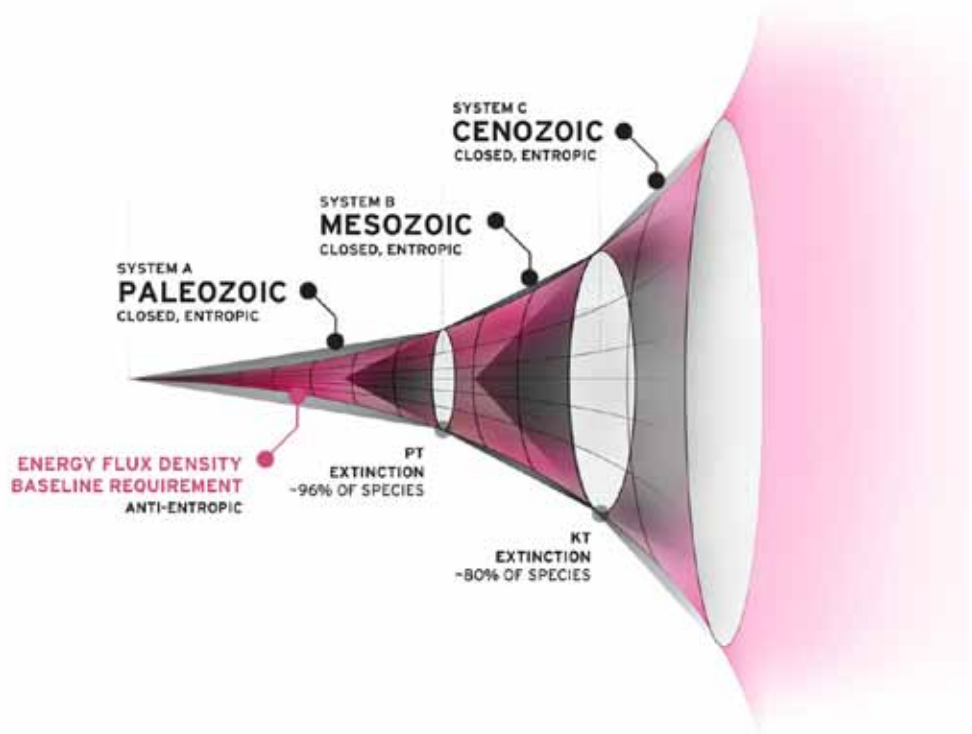
If we define time by means of physical phenomena, rather than positing an a priori geometric conception, we find a way to escape the pseudo-paradoxes of Laplacian determinism. The time of physics is a derivative quantity, like all of the so-called “fundamental

77. There can also be some additional motion of the observed galaxy, which is not due to the expansion of space, but to the motion of the galaxy through the space. This can add an additional Doppler shift to the cosmological redshift. This additional motion is referred to as the peculiar motion, and accounts for a minimal amount of the total redshift in objects with very high redshifts.

units” of physics. Rather than describing processes as occurring “in” space and time, we ought to derive distinct models of space and time from distinct processes. This is, in fact, the methodological approach followed by Einstein in developing his special and general theories of relativity, though, as Vernadsky expressed this repeatedly, the geometrical notion of space and time there is applicable only to the specific phenomena of physics from which it was derived. Observations of the unique spatiotemporal properties of living and cognitive processes should yield distinct notions of these “fundamental units,” in the same way as the attempt by Einstein to reconcile mechanics and electromagnetism led to the redefinition of space-time and matter-energy.

Studying biological time in all of its various expressions—particularly morphogenesis, the succession of generations, and evolution—gives us a texture of anti-entropic development which distinguishes itself sharply from the linear models of time which have been successful in most areas of physics (though problematic already when applied to quantum phenomena).

Dividing biospheric history by functional systems rather than “time periods” allows us to identify a unique texture to such anti-entropic processes. This texture is operative in these processes at any resolution where successive distinct systems may be identified, but certain of its properties are most clear with the division given above, into the systems of the Paleozoic (old life), Mesozoic (middle life), and Cenozoic (new life) flora and fauna. Each closed system is characterized by a specific mode of operation which can be termed its “energy-flux density,” in essential agreement with the economic concept introduced by Lyndon LaRouche. The energy-flux density of each system is



LPAC

well represented in these particular cases by the metabolic character of the dominant predator in each of these periods, which serves as a singular expression of the energy throughput of the biosphere as a whole. Each system develops until an upper limit is reached, at which point an extinction event ensues, on the other side of which a subsequent system, operating at a higher energy-flux density, rises to dominance.

Additionally, it is possible to extract from this model an underlying continuous curve, which we have here termed our energy-flux density baseline. The question is: Does this baseline actually represent something physical, or is it simply an artifact of our model? The answer to this question lies in returning to our earlier discussion of the correlation between evolutionary cycles and processes on a galactic scale. We do have an external metric of progress against which the anti-entropy of life must measure itself: It is the anti-entropic development of galaxies as a whole which has been the topic of this report. It is likely on that scale that we find the origin of our baseline, which defines the requirements for energy-flux density increase required at any moment to avoid the extinction of both animal and human systems.

Showdown This Week on Three Global War Fronts

by Jeffrey Steinberg

April 9—This week is shaping up as a crucial moment in Britain's drive for thermonuclear confrontation. On all three potential war fronts—Iran, Syria, and North Korea (DPRK)—there are deadlines over the coming days that could provide the immediate opportunity for the British to get a full-blown shooting war going that ends in exchanges of thermonuclear weapons—what Lyndon LaRouche has been warning about for months as a potential “extinction event.”

- Iran: Wrecking the P5+1 Preemptively -

Over the weekend, the British imperial launched a wrecking campaign to sabotage or prevent the P5+1 (UN Security Council Permanent Five plus German) talks from ever getting off the ground. As reported in the *Sunday Telegraph* April 8, the British are putting forward, through their puppet President Obama, a number of unconditional demands intended to stop the P5+1 talks from succeeding—including the demand that Iran permanently shut down the enrichment facility at Fordo *before* the talks even start. Iranian Foreign Minister Ali Akbar Salehi came out sharply this morning against any preconditions for the talks; and finally an agreement was reached to start the talks on April 14, in Istanbul, with the second round set for Baghdad. But the British intent is obvious.

That murderous intent was also on display in news coverage in the past 24 hours, confirming that it was Britain, along with Israel, that tried to sabotage the 2010 updated National Intelligence Estimate (NIE) that

reasserted Iran's having stopped, and not resumed, its nuclear weaponization program in 2003. A senior U.S. intelligence source emphasized that, after the disastrous experience with Iraq, the intelligence officers involved in the NIEs have learned the lesson, and do not accept discrete “facts” on such sensitive issues as whether or not Iran is working on a nuclear bomb. On the basis of just such discrete facts, both Britain and Israel insist that Iran has secretly resumed work on a nuclear bomb. The U.S. intelligence community firmly disagrees.

With the announcement that the P5+1 talks will finally begin, the British have been handed a setback that they will not take lightly.

And President Obama is coming under pressure from the U.S. intelligence establishment to negotiate in good faith—something that has not been the case up to this moment. On April 8, Paul Pillar, the former head of the Middle East division of the National Intelligence Council and a 30-year career CIA intelligence officer warned that the Obama negotiating stance is a “deal-breaker” and will lead to war. He was referring specifically to the British-authored demand for the immediate shutdown of the Fordo facility.

“The Western message to Tehran,” he wrote in *The National Interest*, “seems pretty clear: we might be willing to tolerate some sort of Iranian nuclear program but only one consisting of facilities that would suffer significant damage if we, or the Israelis, later decide to

bomb it. In other words, we insist on holding Iranian nuclear facilities hostage to armed attack. Not the sort of formula that inspires trust among Iranian leaders and gives them much incentive to move toward an agreement.”

LaRouche responded to the Pillar document, warning: “This is even more significant than that. This is the British policy. The British policy is that they will not launch World War III—thermonuclear World War III—on the condition that the intended victims are helpless.

“And therefore, there is no intention for peace. And the best thing we can do, is have the Supreme Court lead on to the impeachment of Obama.

The people who want peace have got to cooperate with the Supreme Court in dealing with the case of the impeachability of Obama. Because it is the Supreme Court that has to be called in, usually, in an impeachment process of that sort. Congress really has to do the impeachment, but it has to coincide with the acceptance of the Supreme Court.”

Syria Remains in the Cross-Hairs

Today is the date that Syrian forces and heavy military equipment are supposed to be withdrawn from all the urban areas in the country. Over the weekend, the Syrian government asked that the opposition sign a document confirming that they will agree to an immediate ceasefire once the forces and heavy arms are withdrawn. The opposition immediately refused, because it would have been tantamount to recognizing the legitimate existence of the Assad government.

There are reports of shelling across the Turkey-Syrian border in both directions, so far unconfirmed. But as of the recent Friends of Syria meeting in Istanbul,

there are reports of Turkish forces planning to conduct cross-border incursions to create a liberated zone inside Syrian territory. Such an action would be an act of war and could rapidly draw other NATO countries into the conflict.

Russian diplomacy is the key to war-avoidance at this late hour. The Russians are hosting Syrian Foreign Minister Walid al-Moallem in Moscow today and tomorrow, and two delegations from the opposition are to arrive in Moscow soon. Any military action against Syria would likely draw in Iran and Lebanon immediately, and spark a larger regional war, easily spreading to Russia and China.

Russian warships are now holding maneuvers in the eastern Mediterranean after a port call at Tartous, Syria. U.S. Navy vessels are heavily deployed in the Mediterranean and in the Persian Gulf, and the largest joint Air Force maneuvers in years are now underway near Bahrain, involving the United States, all of the Gulf Cooperation Council (GCC) states, as well as Turkey and Pakistan.

The Russian diplomacy is being closely coordinated



Creative Commons/Bo yaser

In Syria, the opposition's refusal to sign a ceasefire agreement once the government forces are withdrawn from urban areas has stymied efforts to end the conflict there. Shown: a demonstration in Homs Feb. 3, 2012.

with former UN Secretary-General Kofi Annan, who is the designated Arab League mediator.

North Korean Satellite Launch

As promised, North Korea has allowed foreign observers into the site where a rocket launch is scheduled for later this week, perhaps on April 12. The observers confirm that there is a rocket with a satellite at the launch site—not an ICBM. But U.S., Japanese, South Korean, and European security services are claiming that the solid fuel being used in the rocket was produced in Iran, as part of the Iranian-North Korean collaboration on advanced missile design.

Japan and South Korea, along with the U.S. Navy, have deployed anti-ballistic missile systems to potentially shoot down any debris from the North Korean rocket launch. This is a very fragile situation, which could easily lead to further military incidents between the two Koreas, quickly drawing in China, the U.S., and Japan.

China has warned, in the pages of *Global Times*, that the deployment of U.S. ballistic missile defense systems in Asia—as announced recently by President Obama—would force China to fundamentally alter its own strategic deterrents. The real targets of the American and allied (Japan, South Korea, and Australia) BMD system are China and Russia—not the DPRK.

A senior U.S. intelligence official, familiar with the North Korea situation, candidly admitted that the Obama Administration had been told, well in advance, of the planned North Korean satellite launch. The Feb. 29 U.S.-DPRK agreement, brokered by China, occurred well after the satellite launch was announced. Yet the Obama Administration failed to raise any objections during the bilateral talks, and only declared that the launch was a violation of the agreement, along with several UN Security Council resolutions, *after* the talks were concluded.

While this may be seen as a policy blunder, it also points to a much darker reality: Once again, President Obama—on British orders—has created a war-provocation that could easily spin out of control.

Russian War-Avoidance

While U.S. military and intelligence officials have been working overtime to prevent any one of these three nominally separate crises from triggering an out-of-control global confrontation, the Russian government has also continued to warn, in the starkest terms,

about the dangers involved in staging war provocations along its southern border.

On April 3, Russian Deputy Foreign Minister Sergei Rybakov called for the immediate convening of the P5+1 talks—before a war breaks out. “The pot can explode if the diplomatic valve is not opened,” he warned, according to *Russia Today*. “The situation is so acute that any incidents are possible. This is especially dangerous when big military, naval capabilities are concentrated in the area. We find the situation very serious and tending to aggravate. All foot-dragging must stop. We need these talks badly.”

Rybakov singled out “hotheads” in Israel who, he charged, reject out of hand the idea of a diplomatic solution. “Nobody,” he warned, “could win concessions from the Iranian side with a policy of threats, no more than with a policy of sanctions.”

meanwhile, Russian Foreign Minister Sergei Lavrov, was on a tour of Armenia, Azerbaijan, and Central Asia, warning that any military attack on Iran would lead to chaos in the entire Caucasus, Caspian, and Central Asian region.

Lavrov’s visit to Azerbaijan was of special significance, because of reports from credible Pentagon and CIA sources, that Israel has made a secret deal with the Azeri government, to give refueling and other access to the Israeli Air Force for an attack on Iran. Historian and author Mark Perry wrote in *Foreign Policy* magazine about the Azeri-Israeli deal, provoking a firestorm of denials and protests. Yet, sources inside the U.S. intelligence community fully backed Perry’s account, and agreed that any military actions so close to the Russian border would bring Moscow into the conflict and virtually assure a much broader war.

Shades of Sarajevo

All of these nominally “separate” situations are tied together, in much the same way that the complex series of alliances and conflicts led to World War I on the basis of what was nominally a limited incident—the assassination of Archduke Ferdinand in Sarajevo in August 1914.

This is a situation that requires tremendous patience and solid diplomacy. But we have a trigger-happy British-run U.S. President who has done everything possible to wreck relations with Moscow and Beijing at a moment when the slightest incident could trigger thermonuclear World War III. Is there any doubt that the only durable war prevention is Obama’s removal from office now?

German, U.S. Constitutions in Danger; Resistance to Dictatorship Is Growing

by Helga Zepp-LaRouche

April 7—In both the United States and the European countries, the rule of constitutional law is in extreme danger. President Obama leaves no doubt that he wants to add to the long list of his constitutional violations and repeated circumventions of Congress, when he denied the right of the Supreme Court to reject, on constitutional grounds, laws passed by Congress. There is a parallel development in Europe: the attempt by the EU and most governments to invest the Board of Governors of the European Stability Mechanism (ESM) with dictatorial powers. This means that the trans-Atlantic oligarchic elite is determined to give up even the last semblance of democracy and constitutionality.

President Obama, at a March 30 joint press conference with the Canadian Prime Minister and the President of Mexico, said that he did not expect that the Supreme Court—which he called “an unelected group of people”—would reverse a decision by the majority of a democratically elected Congress. That is as if Chancellor Merkel were to deny that the Constitutional Court in Karlsruhe has the right to review the constitutionality of laws passed by the Bundestag. A storm of indignation has broken out in the U.S. over this. People have realized that it is tantamount to a coup against the American Constitution.

Adding insult to injury, U.S. Attorney General Eric Holder emphasized in a letter to the Fifth Federal Court of Appeals on April 5, about the constitutionality of the Congress’s vote, that the vote is “presumptively” constitutional, which means that the result of the vote in itself is grounds to assume that the law is constitutional. The same day, in a speech at Northwestern University Law School, Holder defended the law allowing targeted killings of Americans without judicial process.

Thus, the Obama Administration has called into question the separation of powers that the American Founding Fathers erected among the Executive, Legislative, and Judicial branches. The specific context is the possibility that the U.S. Supreme Court could overturn as unconsti-

tutional Obama’s health-care reform, which denies necessary treatments to entire layers of the population.

Obama’s attack on the Supreme Court has triggered a wave of sharp criticism. Republican Senate Minority Leader Mitch McConnell called on Obama to exercise restraint. “The President crossed a dangerous line this week,” McConnell stressed. “Anyone who cares about liberty needs to call him out on it. The independence of the Court must be defended.”

A comment in *Investor’s Business Daily* pointed out the irony of Obama’s remarks, given that he himself is trying to rule the United States without the Congress: “How can you complain about the powers of unelected judges when you appointed 45 unelected czars, created a plethora of agencies populated by unelected bureaucrats, and thwarted the will of Congress and the courts by governing through regulation and executive orders?”

The reason is obvious: The separation of powers is an impediment to dictatorship. It is expected that the justices, who are appointed for life, will not leave unanswered this assault on their constitutionally mandated function. Lyndon LaRouche reiterated his demand that only an immediate impeachment of Obama could prevent a catastrophe.

The ESM Is a Dictatorship

Although the circumstances and topics of the European Fiscal Pact and the ESM—the permanent European rescue fund—are somewhat different, ultimately what is happening in Europe is the same thing: the elimination of democracy and the parliamentary process, and the introduction of a supranational dictatorship that is no longer accountable to the citizens. If the ESM is ratified, Germany will really be in for trouble. The Board of Governors, composed of the EU finance ministers, which in turn can transfer all powers to a Directorate, can have unlimited access to German federal finances at any time. There will then be no democratic controls, no disclosure requirements; decisions will be

made in secret, all participants will be assured complete immunity; they can operate on the primary and secondary markets, dealing in loans, credits, stocks, state bonds, real estate, gold, and commodity futures, while the amount of their salaries will remain secret.

In short, the de facto supranational government and a European super-mega-hedge fund will merge into one. Article 21 of the ESM statute states that in the future, euro bonds, i.e., a pooling of the new euro debts, can be issued without further amendment to the EU treaties. And this means, as former ECB board member Otmar Issing recently stated, expropriation, inflation, and loss of sovereignty.

The extent of power of this ESM structure, in conjunction with the Fiscal Compact, which provides no cancellation clause, means practically a return to feudal structures. The financial elite and their political henchmen then possessed an unassailable power structure, while the population is looted and is supposed to remain relatively clueless. All the achievements of the sovereign nation-state, such as the representative parliamentary system and the consequent possibility for



White House/Pete Souza

President Obama's attack on the "unelected group of people" who constitute the U.S. Supreme Court has created a huge and growing backlash. Here, he is shown with his British buddy, Prime Minister David Cameron, in London, May 2011.

the citizens to participate in government, are thrown overboard.

Resistance Now!

It's still not too late. More and more people in public life, constitutional lawyers, citizens' initiatives, etc., are mobilizing against the threat of loss of democratic freedom and the complete economic incompetence of the EMS.

But this also shows how wrong it is to react only on the basis of the ESM's plan as currently stated, because the intention to turn the EU into an empire, a dictatorship of the greatest possible size (according to Robert Cooper), was already in the minds of British Prime Minister Margaret Thatcher and French President François Mitterrand, at least since the fall of the Berlin Wall in 1989.

Since the combination of the fiscal union and the ESM in effect means the end of national sovereignty and the establishment of a European federal state, a constitutional change like this requires a referendum under Article 146 of the German Constitution. There is a serious problem, however, which is that there is no clear legal provision for doing this; for example, it is unclear who has the right to call a



Regierungonline/Kugler

German Chancellor Angela Merkel with then-Israeli Prime Minister Ehud Olmert in Tel Aviv, March 8, 2008. In her speech to the Knesset during that visit, she called the defense of Israel a "raison d'état" for Germany. Some of her constituents are now asking whether that policy will force Germany into a war—even a world war—if Israel attacks Iran.

referendum, whether it is the Bundestag or a certain percentage of the population, or by order of the Federal Constitutional Court.

A decision on this issue is of utmost urgency; it must be resolved before the adoption of the ESM monster is a “done deal.” It is also vitally important, because the consequences of the current EU policy are that one European country after another will plunge into ruin. The suicide of a 77-year-old retiree in Greece, in protest against the EU’s brutal and destructive austerity policies, has already become a rallying point for a broad resistance movement throughout the country. And in Spain, the headlines of the mainstream press announced, after the government’s recent budget cuts: “Spain is dead.” In Italy and Portugal, one general strike has followed another. Is this the Europe we want?

An Alternative Credit System

The only way that a plunge into dictatorship, depression, and ensuing war can be prevented, is an immediate referendum on the European Monetary Union, a return to sovereignty over the national currency and economy, the introduction of a two-tier banking system

in the tradition of U.S. President Franklin Roosevelt’s Glass-Steagall standard, and the introduction of a credit system that is oriented exclusively toward investments in the real economy.

Back in November of last year, this author warned that the developments in the Middle East, the debate in Israel over a preemptive strike against Iranian nuclear facilities, and the huge military deployment of American, British, Canadian, and French forces in the Indian Ocean, the Persian Gulf, and the Eastern Mediterranean meant imminent risk of escalation to a third world war. Then after considerable delay, Wolfgang Ischinger, the head of the Munich Security Conference, called for a public debate on the implications of Chancellor Merkel’s speech before the Israeli Knesset in 2008, in which she declared that the defense of Israel is a *raison d’état* for Germany. So far, responses to this promise of unquestioning loyalty have come only from informed sources among the military and diplomats, who say that it holds Germany hostage to the policies of the current Israeli government, and therefore, that Germany would be drawn into a war between Israel and Iran,

The prose [poem](#) by Günter Grass, “What Must Be Said,” was a bombshell that alerted the general public in Germany to the threat of an imminent third world war. The discrepancy has never been so obvious between the mass media, which is fixated on the alleged outrageousness of Grass’s taboo-breaking [with respect to Israel’s nuclear weapons], and the voices of concerned citizens who, like Grass, see the threat of a third world war.

A new form of resistance is beginning to develop on both these existential issues, the danger of dictatorship in Europe and the threat of a new world war. The winds of change can be felt.

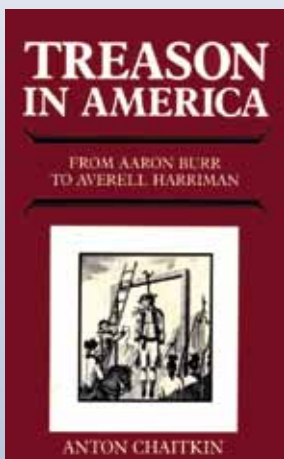
Memories surface of the late Summer of 1989. Then too, the hardliners of a collapsing system insisted on the eternal character of their system (to quote [East German leader] Erich Honecker: Socialism will last 1,000 years). Today, the hopeless attempt to codify the collapsing euro system forever and irreversibly, with the straitjacket of the ESM and fiscal union, will likely have a lifespan about as long as the G.D.R. regime did then. So we must establish an economic system that is free of the inherent faults of both communism and monetarism. This alternative exists with physical economy, which has been the basis of any economic, political, and social progress over the past 300 years.

This article was translated from German.

Treason in America

NOW AVAILABLE ON KINDLE!

Anton Chaitkin’s *Treason in America: From Aaron Burr to Averell Harriman* is an authoritative inquiry into the criminal apparatus



of the British Empire and its arms in Wall Street, Boston, and the Confederate South—that usurped power in America.

The Kindle edition (from Executive Intelligence Review, 1999) is available at www.amazon.com for \$9.99.

Obama Backs Nazi Doctrine, Grabs Judicial Authority for Himself

by William F. Wertz, Jr.

April 9—The impeachment of Barack Obama as President of the United States has become more urgent than ever, as Obama has made it evident that he is a serial violator of the Constitution he swore an oath to uphold.

Most recently, Obama argued that it would be unprecedented for the “unelected group of people” on the Supreme Court to overturn his health-care law, and that the very idea of “judicial review” on the part of the court would represent “judicial activism.” Obamacare is modeled on Hitler’s T4 euthanasia program.

In response to the President’s attack, on April 3 a panel of the U.S. Court of Appeals for the Fifth Circuit, consisting of Judges Jerry Smith, Emilio Garza, and Leslie Southwick, ordered the Department of Justice to submit a three-page, single-spaced statement to the court, explicitly referencing Obama’s statements, and explaining whether the DOJ agreed with the President.

Attorney General Eric Holder submitted a response that did *not* explicitly address the President’s remarks about “unelected” judges, and instead argued: “The Department has not in this litigation, nor in any other litigation of which I am aware, ever asked this or any other Court to reconsider or to limit long-established precedent concerning judicial review of the constitutionality of federal legislation.... At no point has the government suggested that the Court would lack authority to review plaintiffs’ constitutional claims.... The question posed by the Court regarding judicial review does not concern any argument made in the government’s brief or at oral argument in this case....”

This was not the issue. The issue was whether the DOJ agreed with *the*

President’s comments against the Supreme Court’s authority to overturn Obamacare on Constitutional grounds—not what was stated in the government’s brief or in its oral argument.

Holder compounded his contempt for the court by concluding: “The President’s remarks were fully consistent with the principles described herein.”

A Record of Sophistry

This was not Holder’s first defense of the President’s violation of the Constitution.

On March 5, he gave a speech at Northwestern University Law School in which he defended the assassination of U.S. citizens. The speech itself was given as a pretext to avoid releasing the memoranda prepared by the Department of Justice and other branches of the Executive in defense of the assassination of Anwar al-Awlaki, an American citizen, in Yemen on Sept. 30, 2011.

The Fifth Amendment protects all citizens from being “deprived of life, liberty, or property without due process of law.”

In his speech, Holder assures us that such assassinations without due process are “appropriate and lawful,” although they should not be called assassinations, because “assassinations are unlawful killings. Here, the U.S. government’s use of lethal force in self-defense against a leader of al Qaeda or an associated force who presents an imminent threat of violent attack would not be unlawful—and therefore would not violate the Executive Order banning assassination or criminal statutes.”

Holder then argues that the threat does not have to be imminent: “The



Nazi crown jurist Carl Schmitt

Constitution does not require the President to delay action until some theoretical end-stage planning—when the precise time, place, and manner of an attack become clear. Such a requirement would create an unacceptable high risk....”

Next he claims that the President is not required to get permission from a Federal court before taking such action against a U.S. citizen. “This is simply not accurate. ‘Due process’ and ‘judicial process’ are not one and the same, particularly when it comes to national security. The Constitution guarantees due process, not judicial process.”

For Holder, a recommendation by a secret committee appointed by the President to use lethal force against an American citizen, followed by a decision on the part of the President to implement that recommendation, without the citizen having the right to defend himself in a court of law, constitutes due process. Apparently it is enough for the President to act as accuser, judge, jury, and executioner.

Obama has also demonstrated contempt for the Legislative branch, in violation of the Constitution, in events over the past year:

- In the case of Libya, he violated the Constitution, which specifies that Congress alone has the authority to declare war. The President went so far as to argue that the war in Libya did not involve hostilities, and that therefore he had no obligation to bring the issue before the Congress.

When ten Democratic and Republican Congressmen brought a suit against the President on June 15, 2011 for depriving the Congress of its constitutional responsibility, Attorney General Holder defended the President’s lawless action.

- The President signed the Defense Appropriations Act of 2011, which allows the indefinite detention without trial of American citizens by the military, a provision that was included in the bill at Obama’s insistence.

These steps taken by Obama and defended by Holder are an attempted coup against the Constitution.

The Nazi Precedent

The arguments used to rationalize Obama’s actions are reminiscent of the arguments made by Nazi crown jurist Dr. Carl Schmitt in defense of Adolf Hitler in 1934.

On March 23, 1933, the Reichstag (parliament) passed the Enabling Act which established the Hitler

dictatorship, by granting the Executive the authority to enact laws without the participation of the Reichstag.

A little more than a year later, on “the Night of the Long Knives,” June 30-July 2, 1934, Hitler ordered the murder of factional opponents including Ernst Roehm and the leadership of the Sturmabteilung (SA). The purge was legalized the next day with a one paragraph “Law Regarding Measures of State Self-Defense.”

These actions were defended by Schmitt. In defense of the latter action, Schmitt published an article on Aug. 1, 1934 entitled “The Leader Defends the Law.” His argument was:

“The Leader takes the lessons of German history seriously. That gives him the right and the power to establish a new State and a new order. The Leader defends the law against the worst abuse, *when at the moment of danger he directly creates law by virtue of his leadership as the supreme judicial authority....* The true Leader is always also Judge. From the Leadership flows the judgeship. Whoever wants to separate the two from one another or even oppose them to each other makes the Judge either into the counter-Leader or into the tool of a counter-Leader and seeks to unhinge the state with the help of the judiciary.... In truth the action of the Leader ... is not subject to the judiciary, but rather was itself the supreme judiciary.... In the greatest emergency, the highest law proves of value and the highest degree judicially of the avenging realization of this law appears.... We must not blindly adhere to the juristic concepts, arguments and precedents that an old and sick epoch created.... The Leader determines the content and the scope of his course of action himself” (emphasis added).

The failure to effectively oppose Hitler’s violation of the German Constitution, which resulted in the elimination of both the Legislative and Judicial branches of government and their replacement by a unitary Executive, led ineluctably to World War II.

Today, we are once again on the brink of a world war unless decisive action is taken to uphold the U.S. Constitution.

The only effective way to defend the Republic is to deliver a decisive blow to the intentions of the British Empire and its drive for World War III, by removing Obama from office now, using the very U.S. Constitution to do so, which he is thoroughly committed to abrogating on behalf of his British puppeteers.

Cheminade Counters Arrogance of French Elites; Promotes Space Program

by Christine Schier

April 10—The final ten days of the Presidential campaign in France, leading to the first round of the election on April 22, have seen a whirlwind of media coverage for Jacques Cheminade: eight to ten interviews per day, in addition to the strict amount of equal time slots granted to all candidates as of April 9, and to the official TV spots which will run every day from April 9-20.

While the 2012 Presidential campaign in France, as it now stands, will likely be remembered in history as one in which the dire strategic and economic realities were ignored overall, Cheminade stands out as a fortunate exception to that.

He has hammered on the need to jump-start the real economy, and warned of the “monsters” which are arising, just as in the 1930s, to bring financial fascism and war upon the world. Time and again, in his interventions, Cheminade insists that the first steps he will take, if elected President, will be to establish a Pecora Commission, to investigate exactly what led to the financial crisis, and what the banks now hold on their books, followed by a sorting out of the valid assets from the toxic waste, which must be written off, and a policy of public credit to finance growth of the physical economy and job creation.

While other candidates pay lip service to the financial crisis as the most pressing problem, they refuse to consider the consequences of remaining within the current financial system and within a euro system which is imploding.

Ironically, the British Em-

pire’s *Economist* magazine put the issue squarely on the table in its March 31 issue. Reflecting the standpoint of the financial oligarchy, its cover story, headlined “France in denial: The West’s most frivolous election,” laments that none of the candidates are telling the French what to expect after the elections, whoever wins: a brutal drop in living standards and the end of social protection. The cover parodies a painting by Edouard Manet, “Luncheon on the Grass,” showing Nicolas Sarkozy and François Hollande nonchalantly lying in the grass and chatting, together with a naked woman.

Indicative of other financial networks, the business TV channel BFM gave Cheminade a chance to present his program at some length, and boursier.com, dedicated to stock exchange and investors, ran an interview with the candidate April 6 as the lead item, under the

headline: “By putting an end to continuous quotations, and returning to a daily setting of values, the markets could again play a useful and honorable role.” In the interview, Cheminade calls for banning high-risk derivatives on the stock exchange as well.

Lifting Decades of Silence

From the field, activists for the Cheminade campaign report that the major problem continues to be a lack of recognition of their candidate’s program, due to the long-standing press blackout. Over the past weeks, that is beginning to change, thanks to the system of Presidential elections set up by Charles de Gaulle to break the stranglehold of the political establishment, and allow individual



The City of London’s flagship magazine, *The Economist*, ridicules the “leading” French Presidential candidates, Sarkozy (right) and Hollande.

citizens with popular support to be heard.

So the message is going out, as Cheminade continues giving many interviews per day on the national level, and campaign spokesmen are covered in the regional media. The heavy artillery slanders of the Parisian media have somewhat died down, because as one contact put it: Once his candidacy was validated, the “atomic bomb” was taken out to counteract him—but he survived it. And not only that, he came out fighting!

Now, the main line of attack is to present the Cheminade candidacy as “useless,” because he won’t get enough votes to tip the scales, and to present the candidate himself as an eccentric. He might have some good ideas, it is said, but they’re unrealistic.

Outside of the time the media are obliged by law to give Cheminade, he is virtually never mentioned in discussions of the election. Thus, the fear instilled in the oligarchy is sometimes more reflected in what is *not* said, than what is said.

This strategy has been carried to a laughable extreme by *Le Monde*, which prides itself on being an “intellectual newspaper.” Its April 10 edition publishes answers to a questionnaire on environmental matters submitted to all candidates . . . except Cheminade. In a footnote, one can read: “We did not question Jacques Cheminade, as per the position of *Le Monde* since his candidacy was made official.” A very strange sense of journalism.

In any case, the arrogance of the French political class toward the citizens and their needs is one reason why many voters are expected to stay home on April 22, with some polls putting it at 24%. New voter registrations have also been particularly low in a Presidential election year.

It is notable that Cheminade’s space program is what most intrigues the thinking population, and infuriates the high priests of a fixed order, since it does not fit into their preconceived world of cost-counting and limited resources. This underscores the underlying effect of the Cheminade campaign, which is nonlinear and



French Presidential candidate Jacques Cheminade campaigns in Nancy March 30. His program to revive space exploration has struck a chord with voters.

impossible to measure in terms of votes alone. It goes to the very heart of the cultural paradigm that has led to the current existential crisis.

To pursue a dialogue directly with the citizens, Cheminade will hold a webcast on April 15 at 7 p.m. Paris time at cheminade2012.fr.

Cheminade Election Spots Begin To Air

On April 9, France Television showed the first series of official spots produced by the respective campaigns. From April 9 to 20, except for Sunday the 15th, nine out of the ten candidates are shown, in an order drawn by lot. Overall, each candidate is entitled to 43 minutes altogether, comprised of 10 spots of 1 minute 30 seconds, and 8 spots of 3 minutes 30 seconds. They are considered more important than the various interviews given, because voters have an unbiased view of the candidate.

Cheminade’s April 9 spot began with a clip from his now-famous video of 1995, in which he warns that a dangerous financial crisis is about to hit, and that he would be remembered as the one who had forecast it. Then the camera switches to Cheminade today, stating forcefully:

“The financial and monetary crisis, which I alone announced in the 1995 Presidential election, has happened.

“My forecast does not give me cause for conceit, but I do measure the consequences of the blindness of the others.

“That is why I am running again as a candidate. To relaunch employment, purchasing power, and social justice. But in the current system, that is impossible. The money is put elsewhere. We are bailing out, to the tune of billions, those who have destroyed the economy and imposed social breakdown. Labor has become mere merchandise.

“Therefore, we have to change systems. To do so, we first have to prevent the financial predators from doing more harm. By dividing the banks in two in order to protect deposits, credit, and savings, and putting into bankruptcy the banks that speculate, if they are unable to pay their gambling debts. Then, we will be able to create a system of public credit, with a national bank, to finance great projects which create skilled jobs in France, in Europe, and in the world.

“We must give back to our youth this hope. Let us fight for it! Anything else amounts to chatting on the deck of the *Titanic* which is headed straight toward the iceberg.”

Mayors Fight Back!

On March 31, the French Constitutional Council published the names of 500 elected officials chosen by lot who sponsored the different Presidential candidates. Many of those who sponsored Cheminade were later contacted by the media to ask them to explain their choice—in an obvious ploy to get them to say they had been deceived. But it didn’t work!

One mayor of a village in the southwest said: “I share his view on denouncing the financial system. He speaks of virtue, and I find his approach courageous. That’s why I decided to sponsor him.”

As the weekly *L’Express* noted, some mayors said they wanted to support a “minor candidate,” but that was rarely the only reason. The mayor of a town of 1,677 in Brittany said he had met Cheminade twice, and was mainly attracted by his refusal to let the State be controlled by financial interests, and by his foreign policy against Atlanticism. This mayor says he was also convinced by the “space program of the candidate,” which used to be everyone’s dream.

The mayor of a village of 368 says he was convinced by the economic proposals of Cheminade. Another praises the campaign activists, who were “sincere and explicit,” in addition to being the first to come

and ask him to be a sponsor.

From Bourgogne, a mayor said he had also sponsored in Cheminade in 2007, in particular, because of one issue which no one else seems interested in: “the drying out of Lake Chad.” And also because Cheminade is fighting for the survival of the rural areas in France. *L’Express* notes that defense of the farming/rural areas is an important part of Cheminade’s program—which convinced other mayors to support him.

From the erstwhile industrialized North, a mayor who happens to be a driver of high-speed trains (TGV), says that he was influenced by Cheminade’s project to integrate Europe through high-speed rail projects.

Although the Parisian media would have loved to find some elected officials who would say they had been deliberately misled by Cheminade and his activists, they could not. All they found was one one mayor who said that if Cheminade really has links to American right-wing extremists, as some media claim, then he regretted his decision. But of course, those links are non-existent.

Cheminade Webcast

The following invitation is being sent out to the entire network of Solidarité et Progrès (the La-Rouche co-thinker organization in France):

It is crucial today to understand the tragic moment of history at which we have arrived. It is in this context that Presidential candidate Jacques Cheminade puts forward his solutions, while the other candidates propose austerity and a balanced budget, which means the bailout of investment banks’ gambling debts, and even worse social ravages, or they recite worn-out formulas and try to keep up illusions.

That is why Jacques Cheminade will present to his fellow Frenchmen his program, and the importance of his fight, during a webcast on April 15 at 17:00 CET (Paris time).

We invite you to follow the program live on www.cheminade2012.fr and to email your questions to question@cheminade2012.fr.

Don’t miss the opportunity!

Glass-Steagall Takes to the Streets

by Andrew Spannaus

April 9—The campaign for a Glass-Steagall-style reform of the banking system is taking off at the popular level in Italy. Two months after the introduction into the Senate of a Glass-Steagall bill by Sen. Oskar Peterlini, the Lega Nord (Northern League), the largest opposition party, has announced a mobilization to collect signatures for the presentation of a bill into the Italian Chamber of Deputies using the “popular initiative” system, which obligates the Parliament to consider proposals that have been signed by at least 50,000 citizens.

The campaign by the Lega comes in anticipation of a bill that is expected to be introduced into the Chamber following normal procedures shortly. *EIR* has learned that the initiative will involve leading figures from other political parties, and will be based in part on the Peterlini bill before the Senate, which was prepared in collaboration with Movisol, the LaRouche movement in Italy. Over the past three years, Movisol has succeeded in mobilizing various individual political figures around the Glass-Steagall proposal, as well as numerous local organizations and associations, but this is the first time that a political party has taken up the cause as part of its program.

The introduction to the popular initiative (see *Documentation*) states that “it is time to set a limit to the excessive power of finance.... This means that it is only the state that issues money in the name of the people. It means that credit is for development and not for speculation. It means separating the wheat from the chaff, what is productive from what is speculative, as happened for centu-

ries.” Finance is identified as an “infection” that is out of control, and must be placed into an orderly reorganization procedure, to allow for “large-scale public investment for the industrial economy and manufacturing, and for infrastructure.”

Insisting that taxpayers should not bail out speculators, the text states, “A gambler cannot simply leave the table and have someone else take his place to pay for his losses. The one who loses a bet must be forced to pay!”

As most observers in Italy would recognize, the language of the introduction is that of Giulio Tremonti, the former Economics Minister, who has been very vocal in supporting a Glass-Steagall reform in Italy since the beginning of this year. In fact, the introduction to the popular initiative consists of portions from Tremonti’s recent book *Uscita di Sicurezza (Emergency Exit)*.¹ Since the outbreak of the acute phase of the global financial crisis in 2007-08, Tremonti has repeatedly called for reorganizing the international financial system in order to save the real economy, as opposed to the parasites; despite an increase in his popularity in Italy (or because of it), he was rewarded with a scandal campaign aimed at pushing him out of office, which

1. Andrew Spannaus, “Tremonti Returns, Launches Glass-Steagall Offensive in Italy,” *EIR*, Feb. 10, 2010.



Movisol

The “Legge di Iniziativa Popolare,” a campaign to gather 50,000 signatures in support of a Glass-Steagall law for Italy, is being led by the opposition party Lega Nord and the LaRouche movement in Italy, Movisol.



Wikimedia Commons

Lega Nord Secretary Umberto Bossi announced the Glass-Steagall campaign on April 1, declaring “We need to split up the banks....” Two days later, the Financial Police raided the Lega’s offices, and Bossi resigned on April 5.

ultimately succeeded, only when the elected government of Silvio Berlusconi—himself increasingly under the influence of Tremonti’s enemies—was replaced by technocrats and bankers led by market darling, now Prime Minister, Mario Monti.

The broadening of the push for Glass-Steagall to multiple political parties represents an important marker in this period of crisis, where far too many in the population and institutions have to date been cowed into accepting policies dictated by the international financial establishment. Despite their different political ideologies, various sectors of the population are beginning to coalesce around the proposal, which can represent an essential first step towards the abandonment of the suicidal free-market policies in place at the international level.

Judicial Attack

On April 1, Lega Nord leader Umberto Bossi announced the Glass-Steagall campaign during a public event by saying: “We need to split up the banks; those that speculate from those that give money to enterprises.” The plan is to have literature tables to collect

signatures around Northern Italy, with petitions that include the proposed articles of law.

Right on cue, the Financial Police showed up at the Lega’s headquarters in Milan two days later, on April 3, announcing an investigation of three party officials accused of fraud and embezzlement of public funds provided as reimbursement for election campaigns. Details were then released that involved misuse of funds for the personal expenses of Bossi’s family. Bossi and the Lega deny knowledge of any wrongdoing, but their political image is taking a huge hit, since the party was built on an anti-corruption message, charging that the hard-working North shouldn’t be paying for inefficient and corrupt public and private structures in the South.

(This has at times expressed an undercurrent of racism in some sections of the party, along with threats to split Italy as a nation between North and South, although in recent times the Lega has essentially dropped these points, and become a magnet for opposition to globalization and free-market policies. Indeed, for over a year, the party’s radio station Radio Padania has regularly interviewed the leaders of Movisol, to promote the campaigns of the LaRouche movement.)

As a result of the judicial attack, Bossi resigned as secretary of the Lega on April 5.

While the operation against the party obviously pre-dates the campaign for Glass-Steagall, as it involved investigations that took place over a significant period of time, it is clear that the Lega has become a target due to its role as the only major party that has opposed the harsh austerity measures being imposed on Italy by the European Central Bank and its cohorts, through the Monti government. In fact, the other major political parties, including those who claim that they are against free-market liberalism, have been fully supporting the technocrats, either explicitly or de facto. Thus, undercutting the Lega’s credibility is certainly seen as essential to avoiding another major increase in its vote totals in the upcoming municipal elections, which could spell trouble for the hegemony of the technocrats.

At the same time, the attack on the Lega must be seen in the broader context of a series of anti-corruption operations involving other political parties in Italy. Even minor offenses, or those that do not implicate party lead-

ers, have become the subject of widespread media attention, engendering a general environment conducive to undermining trust in the political class as a whole. The beneficiaries of this are those who aim to push through a wave of so-called structural reforms, meaning cuts in social services, liberalization/deregulation measures, and privatization of whatever is left of state-sector industries to be gobbled up by financial markets desperate for new sectors of the economy to pillage. The parties don't dare stand up to Monti, and thus the destruction goes on (see Movisol statement, below).

Among the citizens, however, the opposition is growing, and promises to increase significantly when the additional tax increases hit people's bank accounts this Summer and Fall (massive property tax hikes, and a two-point increase in Value Added Tax, similar to a national sales tax that is levied on every category of goods and services). At this point, the smartest thing that the Lega, or any party, could do, would be to go full-steam ahead with Glass-Steagall, to create the basis for the early ouster of the compradors running the government, and provide an example internationally for those who wish to change the dynamic of the global financial crisis.

Documentation

Lega Nord Sponsors Glass-Steagall Law

April 4—*The following are excerpts from the introductory text to the Lega Nord-sponsored petition for a Glass-Steagall legislation in Italy. Italian law allows for a bill to be introduced in the Parliament by a popular petition that has a minimum of 50,000 signatures. The translation was provided by Movisol, the LaRouche organization in Italy.*

Proposed Bill of Law By Popular Initiative

Pursuant to Article 71(2) of the Italian Constitution and in application of Law No. 352 of May 25, 1970 and subsequent amendments

(Guarantee of credit for families and enterprises: separation

between productive credit and speculative financial activities)

Two centuries ago, Thomas Jefferson said: "I believe that banking institutions are more dangerous to our liberties than standing armies" (1816). Today, the situation is more or less the same, and so the time has come to put the State above finance, and finance below the State; to set a limit to the excessive power of finance. To finally do this, means to put an end to a 20-year cycle of unnatural supremacy of particular interests over general interests; it means "driving the money changers from the Temple"; conquering the spell of power still exercised by the high priests of money.

To do this means that it is only the State that issues money in the name of the people. It means that credit is for development and not for speculation. It means separating "the wheat from the chaff," what is productive from what is speculative, as happened for centuries. It means beginning to defend and stabilize public budgets, and in general, to begin a different economic and social system, that is not only more ethical, but also more effective than the monetarist system that is currently coming down and, unfortunately, is taking us with it—if we don't resist, if we don't react, if we don't change....

... In some cases, it is necessary to make the banks that are, or call themselves systemic, less systemic, or not systemic at all: reduce their size, split them up, weaken them, because the time has come for the separation of banks that collect deposits and capital and invest them at their own risk in large industries, small enterprises, for families, communities, and youth, and the banks that gamble, that privatize their winnings, and socialize their losses....

In other cases, banks must be nationalized, before their ruin makes it necessary to do so later, potentially at the public's expense....

First, we repeat, we must separate "the wheat from the chaff," the good from the bad; open and force the opening of the accounts, impose voluntary or compulsory audits of how much of the one and the other there is in each bank, and in each large financial entity in general. Specifically, the healthy assets and liabilities must be separated from the toxic ones, which are to be sequestered. There are various techniques available for such a sequester, which are both ancient and very modern at the same time: from a sabbatical to a moratorium, to a bad bank. It is clear however, that in any

event, the enormous toxic financial mass that still exists in the so-called system, must be spread over the longest periods possible and saddled on the speculators, or just written off. A gambler cannot simply leave the table and have someone else take his place to pay for his losses. The one who loses a bet must be forced to pay!...

Many entities, sectors, banking and financial groupings must go through orderly bankruptcy procedures. For example, procedures based on the model of Chapter

11 bankruptcy in the United States. We cannot pretend that everything will be saved, especially when experience tells us that when you try to save everything, you end up saving the worst parts....

The absolute priority now is survival (*primum vivere*). Abandon the model of the so-called “universal bank,” that is the DNA of systemic banks, the launching pad for the disastrous global megabank. To do this it is necessary to introduce a new, updated version of the Glass-Steagall Act of 1933....

Italian Parties Probed: Is Monti Now Dictator?

by Liliana Gorini, Chairwoman of
Movisol

This statement has been translated from Italian.

MILAN, April 6—Speaking to journalists in Seoul, South Korea, Italian Premier Mario Monti declared that he has “consensus, while the political parties do not.” As soon as he returned to Italy, the police, together with the inevitable Naples Prosecutor John Henry Woodcock, whose investigations have been discredited in the past, raided the national office of the Lega Nord in Milan, and yesterday, also a building of the regional government. As Lombardy region president Roberto Formigoni declared this morning, “Watch out: At this moment, all the parties represented in Parliament are under investigation.”

One cannot help but notice a particular fierceness towards the Lega Nord, the main opposition party to Monti’s government, which just announced a proposed bill for a Glass-Steagall reform, for which it plans to gather 50,000 signatures, an initiative which has shaken the investment banks which created the crisis.

Leaving aside the question of the merit of the Milan investigation, I share Formigoni’s view that such events are very dangerous, in a period in which the crisis, and the total absence of alternative proposals from those parties that support the Monti government, increase the divide between citizens and poli-

cymakers. Every day, we read about the suicides of entrepreneurs, pensioners, citizens who have lost their jobs, and Monti continues with his austerity package, aimed at bailing out those same investment banks which speculated on our state assets and created the present world crisis.

Greece, Spain, Portugal, Ireland, and now also Italy, have experienced the collapse of their real economies as a result of this. In Italy, 12,000 companies went bankrupt in 2011, because banks shut down the credit lines, despite the fact that they had received hundreds of billions in credit from the ECB, at near zero interest, which they used to bail out the speculative bubble, instead of financing enterprises and jobs, a speculative bubble which is now 12 times the world GDP. And while politicians and the press discuss the parties’ financing and elections, the European Stability Mechanism has been approved without anyone taking notice, depriving us once and for all of our national sovereignty, and violating our Constitution.

In this situation, Monti brags of having a “consensus,” makes deals behind the scenes in order to stay in government after 2013, abolishing national elections, after having formed a government without consulting voters. How long will it take before he repeats Mussolini’s famous statement on the Parliament: “I shall turn this indifferent and gray room into a bivouac for my platoons”?

It’s time for citizens to react against this dangerous dictatorial tendency, to oppose to the ECB and ESM dictatorship, and also the governments installed by Goldman Sachs (not only Italy’s, but also Greece’s). The best way to react is by supporting Glass-Steagall, which will deprive the financial oligarchy that put us in this situation, of its power.

Economics in Brief

Euro Crisis

‘Spain Is Dead’: Rajoy Imposes EU-IMF Cuts

April 5—A Madrid-based investigative journalist told *EIR* today that the economic package announced by Prime Minister Mariano Rajoy earlier this week, means that “Spain is dead. That is what even all the mainstream press are saying here, so that means that things are really turning nasty.”

Rajoy’s package imposed a stunning EU27.3 billion in cuts, with the public investment budget hardest hit (36% reduction). In a country that already has 23% official unemployment, benefits for the unemployed will be cut by 5.5%, at the same time that total unemployment is officially expected to increase by 630,000 this year, bringing the unemployment rate to 26%. All of this is being imposed in the context of skyrocketing interest payments, while the tax base is contracting rapidly. Most of the EU27.3 billion in cuts in services already went to free up funds to pay interest on past monies owed.

Railways

Yakunin Again Calls for Bering Strait Tunnel

April 7—In a discussion with journalists following a conference on “Management of the Future—2012,” Russian Railways President Vladimir Yakunin stated: “I am convinced that Russia needs to bring railway transport to sections of the Far East and Kamchatka, and I believe that a decision on building [the tunnel under the Bering Strait] should be taken within the next three to five years. I mean, this is essentially what needs to be done.” He emphasized the objective mutual interest in the project on the part of not only the U.S.A. and Russia, but also China.

Yakunin added that, in 2010, he was approached by American businessmen, who proposed to do research on building this transport link. “So this is not dream-

ing. Generally speaking, this is already at the design stage,” he said. “As for the actual implementation, I think this should take 10-15 years.”

Infrastructure

Port Sudan-Dakar Railway Steams Ahead

April 8—A source attending a conference in Khartoum, Sudan, arranged by the Islamic Development Bank (IDB), reported to *EIR* that the Port Sudan-Dakar transcontinental African railway project was one of the main subjects of the conference. The 4,000-km railway, from East to West Africa, is part of the African Land-Bridge envisioned by Lyndon LaRouche and associates and supported by the African Union and China. It will go through Darfur to Chad, as the Sudan and Chad governments have decided to stop the British-American manipulation of the conflict there in order to work for peace through joint economic development.

Water

Transaqua Author Blasts ‘Water Security’ Report

April 7—Italian engineer Marcello Vichi, author of the Congo water transfer program, “Transaqua,” blasted the “Global Water Security” report newly released by the U.S. Office of the Director of National Intelligence (see *EIR*, April 6, 2012). Vichi challenged the report’s veracity, when it claimed that on the African continent, only the Nile River is a resource, while “ignoring that on the same continent there exists a river named Congo.”

Today 1.6 billion people are in need of water, according to the UN Food and Agriculture Organization (FAO), which “tells us that 10,000 persons a day die from drought,” Vichi noted. “International media indifferently, with no criticism

whatever, pick up the U.S. intelligence Water Report to claim that there is no solution to this tragedy,” he added.

The solution is at hand, but it is not wanted by the interests dominating the current economic and political global system, he said.

The Transaqua project, developed by Vichi in the 1970s on behalf of Bonifica, a company belonging to the Italian state conglomerate IRI, was endorsed by all Central African leaders, but not one Western agency or government ever showed serious interest.

U.S. Employment

What Bernanke Knew: Employment Remains Bleak

April 6—In a speech March 25, Federal Reserve Chairman Ben Bernanke undermined President Obama’s boasting about “private-sector jobs growth.” Bernanke said, “Despite the recent improvement, the job market remains far from normal. The number of people working and total hours worked are still significantly below pre-crisis peaks.”

The March non-farm payrolls report of the Bureau of Labor Statistics (BLS) announced a sharp drop in creation of employment in the U.S. economy.

The “headline figures” (as opposed to the real figures) are 120,000 jobs created in March (90,000 from the “virtual” business startups assumed by BLS computers) and an 8.2% official unemployment rate; with a jump in teenage unemployment by almost 1.5%, to 25%; and the broader measure of unemployed, discouraged, and forced part-timers at 24 million Americans.

The BLS said that another 333,000 people abandoned the labor force in March, which shrank by 164,000 net; and the number of eligible-to-work Americans outside the labor force hit another record of just under 88 million. Labor force participation and employment/population ratio both reportedly fell by 0.1%. The average workweek fell by 0.2 hours, and average weekly wages dropped.

The Political Economy of Extinction

There is truly only one reason why the planet is hovering on the edge of thermonuclear extinction, and it has nothing to do with Iran, North Korea, nuclear enrichment, long-range missiles, or China's alleged growing military prowess.

The simple truth of the matter is that the reigning imperial system of monetarist finance—what Lyndon LaRouche refers to as the British Empire—is facing extinction. Along with the disintegration of the trans-Atlantic financial and monetary system, the political power structure that has governed that system is on the way to the graveyard. The holders of that power, centered in the City of London, and in the structures grouped around the British Monarchy, would rather see humanity go up in flames than lose their power. This is the mentality of the oligarchical system.

It is this British apparatus that is driving the world towards one of two options, if they were permitted have their way. The first option is that the last powerful remnants of the nearly defunct nation-state system—Russia, China, and the United States—capitulate under thermonuclear blackmail pressure, and agree to submit to the radical Malthusian agenda of the Empire. The second option is a British-engineered thermonuclear war, in which humanity will face sudden death extinction.

How is this even conceivable? The answer to that question was delivered clearly on April 11, 2009, during a worldwide webcast by Lyndon LaRouche. LaRouche labeled the newly inaugurated President Barack Obama—fresh from his trip to London, and his first official audience with the Queen—as a dangerous narcissist in the image of Emperor Nero, who was under the thumb of the very British Imperial forces now facing their own imminent doom. Back then, LaRouche was de-

monized for his now clearly prescient warnings about Mr. Obama.

Three years since the 2009 LaRouche webcast, a growing number of thinking people have come to view the President as a man hell-bent on dictatorship and the ripping up of the U.S. Constitution. The U.S. economy is in shambles, while Wall Street and the City of London continue to receive trillions of dollars in bailouts—at taxpayers' expense.

Is there a serious reason to doubt, after the events of the past three years, that Obama is a tool of the very forces now driving the planet to world war and extinction, under the banner "*Après nous, le déluge*"?

Over the coming days, the world will be facing an imminent danger of uncontrolled war, between the British plans to preemptively sabotage the negotiations between Iran and the P5+1 and the scheduled North Korean rocket launch, which is being hyped as a dire threat to Japan and South Korea.

There is an option that fundamentally defeats the desperate British folly. Remove President Obama from office for his crimes against the U.S. Constitution, or by the provisions of Section 4 of the 25th Amendment. Mr. Obama is the British hand on the U.S. nuclear trigger. With that finger removed, the world can proceed with the urgently needed global bankruptcy reorganization and launching of great projects for the betterment of mankind as a whole.

We have come to a crossroad where the two systems—the oligarchical system of monetarist looting and the nation-state system of sovereign credit and the general welfare—can no longer co-exist.

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