NEW PARADIGM FOR MANKIND

Mankind Is Now Moving to An Earth-Sun-Moon Economy

LaRouchePAC's New Paradigm for Mankind program for Aug. 20 was hosted by Megan Beets, who was joined by two additional members of the LPAC Science Team, Benjamin Deniston and Natalie Lovegren (http://larouchepac.com/node/31586). Beets presented a picture of developments over the past week, contrasting the rapidly unravelling trans-Atlantic financial system with the stunning emergence of a worldwide alliance for economic development, led by the BRICS and South America. She then turned the discussion over to Lovegren.

Natalie Lovegren: Thank you, Megan. I wanted to get into the issue of helium-3, and the implications of developing this fuel, as a system based on developing the Solar System itself, as opposed to what you just laid out with the bankrupt, fake Wall Street financial speculating economy, which is not a real economy. It's a system of usury and genocide.

But contrasting that, overturning that, and going to a system of economy based on real, measureable physical progress, comes with pushing the frontiers of science, but it also comes with a measurable increase in the energy potential that's available to the planet to be able to make these types of upshifts and advances.

What China has made clear about its program to go to the Moon to mine helium-3, is that this is something that will be done for all humanity. This is going to lay a foundation for the entire planet because we'll have a virtually limitless fuel source. Helium-3 has the highest energy-flux density that we know of, when it's used as a fusion fuel, and this is going to lay the basis for a completely new system.

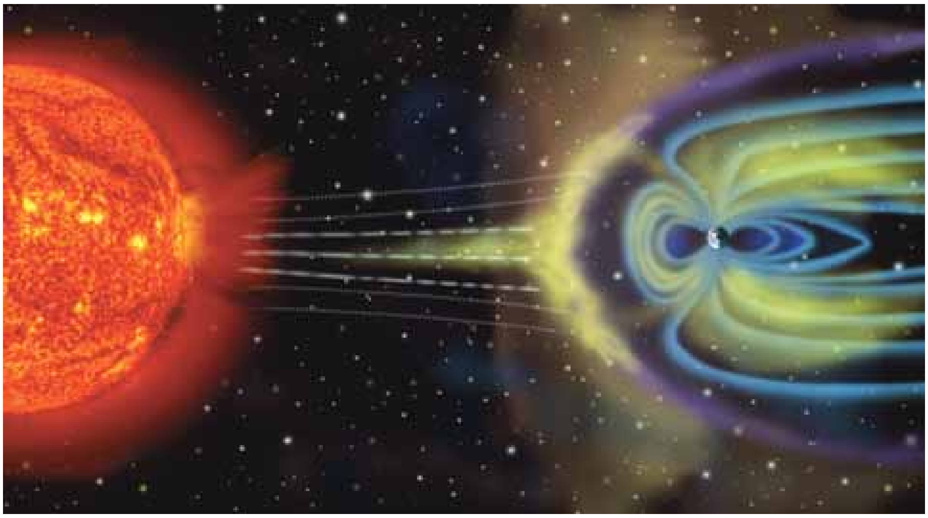
I want to get into the source of helium-3, and how looking at the solar wind, which is the source of the helium-3: looking at the properties, how this exists, what

LPAC-TV

The Aug. 20 edition of the New Paradigm for Mankind featured members of the LaRouche Science Team: Natalie Lovegren, Benjamin Deniston, and Megan Beets.

do we know about it, what don't we know about it, how is this going to push our development of the Solar System itself? We're going to have to understand this system as a dynamic system, and instead of thinking in terms of an Earth-based economy, even, we're going to have to look at an Earth-Sun-Moon-based economy as a foundation, to then expand out into the Solar System. And this is only natural; it's only the scientific thing to do, the wise thing to do, because we don't exist as separate, independent bodies. It is a dynamic system, it is harmonically organized, it's a very structured, complex system, that's not simply two bodies or three bodies; it's not a multiple-body problem, or a body problem at all. It's a dynamic system.

FIGURE 1
A Solar Flare Hitting the Earth's Magnetic Field



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Why Does the Moon Have Helium-3?

We have here the Sun emitting the solar wind (**Figure 1**); this is a depiction of a solar flare that is hitting the Earth's magnetic field. And the solar wind is a plasma, so you have a charged gas in which the electrons and the ions have separated. So, it's able to be deflected; and also, it interacts with the Earth's magnetic field.

Now, the reason that there's helium-3 on the Moon, and the reason we have it as a potential for a fusion fuel, is because the Moon does not have a magnetic field like we see here on the Earth that protects it. that would deflect this solar wind; it doesn't have a thick atmosphere, like the Earth does.

You can't see the Moon in this picture, but imagine that it's there, and it is exposed also to the solar wind and absorbs the helium-3. I wanted to go through a few examples, in the course of getting a better sense of what this dynamic Earth-Moon-Sun system is, of what we're going to uniquely be able to do on the Moon, how we're going to advance plasma physics, and therefore advance fusion science. All of this has to be looked at as one system, one approach; that we're advancing the frontiers of science, and we're investigating this system, and we're taking advantage of all of the unique properties that are inherent in this system.

So, I just wanted to go through briefly, a few very unique opportunities that we have, once we take the Moon in as what it is: our satellite and part of our system. It's not just some foreign body that's there, isolated. This is the [NASA] Goddard laser system, it's actually shooting a laser at the Moon (**Figure 2**). This is a green laser. It can be shot all the way to the Moon, and the purpose of this is to measure the distance between the Earth and the Moon.

FIGURE 2
A Laser Shot at the Moon from Goddard Space Flight Center

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During the Apollo program, astronauts left something called a retroflector on the Moon, which would

FIGURE 3
A Retroflector on the Moon

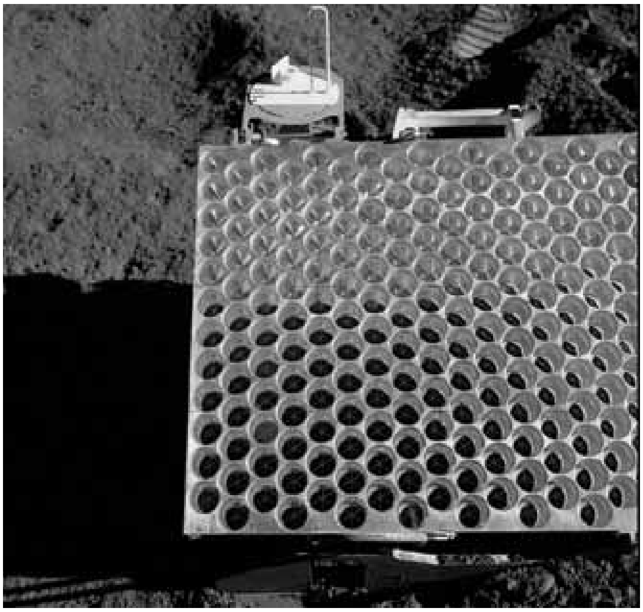

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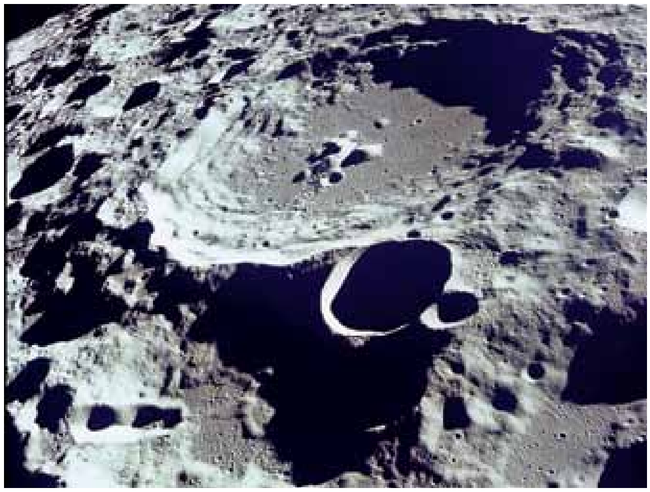
FIGURE 4
A Crater on the Moon



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reflect back a laser or a signal that was shot at the Moon (**Figure 3**). So what they're doing is measuring the distance between the Earth and the Moon, a distance which is changing a little bit each year, and this system right now has a margin of accuracy within about a millimeter. They have plans for improving the lasers and improving the system to 100 times better, so you would have 1/100th of a millimeter accuracy.

The implications of that are that we're able to get into gravity, into general relativity: Where does this break down? What are the implications? We have this body right here; it has a gravitational effect on the Earth, and vice versa. Since the Moon has been increasing its distance from the Earth over time, that has an effect on how long the day is. When the Moon and Earth were first formed, our day was about five hours long, and as the distance between the Earth and the Moon expanded, our day actually grew longer. So there's a lot of interesting implications for this.

Secondly, this is a crater on the Moon (**Figure 4**). We have a situation where you have characteristics that don't exist anywhere else in the Solar System. So, not only is the Moon very close to us, but there are extreme and unique properties, such as permanently shadowed craters. Because the Moon has only a very small tilt, about 1.5%—it's not inclined like the Earth is, you have the sunlight hitting it in the same way; so you can have craters where sunlight never reaches the bottom, and this makes for what we think of as the coldest places in the Solar System; which means we have an environment for studying extreme cold, which has a lot of implications. And we have a very interesting electrical environment, because you have solar wind, you have charged particles that become trapped in the bottom of these craters. So this is also a very interesting research opportunity.

Now, if you notice the difference between the Moon and the surface of the Earth, the Moon is a very accurate record of the history of the Sun, and of the history of the Solar System (**Figure 5**). Because it doesn't have the

FIGURE 5
The Lunar Surface

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FIGURE 6
An Aurora Seen from the Space Station

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FIGURE 7
A Solar Prominence

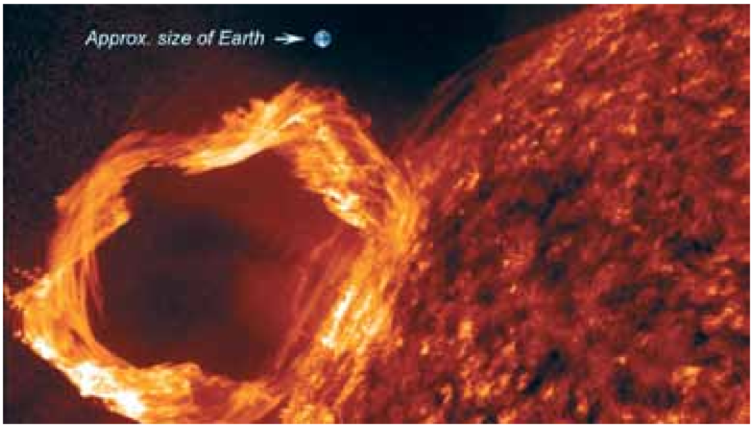

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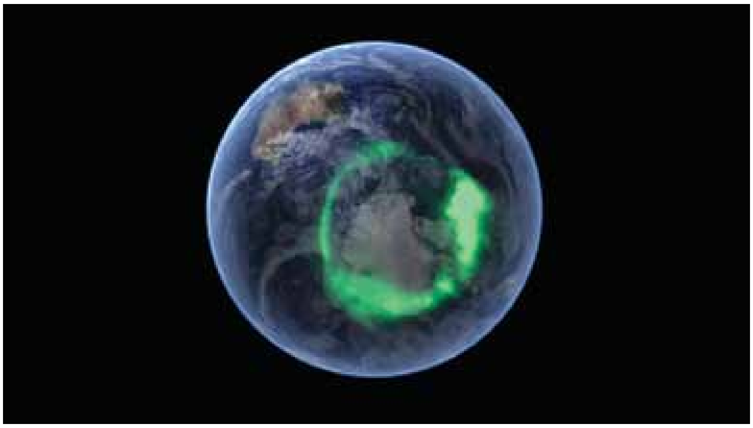
FIGURE 8
An Aurora Australis



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atmosphere, because it doesn't have a protective magnetic field, everything that's happened in this area of our Solar System, has just hit the Moon and it's left a record that's there for us to study.

Megan Beets: And there's no obvious biosphere that's grown over it and changed it.

Lovegren: Right, right. You don't have those type of dynamic processes that are then churning it up and changing it in a different way.

The Solar Wind

Now, the example that I wanted to go into a little bit more in detail, is how we're going to study the solar wind itself, which is the source of helium-3, and which, as it's a plasma, and it's a very strangely behaving plasma, it gives us some unique opportunities for learning more about plasma physics which is going to aid us in our investigation into fusion. Last night, there was a geomagnetic storm, a minor one. A coronal mass ejection hit the Earth's magnetic field, and this is what astronauts on the International Space Station saw. This isn't the picture that was taken last night, but this is something very similar that's from the Space Station over another aurora (**Figure 6**).

This is a solar prominence (**Figure 7**): You have these areas of magnetic activity, sunspots, and we don't know exactly what's going on, and how these coronal mass ejections are produced, but we know that there's a dense magnetic activity in the sunspot, and then you have these prominences, these protuberances of energy come out. In the case of these coronal mass ejections, you're looking at trillions of watts of energy—if they have enough energy, they will leave the Sun, and reach all the way to the Earth's magnetic field, interact with the Earth's magnetic field, and both of these are charged, so you have electrical phenomena, magnetic phenomena (Figure 1). And in the places where you see the spider-like magnetic field, at the poles, there's a breach in the magnetosphere, and you have these gases sneak in, and you get a light show like this, which is what the astronauts saw last night (**Figure 8**). This is more or less a typical aurora; this is an Aurora Australis, it's at the southern pole. So this is an ionized gas and it creates these really pretty light shows.

Now, what are the effects of this on the Earth? If you're an astronaut, this can be very dangerous: You don't want to get hit by a solar flare if you're an astronaut; you don't want your satellite to get hit by a solar flare, and you don't want the Earth to really get hit by it. If there's just a slight effect, such as some pretty lights, we're fine with that, but a very intense one can be devastating, especially nowadays, because of the way that our whole planet has become electrified, in a sense, with modern communications.

The biggest coronal mass ejection that we have on record was in 1859. It was called the Carrington Event. We actually had one in July 2012 that was probably stronger than the 1859 one, but it missed the Earth, fortunately. If it would have hit the Earth, it would been completely devastating. When the Carrington Event happened, we were still using telegraphs, and this created a geomagnetic storm that was so intense that you had this type of phenomena: The auroras reach all the way down to the Caribbean, and people very far South were able to see these lights, and this was at night, so there was no light: People reported that they could read a newspaper by the light of the aurora. There were reports of gold miners who were woken up and they started making breakfast because they thought it was morning.

Benjamin Deniston: This was something you normally see in Canada, or maybe Maine.

Lovegren: Exactly, this typically only occurs very close to the poles.

I just wanted to read an excerpt from a newspaper article. This is Saturday, Sept. 3, 1859; the *Baltimore American & Commercial Advertiser* reported, "Those who happened to be out late on Thursday night had an opportunity of witnessing another magnificent display of the aurora lights. The phenomenon was very similar to the display on Sunday night, though at times, the light was, if possible, more brilliant and the prismatic hues more varied and gorgeous. The light appeared to cover the whole firmament, apparently like a luminous cloud through which the stars of the larger magnitude indistinctly shown. The light was greater than that of the Moon at its full, but an indescribable softness and delicacy, that seemed to envelop everything upon which it rested. Between 12 and 1 o'clock, when the display was at its full brilliancy, the quiet streets of the city, resting under this strange light, presented a beautiful, as well as singular appearance."

There's also a very funny discussion between telegraph operators, where the operator in Boston says to the operator in Portland, "Could you please cut off your power source, your battery?" And the Portland operator says, "It is cut off." And the Boston operator says, "Well mine's cut off, too, but we're still communicating!" So there was such an electric current from the geomagnetic storm, that there was electricity in the system to run the telegraphs after they had been shut off. And it continued for two hours.

We don't really know why the solar wind does this. The mystery is that it's accelerating; it's increasing its energy as it leaves the surface of the Sun, so you have charged particles that are somehow being accelerated. One of the theories is that there's some type of shockwave being created; shocks can do this, where you accelerate particles, but we don't have any way, so far, to test it, because we haven't been able to make an image of those particles that are being accelerated in the Sun.

The Far Side of the Moon

Now, one of the uses of the Moon is that the far side of the Moon is a very quiet place where you can make low-frequency radio observations.

Incidentally, these particles that are accelerated, particularly the electrons, they resonate at very low frequencies, so we're talking 10 megahertz, which is quieter than any radio, and these are very long waves. And the reason that you need a quiet place is because the Earth is a very noisy radio zone; we have lots of radio waves coming from the Earth. So those completely block out any signal—we can't just put up some type of satellite or spacecraft to measure these low-frequency radio waves that are being emitted by these accelerated charged particles, because the Earth is so noisy.

But, what we do have on the far side of the Moon—it's the far side, it's not the "dark side," people were brainwashed by an album in the '70s—it's the far side because it never faces the Earth, and because it never faces the Earth, it's not receiving the type of interference that the Earth would otherwise give to it. We know this because we had a spacecraft that tested the radio environment of the Moon in

FIGURE 9
An Image of the Radio Environment of the Moon (1973)

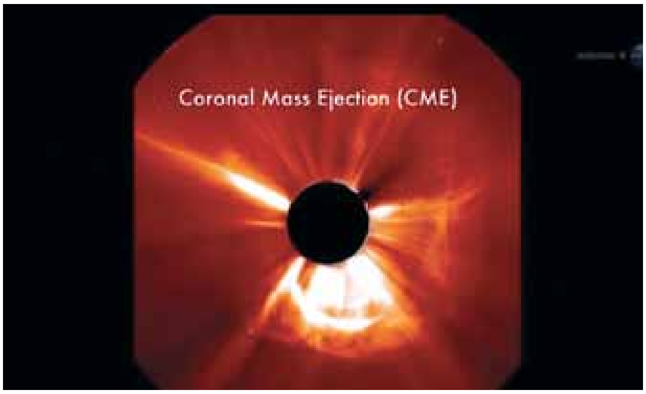

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FIGURE 10
Measuring the Moon's Radio Environment

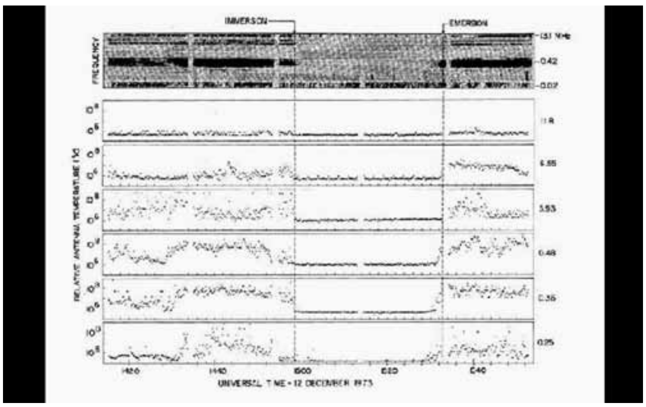

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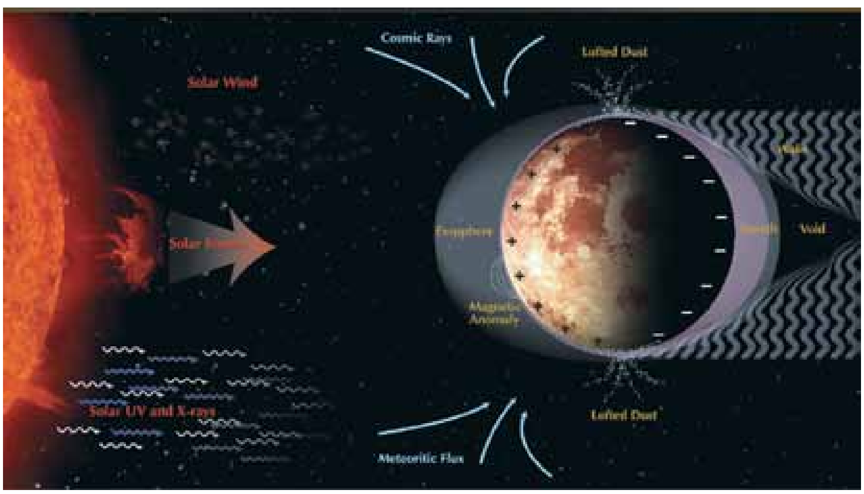
FIGURE 11
An Image of a Solar Storm Directed at the Moon



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1973, and this is an image from that spacecraft (**Figure 9**). You can see, on the left side, you have a lot of noise, and as soon as it goes into the quiet zone, as soon as it starts to measure the far side of the Moon, you have a complete drop-off of all radio signals; and then it comes back around and it picks up again (**Figure 10**).

So the proposal is to use the far side of the Moon, to put a giant radiotelescope on the surface of the Moon that can then measure these signals. And the reason you couldn't just have a spacecraft hover over there, is because you need a telescope with a very large diameter, and you need a stable surface to be able to do that. Because these are very low frequencies, they have a very long wavelength, and so you need a very large diameter on your telescope to be able to measure this. So they're talking about needing at least a square mile or so. One of the proposals is to use a type of plastic to create antennas and unroll these plastic antennas into an array that will imitate an actual radiotelescope. We're basically synthesizing a large dish by doing this.

If we can get an insight into the nature of the way that these particles are accelerated, then maybe we can start to understand how the solar wind works, how coronal mass ejections are formed; maybe we can start to predict them, and we will gain insight into this strange behavior of the plasma that I think will aid us in our plasma research.

Another place we want to point this telescope is way off into the distant reaches of the universe, because another thing that produced very-low-frequency signals, is hydrogen from the beginning of the formation of stars, 16 billion years ago, during what we think is the beginning of the universe. I'm not sure what to think about "*the* beginning of the universe," but we know that many billions of years ago, stars were being formed, and one of the ideas is to be able to image the formation of these very old stars by using this low-frequency telescope.

Now, one last example (**Figure 11**): This is an image of a solar storm being pointed towards the Moon. There's a void on the other side of the Moon; you can imagine the solar wind enveloping the Moon, and you have these charged particles hitting the surface of the Moon, and you have a plasma that the Moon is enveloped in. On the other side, there's a void, there's a vacuum, where the plasma is not reaching and there's a space there. The interaction of that vacuum with the solar wind is something that we call the "lunar wake," and this is a very interesting area for plasma physics, and it's also a very unique opportunity to be able to study how plasma expands into a vacuum.

So this is something we don't understand, but it's something that we could also use the Moon for, as a unique plasma physics laboratory. Which will also develop our understanding of plasma physics and of the process of fusion itself.

So I just wanted to leave it at that, and open it up for any discussion.

The Atmosphere of the Sun

Deniston: These are exactly the kinds of questions we want to be putting on the table. It reminds me of a lot of things we can spend a lot of time discussing, but this lunar wake is fascinating. There have been studies of—it's like you're describing—it's *not* empty space. The whole Solar System is filled with this highly structured and dynamic and changing plasma from the Sun, the solar wind: It creates spiral structures; it creates these large outbursts, the coronal mass ejections, and it's really very little understood—they call it the "atmosphere of the Sun," we're living in the Sun's atmosphere. It's not empty space out there.

I think James van Allen was one of the first scientists—he was quoted saying, when they put the first spacecraft up above the Earth's atmosphere, I think it was the Explorer spacecraft—and the very first thing they said, is "Omigod! Space is radioactive!" They had no idea, they thought it was just it was empty space, they didn't know it was filled with this plasma, these charged particles, these radiating phenomena. And so it's just been a very new and fascinating area of study.

And this "wake" thing: There have been studies where spacecraft, very deep in the Solar System, have all of a sudden registered an anomalous change in the solar wind characteristics, and they recognize they had just traveled through the wake of some body in space. And they're looking around: "There are no bodies around. Where did this come from? What was this?" And they found it was a comet, the wake of a comet! But the comet was between, I believe, 1 and 2 astronomical units [AU—the distance between the Earth and the Sun] away from the spacecraft.

So now, this comet is probably 1-2 kilometers across. An astronomical unit is something on the order of 150 million kilometers [93 million miles]. So you have a 1-2 km body travelling through the Solar System, and it's creating a highly organized structure within this solar plasma, this solar wind, of millions of kilometers in length.

So these are just fascinating areas that we have very little understanding of. The idea of using the Moon, and the development of the Moon, as the beginning of opening up a whole new domain of investigation.

Lyndon LaRouche has made the point over the last couple days that the most important thing we can get from all of this, is not answers, but questions. The most important thing we want to look for in this process of mankind developing the Moon—developing fusion power from the Moon, developing helium-3 resources, and beginning to industrialize and build permanent capabilities on the Moon—the best answers we can get out of this process are going to be new questions. New questions that are going to lead to completely new areas of science in domains, that we can't, as of now, in our current state, even determine. We're going into an area where we know there are going to be new things that wouldn't be possible to ask now, because we haven't even found the provocations, the anomalies, that would allow us to ask them.

And I think what you went through was just loaded with that: this idea of the low-frequency telescopes on the far side of the Moon—this is going to be opening up a completely new picture of the universe. If you look at the expansion of astronomy, we have the Hubble telescope, we have optical telescopes, and then we send up infrared telescopes, and we get a completely different picture. You see things that you wouldn't see otherwise. You look in the visible range, with Hubble, and you see a bunch of clusters of stars kind of spaced apart, seemingly in empty space; if you look in infrared, you see this highly structured plasma environment, connecting and integrating all the stars as part of a single system—something you'd never see in the optical domain, but it's something you now get access to when you look in the infrared. If you look in the X-ray, you see completely new things.

FIGURE 12
The Crab Nebula

NASA/JPS-Caltech/R. Gehrz (U. of Minnesota)

cies, and see what new areas we're going to open up. You know there are only so many frequencies that even reach the Earth's surface. For example, in the low-frequency range are the Schumann resonances, which we know can resonate with and interact with the human brain and mammalian brains and mammalian biology, which is a fascinating thing. Are there other sources of these things in the universe? Is this being emitted by other planetary bodies, other stars? We don't know, because our atmospheric system, our ionosphere, blocks these from reaching the Earth's surface. So with these low-frequency systems on the Moon, we can now begin to look in these areas for the first time. so it's opening a door that we've never looked in before, to something that we won't be able to determine what we're going to find, until we actually do it, because it's a completely new area.

This one last thing you went through is actually the opportunity to ask the Moon itself about its experience, which I think opens up some fascinating things, because as you said, there's no atmosphere, there's no magnetic field, and there's no biosphere, so it's kind of been experiencing the interplanetary environment for billions and billions of years. And that includes the travel of the Solar System through the galaxy. So, as the Solar System has traveled through the galaxy, the Moon's been sitting there experiencing these different conditions, hotter, colder, more intense, less intense. And a lot of the so-called galactic cosmic radiation and radiation influences from outside of the Solar System have been recorded in the Moon itself, and we've seen this to some degree in meteorites and asteroids which have a similar experience, where they have no protective coat of a magnetic field, to shield them from this environment, so they kind of record the influence.

But, we have the opportunity to go up to the Moon and say, "How's your experience been the last couple billion years? What's it been like out there? What was

The Crab Nebula

The images we've used of the Crab Nebula is an example (**Figure 12**). You look at the Crab Nebula, this supernova remnant, and you look in each of these different frequencies and you see something completely different. You look in optical, and you see this highly structured filament process. If you look in the X-ray, you see this highly energetic source in the middle, and these toroidal structures surrounding it. And so none of these, any one per se, is the answer, but every one is like a new slice, a different shadow. And as you reference, there's a whole range of potential shadows we just haven't even looked at.

Lovegren: And who's to say there's not another part of the electromagnetic spectrum that we don't know exists? Much less having developed instruments to measure?

Deniston: Right! We keep looking in these lower and lower frequencies and higher and higher frequenit like when we were traveling through that last spiral arm of the galaxy? What was it like when we were traveling above the plane of our galaxy?" These are all going to be potentially revolutionary questions, in opening up a whole new set of unknowns and potential hypotheses about the existence of our Solar System in the galaxy.

And LaRouche has pointed to something unique that we've been fighting in the Basement Science Team to really understand, which is going back, and looking at the role of Kepler in guiding this whole process. Because all that what we're talking about here is a series of shadows. We can have new images of the Solar System, we have new experiences of the Solar System, but what we're going to need is an ability to understand what the Solar System really is as a single unified process.

Lovegren: I think by taking these bodies, and their relationships to each other, and looking at a type of inversion, we can then also know more about the Earth. We've been looking at the Earth from the Earth, and we've been looking at the Moon from the Earth. But going to the Moon and then looking at the Earth, looking at the Sun, and looking at the rest of the Solar System, that gives you a different type of perspective.

Deniston: You can completely reshape how we can even interpret some of the records we have from Earth, records of evolutionary changes and mass extinctions and biodiversity changes, that can give us a totally new perspective to re-investigate and re-analyze these things. And I think we're going to get into more of this over the coming weeks. But LaRouche has certainly put on the table this question that, what is the Solar System, really?

Lovegren: What was going on in the neighborhood of the Solar System when the dinosaurs went extinct?

Go Back to Kepler

Deniston: What influences were there, and what is the Solar System as a whole process? What is this thing we're dealing with? You can measure the motion of a planet, you can measure the distances of the planets, you can measure certain things, but all those are measurements: What governs it all? You know, the question that Kepler asked, "Why is it this way and not otherwise?" "Why does it have the particular ordering it does?" "What is governing the whole process?"

There was a major article in *Nature* magazine, in early July, entitled, "Astronomy: Planets in Chaos." It is focused on the fact that we've now been able to observe different planetary systems, around different stars, and we've been able to observe now thousands of these things. We look at a different star, we can begin to look at the planets orbiting that different star and begin to get a sense of how big are they? How are they orbiting, where are their orbits? And now that they've begun to develop a decent size data set of these exoplanets—planets exterior to our own Solar System, planets around other stars—they say, this has now demolished our ideas about how planets form. And astronomers are now searching for a whole new theory.

Lovegren: This is from the Kepler mission, the aptly named Kepler mission?

Deniston: Yes, the aptly named Kepler space telescope.

So what this is showing us, is that our previous models and assumptions and ideas about how a star, and a planetary system around a star, develop and form, are just wildly off. They can't account for the variety and the types of things that we're now beginning to observe in all of these processes. And so, what LaRouche has pointed to emphatically over the past week is: "Go back to Kepler, start from Kepler." Who actually discovered the Solar System? It was Kepler. How did Kepler think about the process? He, in a sense, has taken us the furthest, because he was the one who got the first insight into a single principle, which was not just measurement. It was not a mathematical measurement, but he was able to generate and discover an unseen, unsensed, unmeasured principle of action that was the organizing force of the system as a single unity, as a whole.

And that is what's utterly lacking today, is the development and continuation of that investigation. If we're going to be entering into a domain where we're dealing with all these questions, and dealing with mankind, working with the Solar System on a fundamentally new level, these are the questions that come up.

Beets: Yes, I think it kind of gets to the error in thinking, of saying, "Well, helium-3's on the Moon, we're going to take our shuttles up there, we're going to load 'em up and bring it back, and make billions of dollars off of helium-3," right? And "Yeah, we're going to have fusion reactors, and it's going to be great, and the market's going to be happy." And you have this completely silly idea that we even know what helium-3 is, that we even know what the fusion process is, and it's a projection of the current system of knowledge and the current mode of operation, up into something which we really know almost nothing about.

Lovegren: Everyone will have the infinite Internet and TV.

Beets: Yeah, right! And there's this assumption that, "Oh, we have a certain understanding of chemistry and nuclear processes; clearly that's what this means, and we'll incorporate it into the current system."

LaRouche has made the point to say, no, that's total folly! The outcome of any program, like what the Chinese have committed to, with permanent human presence and control over the Moon system, is that the real outcome of that is a totally new state of the human mind.

And it does get to what you said a few minutes ago, that when we sent all these machines up there, we discovered space wasn't empty. The other thing that's space is not devoid of, is the principle of mind and the principle of creativity, which we are a mirror of, we are a reflection of. And you saw that in Kepler's successful discovery of an undetected principle, by delving deep into the processes of his own creative mind, and generating a process of creation within his own mind, with the harmonic orbits.

But the interesting thing about that is: What did Kepler do? For the first time, he subsumed the Solar System *as* a system, as a unified, comprehensible principle of mind. As a consequence of that—maybe something he didn't think about directly—but as a consequence of that, we had the kind of understanding of orbits necessary to start putting things out into space, and to begin acting on the Solar System. And it may have taken a few hundred years to do that, but the potential was opened up.

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Johannes Kepler: What did Kepler do? For the first time, he subsumed the Solar System as a system, as a unified, comprehensible principle of mind.

And similarly, when we think about the Moon system, we have a certain sense of why we're going there; we have a certain pursuit of this fusion fuel; but, in order to do that, we're going to have develop completely new capabilities and understanding, which will probably completely transform why we think we're there in the first place. And it is just a really exciting process, where you have a sense that the human species is actually being drawn forward, drawn to a new state of progress, drawn to a new goal which he didn't imagine before. And that's really what I said in the beginning, this genius that's cropped in the Chinese people, within that section of humanity.

A New System of Values

Deniston: LaRouche has made the point, I think he sees the model of what we want to be going into, in what happened in the Renaissance. It was not, exactly like you said, an emergence out of the culture at the time, it was the introduction of something completely new that couldn't be logically deduced from the prior state. And it wasn't just a new formula about how planets move, or it wasn't a new calculation or measurement, or a better measurement—it wasn't Galileo. Galileo didn't create the Renaissance, Galileo didn't express the Renaissance.

It was a discovery about the fundamental nature of the human mind, and how the human mind operates as a creative force in the universe, and a deeper realization that it is the understanding of the power of the human mind which gives us a greater understanding about the nature of the universe as a whole. That is the subject of science: It's the investigation of how it is that the powers of the human mind can come to resonate on higher levels with the universe as a whole. And these are not questions that we have answers for—what the next stage in that process is.

But we know we're going into a domain where those questions can and will be forced, because we're going into fundamentally new territories, new areas, we just haven't entered before, new shadows we're going to be measuring, new processes we're going to be dealing with. And this has to become the kind of subsuming, guiding question, if we're actually going to advance from the United States, if we're going to work to advance society as a whole, it's going to come from, most fundamentally, these questions about a higher discovery of what you might call "natural law," a greater scientific understanding of what you can demonstrate to be mankind's relationship to the Solar System, and the derivation and development of policies based around that conception.

Beets: And that I think points in the direction of LaRouche's insistence that we're entering a new system of values, of economic values, that it's something which is derived from a kind of process which most people on Earth can't imagine yet. And so any attempt to extrapolate from any kind of current thinking about it, is a failure. And we really just have to be tough on that, and I think tough with the American people on that question also: that this is really the direction, what you just described, that's the direction that humanity's going in, and must go in, by our nature.

Deniston: Yes, and that is the essence of what LaRouche is calling for with the real science-driver program, on this lunar program. A science driver means you have to drive yourself to discover new science. To discover it means you don't know it yet. So this means seeking the questions that we have to fight to solve, not defining what the answers are going to be. And so that's the open challenge we have right now.