

LYM Breaks British Effort To Bury Kepler At Prague 4th Centennial of ‘New Astronomy’

Jason Ross, a member of the LaRouche Youth Movement (LYM) and LaRouche PAC editorial, was interviewed on the Sept. 12 edition of The LaRouche Show web radio, aired every Saturday. The program was hosted by Lyndon LaRouche’s West Coast spokesman Harley Schlanger (www.larouchepub.com/radio).

Harley Schlanger: Joining me now is Jason Ross. Jason is a leader of the LaRouche Youth Movement; he was part of one of the original Basement teams of LYM researchers, that did extensive work on Johannes Kepler and put up some material on the website [<http://wlym.com/~animations>], which was quite startlingly original, including animations. Jason was recently invited to participate in a major international conference in Prague, in the Czech Republic, which was commemorating the release, 400 years ago, of one of Johannes Kepler’s great works, the *Astronomia Nova*. So, Jason, welcome to The LaRouche Show.

Jason Ross: Thanks, Harley.

‘Kepler’s Heritage in the Space Era’

Schlanger: Tell us a little bit about this conference, what went on there, and what you presented.

Ross: It was, as you said, a conference to commemorate the 400th anniversary of Kepler’s first really major work, and the theme of the conference was “Kepler’s Heritage in the Space Era.” There were people from about 12 different countries there; there were about two dozen presentations, 60 registered participants. And for the most part, people gave presentations on aspects on Kepler’s life, or his relationship to Galileo—why Galileo was such a jerk—or his relationship to Tycho Brahe.



Jason Ross at the grand opening of the new Kepler Museum in Prague, Aug. 27, 2009. Kepler was living in this building when he completed writing the New Astronomy.

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There were a few presentations on *The New Astronomy*, including by myself—there were four of us who actually spoke about the book that the conference was commemorating.

Schlanger: Did you actually have people talking about the superiority of Kepler to Galileo? Because most modern science denigrates Kepler in favor of Galileo.

Ross: Yes, actually, one of the participants at the conference is the head of the Kepler Working Group, for the International Astronomical Union, and he was pretty irritated that 2009 is the Year of Astronomy, and that Galileo is being celebrated, when he didn’t do anything in 1609, besides receive a telescope in the mail. Whereas Kepler discovered the motions of the planets.

Schlanger: So you mean, some of these guys actually *do* understand real science?

Ross: Well, some of them have a certain respect for Kepler, although what I found was that people have not read Kepler's books very thoroughly. One man that I had met, who seemed like an interesting guy, I asked him, "So, have you worked through the *New Astronomy*?" And he said, "Oh, no, no! I'm an astronomer!" You know, he's not an historian, so why bother? What could we learn from a genius in the past for today's problems?

The 'New Astronomy's' Lasting Value

Schlanger: Now, you were with the Basement team that did the work on the *New Astronomy*, right?

Ross: Yes, three years ago.

Schlanger: So, what is in the *New Astronomy*, that was worthy of celebration, 400 years after its release?

Ross: Well, it was a big attack on Aristotle and Euclid, which is always worth celebrating. This is known today. If you want, you can look at Wikipedia (shame on you!), but you would find that the *New Astronomy* is where Kepler put forward what are called his first two laws: that a planet moves in an ellipse around the Sun, and that its motion traces out equal areas in equal times.

Now, those were the results that Kepler came to in the *New Astronomy*, from a hypothesis that he had had years before, that, instead of looking for geometry and mathematics as the way to understand reality, you've got to look at physics, and you've got to have a creative idea of what's *causing* the things that we observe. And so, unlike Copernicus, who put the Sun in the center, inasmuch as the planets went around it, Kepler looked at the Sun as the *cause* of the motion of the planets. And that enabled him to break beyond the bounds of mathematics and move into physics.

Schlanger: Now, in the *New Astronomy*, Kepler actually takes you through his developing hypotheses, doesn't he?

Ross: Yes, it's really wonderful in that respect. It's *the* beginning of modern science. What he discovered was incredibly powerful; it was the beginning of science, *and* he was kind enough to write down for you what his thinking process was, in a way that organizes the reader. Because, you could sort of have the "right answer"—I mean, Kepler could have just printed his tables of where the planets would be, and everyone would have said, "Wow, this guy's a genius, he made a

perfect table." But, he went through, how did he get there, what were some of the problems he came across along the way.

One of the most important things that he did, in the same way that when Socrates has discussions with people, in the dialogues that Plato wrote, it's rare for Socrates to tell somebody, "No, you're wrong. You're an idiot. This is the way it works." Instead, he lets them disagree with themselves, by drawing out more of their thoughts, and then seeing how they contradict themselves, which really forces his interlocutors to think.

Kepler does the same thing: He takes two assumptions that everybody was making, that planets move in circles, and that there is some imaginary point, around which the planet moves constantly, almost like there's a lighthouse somewhere, and the planet always has to be on the beam coming from the rotating lighthouse. And



EIRNS/Jason Ross

Prague honors Johannes Kepler (right) and Tycho Brahe, who worked together in the city (1600-01). Kepler's revolutionary discoveries relied on Tycho's scrupulous astronomical observations, although Tycho remained stuck in the Aristotelean mindset.

with those two assumptions, Kepler went as far as he could, did the best study ever, but it still had an unavoidable error, which meant that those assumptions were wrong. And so, people have to be open, to look beyond geometry, then, and take his approach and look at physics, look at cause.

Schlanger: What did you present in your paper at this conference?

Ross: Well, before I had gotten there, I was planning on going through the website that we had put together on <http://wlym.com/~animations/newastronomy.html>, somewhat briefly. (You can also find it on www.larouchepac.com, there's a link on the right for "The Basement Project," and then you can click on the *New Astronomy* from there [<http://www.larouchepac.com/basement>].)

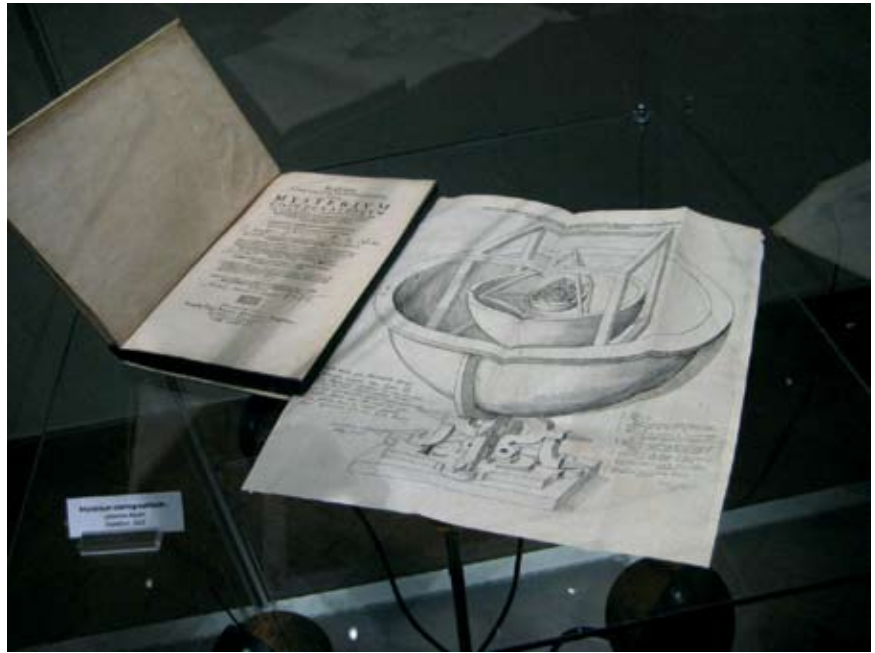
So, I was planning to go through it briefly, when I first got there, more to focus on how we had used animations to do something which has never been done before, which is teaching, on a mass scale, how Kepler made his discovery.

The *New Astronomy* is a book that's been read by a few experts here and there, or astronomers, but it's never been a general part of education, and it should be. And, in the LaRouche Youth Movement, it is.

So, I had planned to go through the website, briefly, and then focus mostly on Mr. LaRouche, his economic success, his economic method; read some of the quotes from LaRouche's paper, where he set us off on the mission of really working through the *New Astronomy*. And then, since the conference's theme was "Kepler's Heritage in the Space Era," and as listeners hopefully will have checked out on the www.larouchepac.com website, we just put up a movie about going from the Moon to Mars—

Schlanger: We just had that as our topic on The LaRouche Show last week, where we had your colleagues Oyang Teng and Peter Martinson on as guests.

Ross: Yes, and so I had planned to conclude with that, going through the space colonization—that that would be a good way to celebrate the birthday of Ke-



EIRNS/Jason Ross

*Kepler's first book-length work, the *Mysterium Cosmographicum* (1600), with a drawing of his first-approximation model of the planetary orbits. The orbits lie on imaginary spheres that inscribe and circumscribe the nested Platonic Solids. The model was just a little bit "off," mainly because he still assumed that the orbits were circular. The display is at the National Technical Museum in Prague.*

pler's work, would be to go to Mars in person, to make observations, which Kepler couldn't do.

A Clash with British Axioms

Schlanger: So, what happened that caused you to change your plans?

Ross: Well, a couple of things. One is, I met a very devout mathematician from Britain. I think she's one of the big *New Astronomy* experts in the world. She gave a presentation where, I guess the trouble with being both British and a mathematician, is that her refrain, as she was going through Kepler's work, was that he *never used cause*, he didn't use physics, there was no sense of dynamics, and that Kepler discovered the ellipse using mathematics. Which is totally—it's something that Kepler would have grabbed her, if he was there and—well, at least he would have disagreed. But she was really sort of tormenting everybody at the conference, by being very adamant in this position, including in her questions to other people, and in discussion periods and things like that.

And I decided it would probably make sense to go through the *New Astronomy* for people, realizing that they didn't really know much about the book. So, I went

through what I just described with you, about the impossibility of the planets' orbit being circular, or having a uniform motion, and using the animations on the website along the way, to demonstrate what I thought was sort of a quick summary of how Kepler came up with elliptical motion in the proper fashion. And I showed some pictures from some of our youth conferences.

They were pretty amazed to see a photograph from one of our California youth conferences of 100 people, working on this book. They're used to only—I don't know—people with three PhDs ever reading it.

Schlanger: But to go back to this British mathematician: She was essentially denying the method that Kepler used in this book, that was being honored at this conference.

Ross: Uh, yes. I mean, I really thought she had some gall, to come to Prague and do that to Kepler, and I didn't want her to get away with it.

Schlanger: So you had a bit of a dialogue with her?

Ross: You could say that. It was mostly civil, because, I went through what Kepler actually did, in my presentation. I knew I was going to certainly upset her—it did.

So, after I was done, there were a couple of questions about details on the *New Astronomy*, or about LaRouche and our movement, and about the space program. But she had this incredibly specific mathematical question. And it's hard to convey—it's good to have really been there, to hear her voice and everything—but she was just *screaming* at me from the audience, about whether I would admit publicly that I was wrong if she proved it to me with some equations. It was the kind of thing that might have scared you, if it weren't just so absurdly funny. A lot of people afterwards thanked me, saying, "I sure am glad you stood up to that woman. I was just scared of her, when she asked me questions!"

The Basement Team

Schlanger: Jason, for our listeners: First of all, this is not an esoteric debate; it gets right to the heart of the axiomatically revolutionary method that Lyndon LaRouche is bringing into the science of economics, which is, that you can never go with sense-certainty,



EIRNS/Jason Ross

This detail from the frontispiece of Kepler's Rudolphine Tables (published 1627) shows a droll picture of Kepler himself burning the midnight oil. The Tables of celestial observations and forecasts, a highly laborious effort, were initiated by Tycho Brahe and completed by Kepler many years later. The display is at the Kepler Museum.

and you must never start with mathematics, in approaching a question of science or economics. So, this is not just a debate over a 400-year-old text. But I think it's important to give our listeners an idea of what your background is, or what you did with the Basement team, that gave you a certain amount of expertise to participate in this conference. Tell them a little bit about the work that was done, back in those early days of the Youth Movement, on Kepler.

Ross: Well, and even more, too, because, like Kepler, LaRouche is kind enough not just to be correct, but also to write papers and to communicate to people how he thinks, so people can replicate his method of thinking. And he is completely firm, that you can't be a competent economist, if you don't understand science, and if you don't understand Classical culture. Because it's human creativity as you see in culture, and not in mathematics, and what you should see in science, that's the key to human economic development. We don't move forward over the generations because we developed a better form of stock market, but because we developed breakthroughs in medicine, new forms of power, nuclear energy, the space program, etc.

So, the team I was with, about three years ago, in 2006, we were assembled and working with LaRouche in Northern Virginia, and we thought that we were going to be working on an economic program for trans-

portation in the United States. And he sort of surprised us, by saying, “No, no, no. What we need to do, is we need to create for people, what we need to animate economically, is how Kepler made his discoveries. So we’ll start with the *New Astronomy* and, that’s your task. Go to it: Show how a creative mind works.”

That initial project was followed by another group that worked through Kepler’s *Harmonies of the World*, where he really lays out his universal principle of gravitation. And then, by continuing work on Gauss, Riemann, and—you’re seeing the results of that now, with the interview last week and the video on Mars and space colonization [<http://larouchepac.com/lpactv?nid=11573>].

A Political Issue

Schlanger: Given that the topic of this event was “Kepler’s Heritage in the Space Era,” clearly, there’s an intent in, I think, 10 or 12 nations, to launch major, aggressive exploration of space. And unfortunately, in the United States, under the effects of Bush-Cheney, and now Obama, there’s a retrenchment in NASA, which will, I guess, be taken up by Congress over the next couple of weeks. But were people intrigued by the idea that Kepler was at the heart of the political fight that the LaRouche movement is waging internationally?

Ross: [laughs] I don’t think people knew what to think! Everyone else there worked at a university. I began my presentation saying, “I work for a political movement. I’m not a full-time astronomer, and I’m not a mathematician, I’m a political organizer.” Plus, I was the only one who talked about Kepler’s heritage in the space era! Very directly!

So, people were very excited, both by the website, where people were pretty happy to see a guide to the book—it can be an intimidating book.

Schlanger: So you actually had people sit around you at a computer, and you showed them what the website looks like, and what they could find on it?

Ross: Yes, well, during the presentation, we had the overhead projector, so I was using the website during my presentation. I also got out, in Prague, about 100 copies of the LaRouche PAC video, “The Harvard Yard,” which gives a summary of the work that the LaRouche Youth Movement has done on Kepler, the *New Astronomy*, and the *Harmonies of the World*; as well as an attack which was launched against us, by a competitor website. So, people were really snatching those up in multiple copies right after the presentation.

Schlanger: And how did things end up with you and your new British “friend”?

Ross: Well, we sort of had this showdown. The last night of the conference, we had dinner on a boat on the river, and I didn’t really want to do it, but eventually I thought, okay. So, we sat down, going through the equations. And I went through my calculations—not to be too technical, but, she said that Kepler discovered the ellipse, not because it worked better than another orbit, but because it was mathematically more beautiful to him. But Kepler, in his book, says that, in addition to that, it actually puts time in the right place, this sort of orbit does. And I said, “You know, it’s right here, Kepler has the calculation. I just did it this afternoon; I got the same number.” And she said, “You obviously did it *wrong!*” Actually funny.

She asked me if I’d ever heard of this Professor Whiteside, and I said, “No, I have haven’t.” And she said, “*Oh! People bow when they heah his name!*”

Schlanger: Well, we know they do a lot of bowing in the British Empire.

Ross: Yes, they can stick with the bowing. Anyway, we had our duel, we went through the things. She said, it really didn’t make sense. And part of it did, but it wasn’t really relevant to Kepler. It’s the sort of thing, when you have mathematicians, where they might have one tiny point, where they’ve thought of something that Kepler hadn’t thought of, but meanwhile, put in his shoes, would never have discovered anything. You *don’t* get discoveries from mathematics; you don’t find creativity in mathematics. And so, the sort of the gaping hole, was that she missed cause—Kepler includes “cause” in the title of his book [*New Astronomy: Based upon Causes, or Celestial Physics, Treated by Means of Commentaries on the Motions of the Star Mars, from the Observations of Tycho Brahe, Gent.*], and she said he didn’t use it!

And so, we had our duel, and people asked afterwards who won.

Schlanger: I assume that you’ll send, to some of the contacts you made, the new piece by Lyndon LaRouche on “The Science of Physical Economy” [*EIR*, Sept. 18], so they can pick up where you left off with your presentation?

Ross: Yes, because, in addition to the directly astronomical discussion, a lot of people said, “Okay, we can talk about Kepler later: Tell me more about your

political movement. What're you guys doing?" So there was a lot of interest. It's a pretty phenomenal movement: I mean, it's completely unique in the world to have a political movement that knows what to do, and that is developing the minds of leadership through study of science and Classical composition.

So, it was pretty fun. I sent out the space movie to everybody who was at the conference, and I've received a few replies so far. People were happy to see it.

Schlanger: Did you send one to your British friend?

Ross: Of course!

The Kepler Museum—and Truth

Also, the second day of the conference, they had the grand opening of the Kepler Museum in Prague. It's actually the original house that he lived in, when he completed writing the *Astronomia Nova*. And I was very sorry to see there, that they had used some animations made by keplersdiscovery.com, which is the website that totally stole all of the work that we did, and did such a bad job doing it, that they basically screwed up everything that they stole.

So, the Kepler Museum in Prague had these just terrible animations that were totally wrong. And that was one thing that my British mathematician friend and I agreed on, which is that, she said, "You are right! These are rubbish!" So, I emailed the director of the museum the right animations to put up, and he said he's going to replace them. He was sorry for the confusion.

Schlanger: That's good! Well, this is the level of warfare that we're waging in the world right now, because the question of truth has to be at the center of science and the center of governing. And again, we go back to Socrates on this: It's seeking truth rather than acceptance from those in power. And of course, you have in science now, the domination of the same kind of ideas that Kepler was fighting, the Aristotelean/Euclidean approach to physical space-time. And it's as though the work that was done by Kepler, and then by Leibniz, and then through Gauss and Riemann, and Einstein and Vernadsky, as though this is "all very interesting, but we have to keep our profession in shape."

Ross: Yes! You can really see the use of authority—you become this supposed authority, not by being right, but being just so incredibly mean to everybody else, that they give up fighting you. That's sort of what I saw with this woman.



EIRNS/Jason Ross

Dr. Martin Šolc demonstrates the use of Tycho Brahe's enormous sextant, at the Museum of Benátky and Jizerou. With such instruments, Tycho was able to make the most precise celestial measurements up to that time. (The telescope was invented after Tycho's death, in the Netherlands, in 1608—although Leonardo da Vinci had sketched and described one 100 years before.)

And also—not to put too much emphasis on her, per se—you get it with British foreign policy, today. They'll stab you in the back; they know that you saw them, and they say, "Oh, we didn't do that!"

Schlanger: They'll say, "You're paranoid."

Ross: Yeah, right. It's ridiculous!

Schlanger: Well, Jason, the final question I have, is, I think an important one: What you did see, then, is a response to LaRouche's method of approach to science, from most of the people who were there attending the conference with you?

Ross: Yes, absolutely. People have come to think that it's just not possible to think through and really understand science from the inside. So, I think it was prob-

ably very inspiring to them, to see—you know, it probably almost seemed like it was my hobby. I'm not a professor or anything. But I think it was inspiring for them to see, that here's concerted work toward getting at the inside of science, in a mass way.

And one of the challenges that I laid out to them was, going to Mars, and that the *New Astronomy* should be taught in every high school in the world. From the looks of these professional astronomers, who haven't even read the book, I think they thought it was kind of a tall order. But, I think the possibility of doing that is there, and people were pretty excited about really getting into these things. And definitely about going to Mars.

Schlanger: And from your experience from the work on the *New Astronomy*, you don't need to be a mathematician to get what Kepler is talking about.

Ross: No, not at all! I mean, you could do it in high school, right now. There's no calculus in it, there's no—I mean, he wrote it before most of the things that they torture mathematicians with even existed! The book was published in 1609, so, there really wasn't that much mathematics around. You had geometry; in fact, the real developments in mathematics as a language, such as Leibniz's development of the differential calculus, the infinitesimal calculus, came as a result of Kepler's prodding. He had a physical problem, that couldn't be solved with mathematics as it was, and it required developing the language. And that's a legitimate use of mathematics. The way it's looked at today, it's like grammarians talking about words, but not actually talking about any real things in the world.

Schlanger: LaRouche said, in a discussion with some of his associates the other day, that people who think they need to have a definitive answer, think they can get it only from mathematics. And they're afraid of acknowledging that there are more questions that still have to be asked, before you go and get a definite answer.

Ross: Right, and any answer to something new, can't be expressed in the terms that already exist! That's why LaRouche stresses Percy Shelley and his *Defence of Poetry*: that it's the poet, it's people who bring in new abilities for thought; they are the legislators of mankind. That moves you forward, and you see it, in the language of mathematics, where any solution to some-

thing new, cannot be expressed in the old words! If it's something new, it's something *new*. And what the whole Bertrand Russell tradition does, in mathematics, is to kill creativity. I mean, you can't be a really intense mathematician, and be creative.

Schlanger: I think the mortality rate of mathematicians, the point at which creativity ends and psychosis begins—it's well documented—is sometime between 25 and 30, right after they finish the PhD.

Ross: Yeah! LaRouche said, in a paper of his, "The Pagan Worship of Isaac Newton," that the most fundamental emotion of all mathematicians is rage. I definitely saw it at the conference!

Schlanger: Well, Jason, this was an important conference for you to participate in, and it points to one thing that we've been talking about quite a bit on The LaRouche Show in recent months, which is: In this devastating crisis of civilization, people are beginning to realize, that the old ideas no longer work, and that you have to be axiomatically revolutionary. And I presume this is probably the most important thing you take from this conference: that the best of the old ideas still work, but it's the principles behind them, as opposed to the specifics, and that this is the challenge for science, today.

Ross: Absolutely. We'd like to focus on the question of creativity per se, more, in the upcoming videos that the Basement produces, on space.

Schlanger: Well, Jason, I'd like to thank you for joining us this afternoon, and I'll close by telling our listeners, that the material is available on Kepler, on the wlym.com website. . . . And then, on the larouchepac.com website, you'll find . . . the beautiful film on the Moon-Mars mission, and there's more expected. Do you know exactly what's being worked on, Jason?

Ross: On balance, pretty much every week, we're going to have something out: a discussion, a new movie. So just keep posted, and we're going to have regular updates. I know at the moment, the group that had worked through "How Gauss Determined the Orbit of Ceres," is pulling together a movie based on some of their further thoughts after having worked on it, on the role of the physical tensor, and relativistic travel, and Gauss's determining the orbit of Ceres. I'm not involved in that exactly, but it looks like it'll be very exciting.