smallness of an interval of action in a gravitational field is actually the relationship of the size of the universe defined by the principle of universal gravitation, relative to any degree of smallness or brevity of the observed part of the local action one has chosen to measure. In that sense, and only in that sense, the smallness of the chosen interval of action considered, is a reflection of the fact that the principle encloses the universe in the manner which Einstein emphasizes as characteristic of a universe which is finite, but unbounded by any efficient external consideration.

All competently defined notions of universal physical principle present us with the same irony which Einstein recognized in Kepler’s founding of the only valid approach to the founding of a universal, experimental physical science.

Thus, in Leibniz’s (and also Einstein’s) rejection of a Cartesian manifold, the universe is not defined by unknowable forms sealing off the mind from that which is not merely sense-perception. It is the discovery of universal physical principles which bound the universe, with respect to some principle, as Einstein states that case for the universe as a system in the likeness of the portrait of physical processes provided by Kepler’s discovery of universal gravitation.

It is through that method of discovery, the method traced from the ancient Pythagoreans and Plato, through the fundamental discoveries of Nicholas of Cusa and his followers among the leaders of valid modern European science, that man transforms what Vernadsky defined as the Noösphere, as if from the top, down, thus creating the general environment within which individual human action for change is situated.

It is only the mind whose approach to economy is physical, rather than financial accounting practices, which is capable of understanding, and accounting for the relative values generated by economic processes.

The summation of the progress of mankind thus far, is associated with the work of Bernhard Riemann, a Riemann to be considered as Einstein did, in his department of work, and as I have done in mine. For both of these approaches, a certain essential result is the same: the revolutionizing of human practice of society through the nurture of the creative powers of discovery uniquely specific to the human mind. Progress is not the fruit of habits, but of revolutions in habits of society as a whole, as I have indicated in the memoranda featured in the leads of the briefings for this past Wednesday and Thursday.

Change the Subject

by Dennis Small, EIR Editorial Board

The following appeared in the Wednesday, Oct. 8, 2008 edition of the internal daily briefing of the LaRouche political movement. See Lyndon LaRouche’s comments following this article, on page 30. Subheads have been added.

We are in the process of making another three or four revolutions, Lyndon LaRouche reported to the Tuesday night, Oct. 7 gathering of the LYM (LaRouche Youth Movement) and NEC (National Executive Committee) of the LaRouche political movement. The recent music work in Boston, and new breakthroughs by our “Basement” science team around Kepler and on the Riemann project, are at the center of the process.

The key problem the world is now facing in the economic meltdown crisis, Lyn began, is conceptual. Almost no one has any understanding of actual physical science anymore, and yet, this is the basic problem of modern civilization. Few Baby Boomers ever really got into the subject at all, and although we approached the subject with the LYM’s Kepler Project, we never really resolved it. To address the matter, let’s first establish the historical context.

The attempt to overturn the achievements of the 1439 Council of Florence came to the fore with the 1492 Expulsion of the Jews from Spain. We had a period of religious war outbursts that raged throughout Europe, from 1492 up until the 1648 Peace of Westphalia. Machiavelli explained the central issue clearly: The Habsburg reactionary pigs couldn’t entirely suppress the Renaissance with their methods, and so the Venetian Paoli Sarpi (1552-1623) emerged, with ideas that were not all that original, but which shifted the approach, and relocated the center of the operation to the North.

Recall that the big North-South division of Europe began when the Venetians sent Henry VIII a marriage counselor. At the Council of Trent (1545-1563), Machiavelli’s point was in fact acknowledged, which is that the Renaissance had introduced a cultural change in the cities of Europe, a shift from the old guilds to the new artisanry, which meant that these layers, organized
as military forces, could defend the cities and prevent the Habsburgs from winning. The Habsburgs could launch bloody religious warfare across Europe, but they couldn't win.

So, Machiavelli emerged as a great thinker, as the founder of modern military science, as a necessary touchstone of all European military training up to the present.

Faced with this problem, Sarpi—who was against Aristotle and smarter than him, although with the same underlying philosophy—got rid of Aristotle, because that approach, as embodied in the Habsburgs, had failed to destroy the Renaissance. Sarpi instead revived the degenerate lunatic William of Ockham (1285-1347) as a paradigm, a paradigm whose name is Liberalism.

Sarpi’s Ockhamite approach was radically hedonist, based on the axiom that sense certainty rules in all domains. There is no truth, no underlying principles, only what sense certainty teaches by way of information. Therefore, he argued, technological innovation is okay, but not truth, not principles.

It is because of this disease of Liberalism that the conception of principle virtually no longer exists in modern European civilization.

**The Great Issue Today**

*This* is the fight today. The systemic difference between the European and the American systems, both in economics and politics, is the difference between social conventions, on the one hand, and the Presidential system, on the other. It is the difference between a system under which currency is uttered by the government *only*, and the European model of monetary system, in which private interests are allowed to utter. Since those private interests are enemies of the nation-state, and are global, the essence of a monetary system is supranational by nature.

This is the great issue today, Lyn explained. There are quadrillions of dollars of debt running amok in the world, fabricated by private financial interests, which cannot be paid. If we reorganize the system, and put it into bankruptcy reorganization in order to avoid collapse, we will have to eliminate 80% or more of the “money” or debt now circulating. We will have to wipe it out, *burn* it—even if it’s in some people’s pockets.

Face it: This is a money-oriented culture. People relate to each other and themselves around money. “You got money? I got money? She got money?” This is our problem in science, and in culture.

The way we address this is with the following thesis: There is no such thing as a mathematical statement of principle. The very idea of “science based on mathematics” is utter nonsense—an oxymoron liberally peddled by Sarpi. No universal principle can ever be represented by a mathematical formula, and to think that it can, is idiocy and incompetence.

Just take the case of Isaac Newton (1643-1727), that piece of crap. Newton is the standard at universities today—the idea that mathematical formulas can represent reality. Anyone subjected to such university education has absolutely no understanding of physical science. And the real tragedy, is that *people don’t know that*.

If you think through the concept of the infinitesimal, the idea becomes clear. On the one hand, you have sense perception. You experience the universe through your senses, such as hearing, and vision. In hearing, you know only harmonics: Any attempt to linearize hearing, or to represent hearing linearly as vision, does not work. The way to think about it is that we are equipped with two primary sensory devices: sight and hearing, and there is absolutely no ontological similarity between them.

Johannes Kepler (1571-1630) understood this. To determine the orbits of the planets, he looked at the entire planetary system, not a single orbit. Because the orbit is not defined by itself. What orders it? The planetary system of which it is a part. So Kepler used vision as the basis of his first attempt. But he was able to solve the problem of the ordering of the orbits based on discoveries under the influence of Cusa and Leonardo da Vinci (1452-1519), with the Platonic solids—with the idea of the solids, with the root concept. There is absolutely no explanation for this within the domain of vision alone. So he went to harmonics, which produced his discovery of the universal principle of gravitation.

So, as with Kepler, what we know is *not* based on sense certainty. Sense certainty is a fraud. Take the example of microphysics: the senses don’t work at this level. You have to infer the ordering in the domain by harmonics: you cannot linearize. What you can do is create instruments which act like artificial senses. Then you have to ask: Is this sense-certainty true? No, it is not.

**What Is Truth?**

What is truth? It is the function of the mind in discovering the real meaning of the misinformation coming
from sense certainty. Cusa, Plato, the Pythagoreans all knew this: that the location of knowledge lies not in practical experience, but in the paradox of harmonics and vision, and your mental activity to resolve that paradox.

All education on this subject in our culture has been crap. The issue is the mind, not the senses. Only in and through the mind can you know truth. All competent science agrees with me on this, Lyndon LaRouche stated.

So the problem that we have, both in ourselves and as organizers, in understanding economic and social processes, is that we have been brainwashed: Kinetic interaction is presented as cause-and-effect. And we don’t look at the actual reality of life today.

What is that reality? For the lower 80% of income brackets, for the majority of the world, they are facing a system that is clinically insane. Everything is coming down. Like this crazy bailout bill which was just passed by Congress. It is utterly insane, as are the hyperinflationary policies that have followed it, day by day.

Incompetence, on the other hand, is what you get, including among our own people, when people believe what the press tells them, when they adapt to social processes around them, when they bend their knee to what all “experienced” people tell them. “Experience teaches us this. Experience teaches us that.” You’ve all heard it. So you should say: “Oh, yeah? Your experience hasn’t performed too well in this crisis, has it?”

Instead, many of our own Baby Boomers will try to confuse people with a lengthy litany. Because they have been educated in Liberalism, they don’t believe in truth, and they try instead to create a belief in others, to get them to agree to share their belief—rather than have a short conversation about reality. And so they sound like liberals—which is what the population most hates! And you wonder why they hang up on you?!

The Real Meaning of Tragedy

The way to make a revolution is by going against the idiots who are refusing to recognize this reality. The U.S. economy, in physical fact, has had no real growth since 1967-68. The tragedy—and real tragedy always applies to a society, not to the individual—is that people actually believe that there has been growth under this system. It’s like the guy who drives his truck right into a tree: You have to say, “Boy, that was crazy.” Well, when an entire society does the same thing, as it is doing now, you have to say: “This is crazy.”

To avoid tragedy, societies need individual leaders to go against popular opinion. It is the fear of going against popular opinion that is always a disaster, corruption. For example, people don’t believe in the human soul. They believe they are their senses while they are alive. But your actual life does not end; your influence lives on beyond you in the mental powers of others. Most people lack that sense of purpose in their lives. Once you die, your senses are gone; the importance of life is what you contribute with it. You need that intention in life in order to outlive your own last breath.

The universe is composed of just such universal physical principles, which are beyond the bounds of sense perception. The most obvious of these is your life. People imprison themselves by confining themselves inside society. Tragedy is when there is a lack of a leader to lead from outside today’s society, to help people break free from their own imprisonment.

So, don’t adapt to what the enemy does. Always address the horrors of the crisis facing society, but then immediately switch to something that is intellectually uplifting.

Change the subject!

Never do what you tipped the enemy off to expect you to do. Get his nose pointed in that direction—and then kick him in the ass! Hit him with what he thinks is irrelevant, with what he doesn’t understand. Ridicule him! Outwit him! People tend to go in straight lines. Instead, change the subject!