Obama's Shootdown of Russian Military Plane Puts the World On the Edge of Thermonuclear War

Below is the transcript of the International LaRouche PAC Webcast for Friday, November 27, 2015 .

Megan Beets: Good evening. It's November 27, 2015. My name is Megan Beets, and I'd like to welcome all of you to our regular Friday evening broadcast here at LaRouche PAC. I'm joined in the studio tonight by Jason Ross and I'm also joined, via video, by Jeffrey Steinberg.

Now in discussions earlier this week, Mr. LaRouche made it very, very clear that the key issue facing all of us, is whether the people of the United States, in particular, both the people in positions of leadership, such as the Congress, but also the population in general, have the guts to stop compromising with Obama, to tell the truth, and to throw him out.

Now, what we've seen shaping up over the past weeks is a very dramatically and a very rapidly shifting world strategic situation, including ongoing Russian military intervention into Syria; also including the recent wave of terrorist attacks, such as the bombing of the Russian plane over Egypt, and of course, the terrorist attacks which occurred just two weeks ago in Paris, which were followed by a shift in dynamic among world leaders, away from the failed Obama policy, and toward broader collaboration with the Russians to defeat ISIS.

However, throughout all of this, Mr. LaRouche has been unequivocal that unless, and until, you get Obama out of the U.S. presidency, the world stands on a razor's edge of thermonuclear war.

Now the spectre of that danger arose sharply this Tuesday, with the Turkish shooting down of a Russian plane which was involved in operations near the Turkish-Syria border. And Mr. LaRouche immediately issued a public statement which said that "Obama has organized an act of war, and thus endangered the United States, as well as all humanity." He said that it "was a deliberate attempt by Obama to force general warfare."

Now this act by Turkey and by Obama, and its aftermath, has catalyzed a very significant change in the world global dynamic, which we're seeing manifest, for example, in Europe, among other places. This shift is also the subject of tonight's institutional question, which makes reference to the ongoing talks in Vienna which are aimed at resolving the situation in Syria. The question reads as follows:

SAC Helen Farrer/RAF Mobile News Team

The Turkish Air Force was flying an American F-16 like this, when it shot down the Russian SU-24 on Nov. 24.

"Mr. LaRouche, please give us your view of how Russia and Turkey can move once again to collaborate to save Syria under the Vienna process?" So now I'm going to turn it over to Jeff to give Mr. LaRouche's response to that question, as well as an elaboration of the general strategic picture.

Obama's Deliberate Provocation

Jeffrey Steinberg: Thank you, Megan.

Well, I think that the starting point must be to tell the truth as we know it about the events of last Tuesday. It was immediately understood by leading political and military circles in the United States, in Europe, and most emphatically in Russia, that the action that was undertaken by the Turkish government in shooting down that Russian SU-24 over the Turkey-Syria border area near the Mediterranean coast, was something that (1) was ordered top down in Turkey from President Recep Tayyip Erdogan, and (2) that Erdogan would never have undertaken such an action if he did not have advance approval from Obama and the British.

So, for the Russians, this represented a major act of war, and I can tell you that within the U.S. governing institutions, there was a deep and profound split reflected immediately in actions that were diametrically opposite. Secretary of State John Kerry and leading circles within the Pentagon, all the way up to the Joint Chiefs of Staff, immediately activated channels with Russia, knowing full well that there was a very real prospect that Russia would retaliate immediately after this unwarranted military provocation. And so, you have one element of the U.S. command that is not under British control, that moved immediately to at least temporarily forestall a situation that was potentially moments away from a general war between NATO and Russia. And as we've been saying, as Mr. LaRouche has been warning since virtually the beginning of the Obama presidency, any such war between NATO and Russia would very rapidly devolve into a thermonuclear war, in which the overwhelming majority of humankind would likely not survive.

So you had actions. There were red phone line communications activated immediately between those elements in the U.S. Command that were not on the British line, and top Russian officials. The first objective was simply to secure a commitment that the situation would not immediately go to a hot war. In other words, this was the most dangerous situation since, and probably more so, than even the Cuban Missile crisis. Because in the Cuban missile crisis, there was no shootdown of an American or Soviet ship or plane.

On the other hand, President Obama, who was closer to Turkish President Erdogan than virtually any foreign leader, perhaps with the sole exception of David Cameron in Britain, immediately got on the phone with Erdogan and then issued public statements certifying that, in his mind, Turkey acted perfectly within its sovereign rights to shoot down a plane flying over its territory.

Now, never mind the fact that there are serious questions and disputes of whether that plane, that Russian plane, actually ever even entered Turkish airspace. The fact is that, if it passed through Turkish air space at all, number one, there was never any intent—and nobody in Turkey even claimed there was any intent on the part of the Russians—to carry out any kind of military action or provocation against Turkey. And secondly, even after the first 24 hours following the shootdown, the Turks were even acknowledging that that plane, if it ever in fact crossed into Turkish territory, was there only for a matter of brief seconds, and no longer.

Now that also tells you that to shoot down that plane, was a premeditated, pre-determined decision. There was not enough time for the Turkish air force to consult up the chain of command all the way to President Erdogan, and to then get response orders back, and to fire at the Russian plane—all within a matter of a timeframe that at most has been characterized as 17 seconds. So, again, it was a premeditated act of war; and Erdogan on his own never would have undertaken that. It was done in conjunction with both Obama and the British; and therefore, the responsibility lies there.

Sabotaging Collaboration with Russia

Now, let's again visit what the immediate context was of this incident. It occurred last Tuesday at a point that French President Hollande was in Washington to attempt to organize President Obama to join a trilateral military alliance of France, Russia, and the United States, to wipe out the threat of ISIS and Nusra, and all allied organizations inside Syria and inside Iraq primarily. And so, the events that took place just as Obama and Hollande were sitting down, hijacked the agenda of that discussion.

All you have to do is read the transcript, or even better, watch the video of the press conference that took place later that same day between Obama and Hol-

stripes.com

President Obama grips French President Hollande during their Nov. 25 press conference.

lande, and you'll see towards the end, Obama launching into a typical Obama tirade against Putin and against Russia. Obama was lying pathologically in saying that the United States is leading a coalition of over 60 countries, and that Russia, when it comes to fighting against the Islamic State, is "the outlier"; and it went on from there. Statements soon after that, again from the White House, fully endorsed and adopted the Turkish line on what happened.

Here you've got a situation where an act of war, an act of military aggression took place, was carried out by Turkey—a NATO member—and was done with the full at least tacit backing of the President of the United States, with the full support of the British. How close do you have to get to provoking thermonuclear war before enough people in Congress and in the American population wake up and recognize that Lyndon LaRouche has been right for years in warning about the menace that President Obama represents if he's allowed to continue to remain in office?

We're down to the final 14 or so months of his Presidency, but you can see the kind of developments that can occur on literally a moment's notice. And so, there is no option any longer other than removing the President from office by Constitutional means immediately. That means that the leading members of Congress, and at least leading elements within the American population, have got to finally wake up to strategic reality.

Let's not forget that there was another major series of provocations directed against Russia over the same recent timeframe of the last week. The Right Sector—the neo-Nazi apparatus in Ukraine, that is openly backed and promoted by the Obama administration principally through Victoria Nuland, the Assistant Secretary of State for European and Eurasian Affairs—carried out a bombing campaign against the power grid of Crimea and has effectively shut off almost all power to the entire Crimean peninsula.

When Russian repair units attempted to get to the sites to re-establish the power links, they were fired on by Right Sector militias. To make matters even worse, at the end of last week, it was announced by Nuland's pet prime minister, Arseniy Yatsenyuk, that henceforth all Russian flights over Ukrainian airspace were cancelled. Now, that's tantamount to a threat of yet a second country, a major ally of the United States and the British, threatening to carry out unprovoked strikes against Russian aircraft flying over Ukrainian airspace.

So you've got a clear pattern here. You have—as Megan indicated—a phase shift with the series of ISIS terrorist attacks over the last several weeks, that began with the bombing of the Russian Metrojet flight over the Sinai; followed with a series of suicide bombings on the southern portions of Beirut in Lebanon, targetting the Shi'ite area of that city. And then the Paris attacks. The world was energized to finally launch an all-out serious campaign against the Islamic State. Russia escalated the bombing campaign against the Islamic State and knocked out an estimated 1,000 of the tanker trucks that have been smuggling oil from the ISIS-controlled areas of northern Syria into Turkey, where it has been sold on the black market; and these funds have been fueling the operations of the Islamic State.

At the G-20 summit meeting that ironically took place in Turkey just days before the Turkish air force shot down the Russian SU-24, President Putin made very clear that Russia has aerial photographs showing lengthy caravans of these oil tanker trucks crossing the border into Turkey from northern Syria; and furthermore, he said he has the names of financial agents in 40 countries, including a number of the G-20 member

Russian Ministry of Defense

An aerial photograph of the Russian bombing of tanker vehicle columns, which are transporting oil ISIS uses to fund its operations. Published Nov. 18.

countries, that are involved in financing the Islamic State through black market cooperation.

So, the case is unambiguous. If you wanted to attribute narrow motives, you could say that Erdogan was furious at the Russians for bombing these Turkish smuggling trucks, since as we know, the funds generated on the Turkish side from this black market activity largely go into the coffers of the ruling AKP Party. We know that the son of President Erdogan is himself one of the major people involved in this black market operation.

The British/Obama Road to World War III

But that's a much too narrow understanding of what happened here. It eliminates the crucial question, which is that Obama and the British were behind this, and it was an attempt on a much grander scale to not just sabotage the Vienna initiatives, but to trigger a potential world war. And for that crime alone, despite the fact that there is a long list of constitutional violations and other crimes committed by this President, for that reason alone he must be immediately removed from office.

Therefore, every person listening to this broadcast, all of your friends, all of your neighbors, all of your political associates, your co-workers, are going to have to do some serious soul-searching; because we came inches away from world war last Tuesday morning, with the Turkish actions. And it was only a matter of intervention, but particularly restraint on the part of Russian President Putin and the Russian military, that averted it.

There is still clearly an option, and lessons to be learned from this provocation, that could and must lead to reaching an agreement in Vienna to end the five-year war and tragedy in Syria. But that must start with the kind of blunt truth which we have been discussing here over the last few minutes, and it cannot go forward so long as President Obama remains in office.

So, there are urgent issues that must be taken up by the Congress and by the American people, if we are going to avert a war. Because I can assure you, if those critical actions are not taken in the immediate days ahead, then the chances that there will be *another* incident; *another* provocation, whether by Ukraine, whether by Erdogan and the Turks, whether by ISIS, and if actions aren't taken to solve the problem at its roots, we will be staring at the prospect of world war in the immediate days, perhaps hours ahead.

Defeat COP21 Conference of Depopulation

Beets: Thank you very much, Jeff. Coming up this Monday, November 30th, we have the beginning of a two-week long genocidal COP21 depopulation climate conference, which is occurring in Paris, and despite the actual danger to humanity which Jeff just outlined in detail, and especially in the wake of the terrorist attacks in Paris just two weeks ago, this absolutely insane conference is going ahead as scheduled, to be attended by approximately 140 heads of state, along with thousands of other governments, NGOs, and other officials. Notably, Britain's Prince Charles—the dysfunctional and inbred son of Queen Elizabeth and her walking-dead husband, Prince Philip—will be one of the keynote speakers.

Now, as we addressed in this webcast last week, if anyone involved had any morality, we would completely change the nature of the conference, to address the actual dangers and threats to humanity, such as the refugee crisis, the conditions of poverty around the world, and the lack of development, which are actually threatening the lives of billions of people. So I'd like to ask Jason Ross to come to the podium to address this upcoming conference in the context of what Jeff has just presented.

CHOGM

Queen Elizabeth II during the welcoming ceremony at the Malta Commonwealth Heads of Government Meeting Nov. 26.

Jason Ross: This is almost like the worst joke you could imagine, holding this conference in Paris. This conference starting in a few days,—we've been opposing this, and we've got a leaflet, a resolution that we've been getting out on this, called, "We Say NO to the Paris COP21 CO_2 Reduction Scheme." I want to read its opening and closing.

It opens:

> The conditions of life for billions of people depend upon rejecting the agenda being presented at the 2015 UN Climate Change Conference to be held in Paris this December. The COP21 Paris initiative to adopt a legally binding agreement to reduce CO_2 emissions must be rejected on two grounds: the scientific reality, that mankind's activity is *not* going to cause catastrophic climate change, and the very real, lethal consequences of the CO_2 reduction programs being demanded.

It ends:

> Energy-intensive scientific, technological, and economic growth is essential to human existence. This can be measured by transitions to higher levels of energy flux-density per capita and per area. Such progress, growth, and development is the universal right of man, and CO_2 emissions are presently a vital part of that process for the overwhelming majority of the world's population. The adoption of a legally binding CO_2 reduction scheme at the COP21 conference in Paris will condemn billions of people to a lower quality of life, with higher death rates, greater poverty, and no ability to exercise their inherent human right to participate in the creation of a better future for society as a whole. This is deeply immoral. For these reasons, the CO_2 reduction scheme of the COP21 conference in Paris must be rejected.

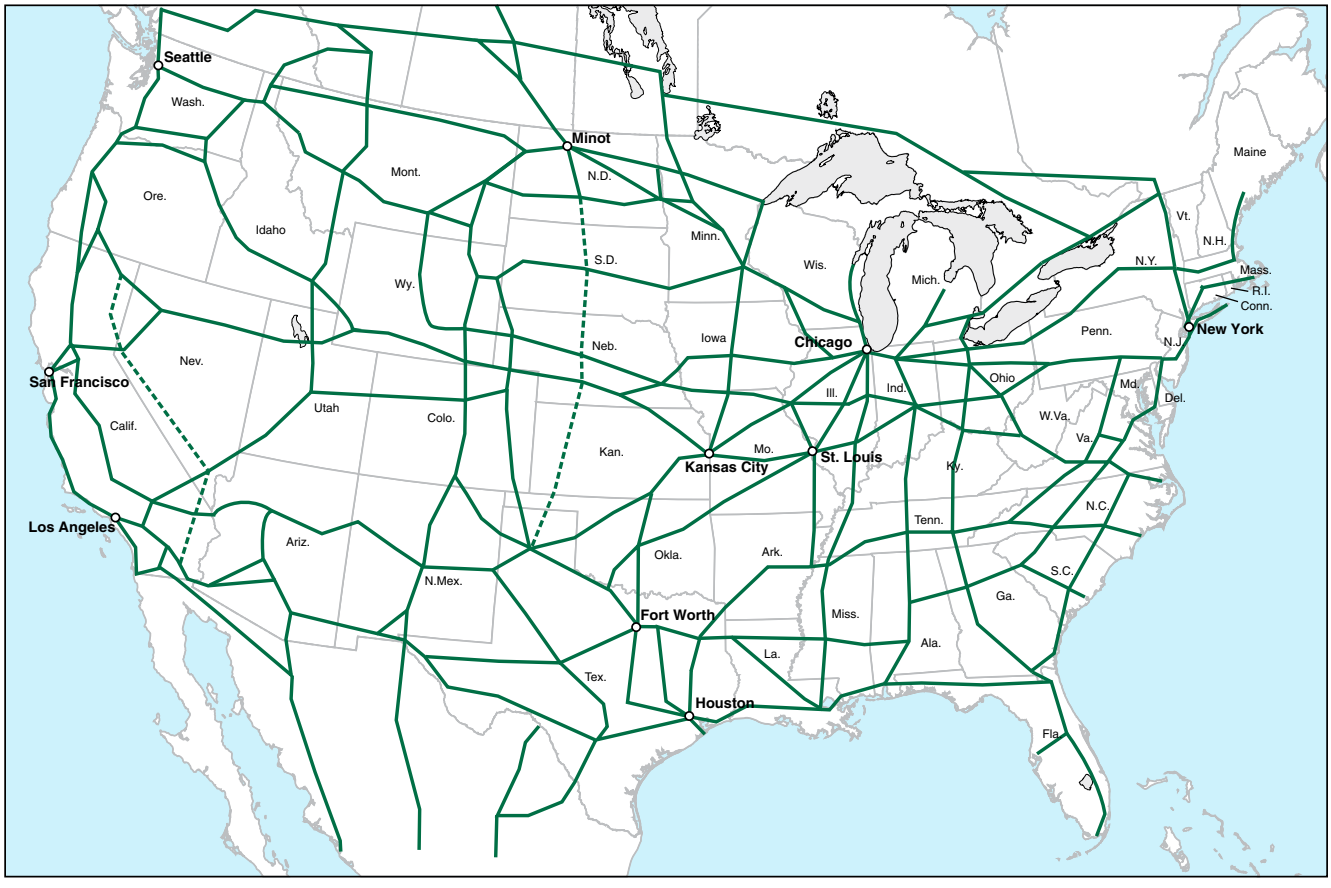
So, on the grounds of the fakery of the science, and the very, very real human costs of trying to meet the CO_2 reduction goals, this can't go forward. However, obviously the push is there, the conference is going ahead despite the state of emergency currently in France, the terrorized population of Paris, changes in some of the agenda, but it's going ahead, and as a matter of fact, this conference is getting a kick-start over the weekend—today and the rest of the weekend—the Commonwealth Heads of Government meeting is taking place in Malta. So this is where all the members of the former British Empire, now called the British Commonwealth, get together to—as in this case—hear speeches from the Queen and others about why they need to reduce CO_2.

Dump the Evil Lunatics

Prince Charles—who has been basically waiting for his mother to die for a half century to get a job—said that the terrorism that we're seeing, the conflicts that we're seeing, are not because of the wars, not because of ISIS, not because of the Brits and Saudi Arabia helping ISIS. Instead, Prince Charles said, "In fact, there is very good evidence indeed that one of the major reasons for this horror in Syria was a drought that lasted for about five or six years, which meant that huge numbers of people in the end had to leave the land." This is the guy that they're asking to give the keynote address at the COP21 conference—a man whose understanding of Syria seems to be that all of the conflict is because of a drought which was caused

FIGURE 1

The Proposed 42,000-Mile-Long Network of National Electrified Rail



by climate change. It's insane, and it's knowingly evil on his part.

So, what should be done instead, is to re-purpose the conference, recycling what's going to be done there. As Megan said, of course, addressing the refugee crisis, which is all over Europe at present, and beyond—that's worth discussing. Really, what's worth discussing is a solution to this whole problem, which would be excellent.

If the U.S. Congress were to release the 28 pages, put them in the record, as Senator Mike Gravel did with the Pentagon Papers, to be able to attack the cause of this conflict at its source, which as Jeff went through, as LaRouche has been stressing, is Obama, who by his nature as a killer personality, has qualified himself to be inserted into his role as President. That is the cause of the conflicts. Releasing the 28 pages, discussing how to actually shut down terrorism in the region, working *with* Russia on this—Russia is serious about this—that would be worth discussing.

A U.S. Recovery with the New Silk Road

What would it mean to develop the world into the Silk Road? *EIR* released, about a year ago now, *The New Silk Road Becomes the World Landbridge*. It's an almost 400-page report. It goes through in incredible detail, with maps and diagrams, what it would mean for China's One Belt One Road project, its New Silk Road project, to continue its extension into a worldwide paradigm of development.

What would those projects look like? And this is a policy that the LaRouches have been promoting for decades, and Helga LaRouche in her visits to China is acknowledged as "the Silk Road Lady" for her role in bringing this outlook to the current fruition that it's achieving. So what would it mean for the United States to join the Silk Road? What would it mean for us to get our act together?

Well, we've been working on a report on this, in terms of what a U.S. recovery would look like, and

there are a lot of aspects to this. If you think about the kinds of projects that have—many—been on the books for decades, and the kinds of projects that will drive us into the future, you recognize that it would not be very difficult to create millions of jobs in a very short period of time—meaningful, productive jobs—that lay the groundwork for a durable and new, more productive economy for the future. Doing that will require getting Glass-Steagall re-implemented—having those provisions back in place, and shutting down Wall Street, which we do not need. Gambling is not an essential part of economy. The productive process, science, creativity, the development of human beings and infrastructure—that is essential. Gambling is not.

So with Wall Street out of the way, with federal financing, with federal credit made available, some of the projects are things that we've discussed quite a bit.

Take, for example, the Bering Strait. Crossing the Bering Strait with a tunnel or a bridge, as engineers decide, would be a very key project, to put the United States on the Silk Road: literally, making it possible to get from the West Coast of the United States into Eurasia, much more quickly than by sending a ship across the ocean, with the added benefit that transportation corridors on land enable the development of adjacent regions along the way. Something that a ship crossing the ocean doesn't do. Ships don't create wealth, or the potential to create it, as they cross the waters. Land connections do.

So the Bering Strait tunnel—that would be a key project. Overall, transportation has a tremendous way to go in the United States. You know, China, which is a nation very similar in size to the United States, currently has 11,000 miles of high-speed rail, with plans to have 30,000 by 2020, and they'll do it—they do what they say. In contrast, we have under 500 miles of high-speed rail, and that's being very generous in counting the Acela service as high-speed. What we should have is 42,000 miles of electrified, decent rail in the United States, bringing down the costs of transportation, and of production, throughout the nation, making it more possible to move intermediate goods from place to place, to move people, to move products in a way that will have a tremendous savings in time, and in energy costs.

Currently over half of rail freight in the United States is coal. In a nuclear economy, we obviously wouldn't need so much coal, but it also goes to show how little else is being done with the system as it is, and maybe some idea of what it could be like in the future.

City-Building Plays Central Role in Development

Along with the development of the basics which we naturally think of—things like transportation, rail, repairing roadways, power plants, water systems, which I'll get into in a moment—the other aspect is cities. Now, India has committed itself to building scores of new cities across the country. Russia has created science cities.

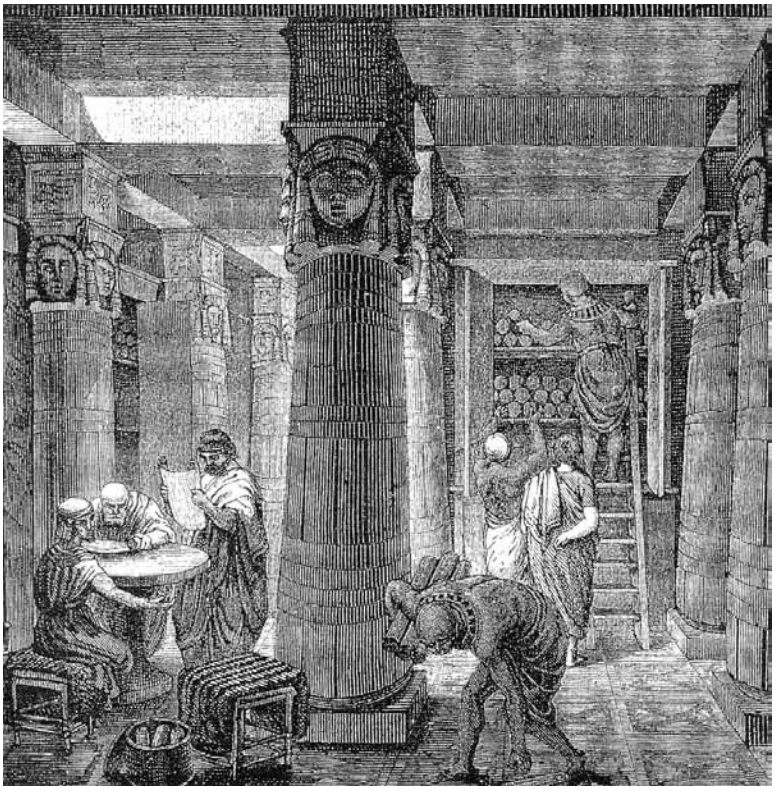
The United States—imagine the potential, not to keep adding more and more sprawl to the outsides of our current cities, but developing legitimately new cities, actual cities, planned in a sensible way, with part of a transportation backbone underlying it, with infrastructure that's needed, such as canals and aqueducts as necessary, water, power, that sort of thing. But then also where the cities and where life is oriented around the most key of economic processes—the creation of wealth by improving the productive powers of labor, by the cultural role that can be played by a city.

In addition to the ability to move goods and people easily—the density you find in a real city, where different members of the household can do their various things that anyone having an hour-and-a-half commute can not—you also have the other role of the city itself as a social institution.

In a very interesting article that LaRouche wrote some decades ago, in a program for the development of Africa, he discusses the central role of the city, and the presence of a research and educational complex, a pedagogical museum where people, kids and their parents, would be able to step themselves through how discoveries had been made in the past in a hands-on way, doing experiments, themselves witnessing and understanding very directly how humanity has gotten where it is, making it possible to have workers able to master new technologies, and scientists able to reflect on what science has done in the past, to create the new discoveries needed in the future.

This sort of educational center of the city will be more than a museum detailing the past; it will be more than looking backwards. LaRouche wrote that to give vitality and direction to the process, the educational zone of a new city must be engaged in some aspect of

To give vitality and direction to the process, the educational zone of a new city must be engaged in some aspect of scientific research which is itself of world importance.



A depiction of the Great Library of Alexandria, built by citybuilder Alexander the Great, by O. von Corven.

scientific research which is itself of world importance. He said:

> … a modern nation has achieved true sovereignty in spirit, only if it achieves excellence in some important aspect of advancement of human knowledge generally. A people which can point to several institutions of its own nation, and can identify several important contributions to human knowledge associated with such institutions, is a people which knows that its children are capable of equalling, in importance to humanity, the children of any other nation. To teach science is to teach the principles of discovery.

With cities, with this as an included basis, cities of finite size (no more than one or two million people), with the development made possible by rail, by water, by developing fusion power on a crash basis, and by implementing the already discovered capabilities for improving nuclear fission power plants, we'll be able to dramatically increase the electrical power available in the nation to power transportation, to power manufacturing. And to do all of this, we're also going to need the revival of the design of machine tools themselves.

The Machine Tool Principle: The Scientific Basis for Progress

Now, machine tools—not everyone's actually seen one of these in person. These are the tools for making machines; they are lathes, drills, milling machines, shapers, and jigs—these are the devices that create metal parts.

To the extent that you are able to innovate in this area, as has been done over the decades using new technologies—such as electric discharge machining around the time of the Apollo program, or electron-beam welding, or more recent developments of laser and plasma cutting, and computer control of machine tools to create things that formerly took ten times longer—to the extent that this technology improves, and to the extent that as part of an industrialization process the capital stock is increasingly of newer, more productive machine tools, the entire economy sees the benefits, because they make all other production easier and reduce the cost.

So, this machine tool principle is, in the small, an image of what it means to take discoveries and then implement them in an economy—for new thought, new engineering, or new scientific ideas, to become manifest in the economy. And this is a field where we need motion. As I said earlier, we need power; fusion research has been starved of funding deliberately for decades, preventing the kind of breakthroughs that would make power too cheap to meter—or even, if not that cheap, remarkably abundant—to bring the next generation of production technologies into play:

- Cheap power to transform our relationship with raw materials, and with the reshaping of those materials.
- Technologies such as the plasma torch.

So, in this kind of economy, we can then re-approach such subjects as water. California is in what's called a water crisis, despite being right next to the Pacific Ocean. Why do we not have the power and the plants in place to be able to desalinate? To at least provide for much of the needs in California? Why have we not done more research on how weather actually functions?

People Are the Only Source of Wealth

One of the ironies of the global warming alarmists, hysterics, whatever you want to call them, is that this supposedly scientific outlook is actually stifling science.

Hypotheses about what's causing climate change over time, hypotheses about how cosmic radiation coming from our Galaxy, or even beyond, plays a role in creating the condensation nuclei to form clouds, to effect precipitation, to change the albedo, the reflectance of the Earth and therefore its temperature—that's real science that's being held back by the global warming mafia, who reject this kind of approach because it doesn't come to the conclusion that they want: namely, that human-made CO_2 is *the* determining factor in global climate.

It's just not true.

As stated in the resolution that I read at the beginning, and as is covered in the *EIR* special report published in September, "Global Warming Scare is Population Reduction, Not Science," the science is clear. We are not causing catastrophic warming of the planet. Mankind is not a virus destroying the Earth. What is destroying the planet is oligarchism, the outlook that human beings are a disease. It is being destroyed by the anti-growth and enforced poverty promoted by the City of London, by Wall Street, by that system, which has to be removed.

In its place, as far as an actual concept of humanity, let me read another quote from LaRouche here. He says, "Every infant born in any part of the world has the potential for development of his or her mental powers to the level sufficient for adult competence in use of modern technology." And this also means real technology, not iPhones. "That child can achieve at least an approximation for practice of the highest levels of productive powers of labor in the world generally today. It is that potential development which is the only source of wealth."

Every infant born in any part of the world has the potential for development of his or her mental powers to the level sufficient for adult competence in use of modern technology.

creative commons/Godot13

Students at the Lukhanyo Primary School in the Western Cape province of South Africa.

Let's remember that; the source of wealth, the increasing of the productive powers of labor, as Hamilton put it, lies in that ability for human beings creatively to develop new understandings about nature, and thereby re-form the economy in an entirely new way.

That's real economic science, and with that approach—the programs that are needed, the development projects which we can implement, the jobs that they will create—this can all follow from an outlook of what economics truly is, breaking free from the false ideas about it which have been promoted by Wall Street and which have affected, unfortunately, a very great number of our fellow citizens.

Einstein: The Twentieth Century's Only True Scientist

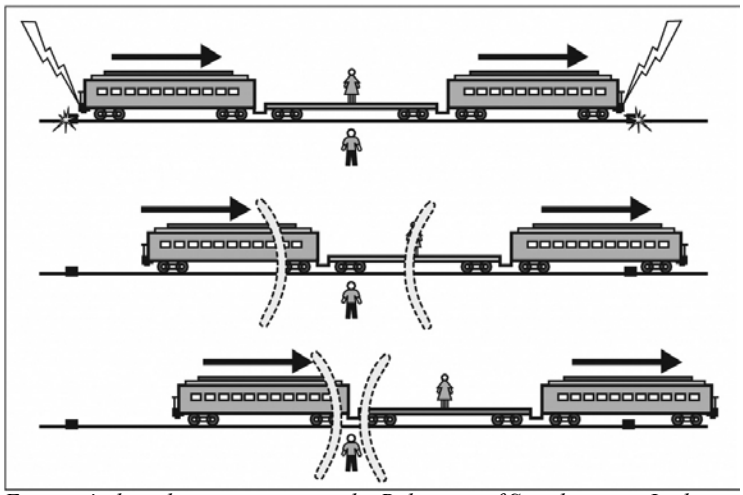
Beets: Thanks, Jason. Two days ago, on Wednesday of this week, we celebrated the 100th anniversary of Einstein's publication of his paper on general relativity. LaRouche has reiterated many times in the recent period that Einstein was the only true scientist in the

20th Century, someone who held out against the corruption in thinking that was ushered in, in 1900 by Bertrand Russell. Einstein was attacked and isolated for his commitment to the paradigm of thinking which represents the actual human mind; the paradigm which was responsible for all of human progress up to this point.

So I'd like to ask Jason to come back to the podium to address this question: Given the task ahead of us today to rebuild society, rebuild civilization, and create a new paradigm for mankind, can you give us a sense of the importance of Einstein's work and his commitment?

Ross: Sure. I think what Einstein accomplished represents a key concept under which science can be understood, that of metaphor. LaRouche has repeatedly stressed the importance of metaphor as the key to science, meaning the development of language in such a way that you express a new scientific truth in a way that could not even have been stated in the preceding language. It's not something mathematical; it's not a formula or an expression. Discoveries in their true form can't be. After the fact, you might be able to write them down; but what makes them a discovery is an overthrowing of the past, the development of a new basis for thinking that is incompatible with what came before.

FIGURE 2



Einstein's thought-experiment on the Relativity of Simultaneity: In the top frame, two lightning bolts strike opposite ends of a moving train. The two strikes are simultaneous relative to the stationary observer standing on the platform, as we see in the bottom frame, where the two flashes arrive simultaneously to that stationary observer. But they are not simultaneous for the moving observer standing on the train's flatcar; in the second frame, the light from the lightning bolton the right has already reached the moving observer, whereas the light from the left has not. For this moving observer, the lightning bolts were not simultaneous; the bolt at the right occurred first.

That's the kernel of what a discovery is. None of these thoughts are really eternal; what is eternal, is that process of developing new thoughts. That identifies the incredible error in science education today, which is based on understanding how to apply the fruits of discovery to specific problems, but not on going through how they were developed.

One hundred years ago, in 1915, Einstein successfully expanded his special theory of relativity, which he had developed in 1905, into a more general form, making it the general theory of relativity. I want to say a bit about what Einstein did—I think it would be wrong not to—and then get into what it means for us today, what's the relevance. Einstein is not just someone to idolize, or say, "Wow, he was a real genius." Figure out what he actually did.

Going back ten years earlier to 1905—110 years ago—in what's now called the special theory of relativity, Einstein changed the basis on which scientific thought was based. At that time, the prevailing view was the Newtonian outlook on space and time. Isaac Newton had said that space and time were independent of things within them: Space is space; within it, things exist and take place, or occur in different relations to each other. According to Newton, time flows on its own, without reference to the things in it; they take place over time, but time has an independent existence.

Einstein Makes a Revolution in Physics

Well, Einstein tore that apart in 1905, in some ways with rather simple thoughts. For example, he demonstrated that the concept of simultaneity does not exist, that depending on who you ask, and that person's motion with respect to two events that are occurring, that observer might say yes, they occurred at the same time—using the light from those two events reaching him or her, to determine whether one occurred first, or whether they occurred simultaneously. But the *motion* of the observer relative to the two events will affect whether they appear to occur at the same time or not.

He gave the example of someone on a moving train witnessing two lightning bolts, compared to someone on the ground witnessing these events. For the person on the ground, the light from both events happens to reach him at the same time. But the person on a moving

train that happens to be at the same point between the two bolts as the observer on the ground, when the two events occur, finds something different: Because of the train's motion relative to the ground, this person is going to see one bolt before the other one.

Who's right? What does it really mean to say "at the same time"? Because all the laws of nature work the same, whether you're standing still supposedly, or you're in constant motion, there's no way to say who's right, what the right time should be. And the idea of having a universality of simultaneity, to say "at this moment in the universe" disappears, and it becomes relative to the observer.

What does that mean? It means that time itself no longer exists as a basis for thought in the way that it had before. There's still time, but it's no longer an untouchable permanence; the same thing is the case for space. Events take place in space-time, rather than in space (without regard for time) or in time (without regard for space). In 1905 in his special theory of relativity, Einstein replaced the concepts of space and time as a basis for physics with something physical—light's motion. In this way, he was implementing one of the revolutions in physics that Riemann said would take place; that our understanding of geometry would take place not by looking at geometry, but by an understanding of those binding forces of nature which give rise to what is then observed. A bent space; a curved space; a skewed space.

With his general theory of relativity in 1915, Einstein went beyond frames of reference which are either at rest with respect to each other or in uniform motion relative to one another; he now considered acceleration. He said that that there is a relativistic equivalence between inertial and gravitational mass.

Let's give an example. Someone is sitting in a room and can feel the floor pushing up against his feet or, to put it another way, he can feel his feet pushing down against the floor. But, unless he leaves the room, he can't tell whether he is just experiencing the gravity of Earth as the building sits at rest on its surface, or whether he is out in space and the top of the building is attached to a rope which is being pulled at an accelerating rate, constantly pulling the building up against his feet. No experiment, nothing you could do inside the room, would be able to distinguish the one from the other. From this equivalence then, Einstein derived his general theory of relativity, by which not only motion, but gravitation changes the shape of space and time.

CC/Damien Deltenre

Experiments done during a total eclipse of the Sun in 1919 helped Einstein demonstrate his theory of general relativity. Here, a picture of such an eclipse taken from Spitsbergen, Norway on March 20, 2015.

This was a very wild, shocking idea, and still is. Space and time were considered to be such fundamental things that the possibility of them even being curved was rejected out of hand by people like Immanuel Kant, Isaac Newton, and Bertrand Russell.

But Einstein was able to demonstrate that he was right. Two quick examples. One was the orbit of Mercury. The orbit of every planet has a place that's farthest from the Sun, and one where it's closest to the Sun. You draw the line through those points on the elliptical orbit. With the passage of time, that line isn't stationary. It actually moves. For Mercury it moves a degree and a half every century. And based on calculations of gravity, as it was understood, people were able to explain almost all of that change. There remained a very, very small—about .01 degree per century—change in Mercury's orbit that no one had explained, but which Einstein was able to explain with his theory.

Also his prediction about how light would bend going around massive objects, was borne out in the experiments during the eclipse of 1919. Photographs were taken of stars near the eclipsed Sun—since the Sun was covered, you could actually see stars near the Sun. The position of the stars (or, more exactly, the apparent position of the stars, based on the light received from them at Earth) was then compared with the apparent position of those same stars when the Sun was not near our line of sight to them. Each star's position was different in the compared images. This showed again that Einstein was right, that the path of light coming from the stars towards us was deformed, was shaped, by the presence of the Sun's gravity.

Einstein Surpassed Old Laws

These are the things that people are most familiar with about Einstein, things that are indisputably advances that he made. But there's more to him than that. I think that the great importance that LaRouche attributes to him—what Megan mentioned—LaRouche calling him the only scientist we had here in the Twentieth Century, the only one who stuck to science—lies elsewhere as well.

The other great work that Einstein accomplished was on the quantum. In 1905, in addition to special relativity, he also wrote a paper to explain the photo-electric effect, and it was actually this for which he was awarded the Nobel Prize later. This expanded the ideas of Planck in showing how light itself must come in particles or quanta, that it's not purely a wave phenomenon, that there's something particle-like about it. Some experiments, however, required light to also have wave-like properties, making it impossible to decide in a simple way on this question. Is light a particle, or is light a wave? This is one of the difficulties of quantum physics.

What Einstein held out against was the interpretation by scientists in his day, led by Bohr, mainly, Neils Bohr the Dane, to say that science had reached a limit; that to ask "why" was really no longer admissible, and that in the quantum world, physics, instead of saying what nature is, is limited to describing how nature appears. Einstein would not accept that. Einstein never accepted the idea that we had reached an end to the ability to know things, and that quantum theory as it was known at that time, was final, complete. Something that's never been true of, really, any theory in history.

This is seen now with the ongoing difficulties around completing quantum theory, and also the anomalies in the fields of life and the potential for a higher understanding of these quantum processes in the field of cognition. It's also seen in Einstein's own work, in the theory of gravitation. with the difficulties—I hope you've been watching the series of presentations our colleague Ben Deniston has been doing on the Galaxy on this website every other Wednesday—it's also seen in the difficulty in understanding the speeds of rotation of galaxies. That problem was the original basis for hypotheses that people make about dark matter now. This may indicate that we have simply reached the limits to the applicability of our physical theories and need to go beyond them.

That's not done mathematically by positing new ways to keep our old laws, to explain the new phenomena, but it can require going beyond them.

So, we don't have answers to these questions. We shouldn't fool ourselves into thinking that we do already have the answers to these questions. And the importance of Einstein for us today, is that of a successful discoverer who overthrew what had been thought, developed a higher theory to explain things, and was guided by an understanding of the role of the human mind in developing new, successful concepts about nature. With that as a basis for how we relate to other human beings, with that as a basis for social relations, we can forge a much higher level of cooperation on this planet, and develop a culture that's really suitable for the human beings who participate in it.

Beets: Thank you very much, Jason. With that, I'm going to bring our broadcast to a close. I would like to thank Jason for joining me, and Jeff for joining us via video, and I'd like to thank all of you for watching tonight. Please stay tuned to larouchepac.com. Good night.