



New Book Highlights a Potentially World-Changing Energy Source

Christy L. Frazier

Italian inventor Andrea Rossi and his E-Cat technology are featured in a new book, *An Impossible Invention: The True Story of the Energy Source That Could Change the World*. The self-published 309-page book by Mats Lewan was simultaneously released in Swedish and English on April 2, and is available in print and digital format online at <http://animpossibleinvention.com/>.

Lewan, a senior reporter for the weekly Swedish technology newspaper *Ny Teknik* (<http://www.nyteknik.se>), has been publishing regular reports on the E-Cat and related technologies since 2011. *Ny Teknik* was the only major publication (circulation over 150,000) to report on progress made by Rossi and Defkalion. Lewan's reporting helped gain the newspaper's site a new level of international followers—people around the world interested in cold fusion-related technologies, including researchers in the field, laypeople, interested scientists and skeptics. Lewan writes that after his first story (“Cold Fusion: Now Supposedly Ready for Production”) published on the site on January 20, 2011, the “article exceeded all other stories on our website in number of readings and soon surpassed 100,000, well beyond any prior story.” This overwhelming interest surely encouraged the *Ny Teknik* editors to go against the grain and continue to publish stories about the controversial field of cold fusion.

Lewan has a unique perspective on the Rossi story, which is laid out chronologically in *An Impossible Invention*. He was given unprecedented access to the inventor and the technology. Lewan, who holds a Master's in engineering physics from the Royal Institute of Technology (Stockholm, Sweden), was also asked to be involved with numerous tests conducted on Rossi's E-Cat. (See our interview with Mats Lewan, following this story, for a detailed discussion not only about the book but the author's direct involvement with testing.)

When Lewan first learned of Rossi's work, he had not seen much media attention given to cold fusion in many years, but he was fairly aware of the research so was not starting at ground zero in his reporting. He asked Swedish theoretical physicist Hanno Essén, president of the Swedish Skeptics Society, to review Rossi's work. To Lewan's surprise, Essén found the work interesting and said, “The fact that it's repro-

ducible, that they actually built a stable unit, that's new.” This encouraged Lewan to delve deeper into reporting on the technology.

Lewan is careful to tell Rossi's backstory, including details that may ultimately lead some readers to fault Rossi today for the mistakes of his past. It is often difficult to get past the idiosyncracies and impulsivities of the man and see the technology for what it appears to be and what promise it could hold. Lewan paints the picture of a man who is thoughtful, brilliant and innovative, but who also has many symptoms of “inventor's disease.” Lewan typifies (p. 193) what some of these symptoms are: “The innovation is their baby, no one is allowed to touch it. They often want to also be entrepreneurs but are rarely good at it. They tend to believe that good technology sells itself. They often fail to understand that the road to a finished, salable product is as difficult as the road to the invention itself [and that] this requires different skills.” Lewan cautions, “Sometimes they end their days poor, forgotten and bitter, entangled in endless litigation, though they have made breakthrough innovations, often because they will not let others in.” He acknowledges, often through the inventor's own words, that Rossi lives a somewhat lonely life and has lost many relationships over the years.

Rossi is known for being rather open and approachable, but nearly all business relationships until now have dissolved (discussed in detail in the book). He does have some long-term, ongoing associations, including with Craig Cassarino and others from Ampenengo. Cassarino said, “Karl Norwood and I have known Andrea for over ten years and have followed his amazing developments through many ups and downs. We found Mats' book to be very well written and very balanced. We enjoyed reading the book, as it filled in some of the missing pieces about Andrea, and the many challenges he faced in introducing his amazing technology to the world.”

Lewan is one of few who remain in Rossi's good graces. Rossi said of the book, “Mats Lewan reported precisely what I told him about me. As for all the rest of his book, he has honestly and sincerely written what he thinks.”

Another perspective presented by Lewan is how people relate to the unknown or what is believed impossible, and how new ideas are accepted or rejected. *An Impossible Invention* has a unique, open-minded approach rarely seen in science journalism. It chronicles and catalogs in one important resource the progress of the E-Cat, and the often con-

flicting behavior of the personalities involved. Some may take issue with Lewan's representation of Rossi's interactions with both Defkalion and NASA. Lewan relies heavily on quoted material from sources, and in the case of Defkalion these interviews seem to inform Lewan's perspective.

In his announcement of the book on April 2, Lewan wrote, "The term 'cold fusion' is so stigmatized that everything even vaguely connected with it is ignored by media outlets in general and by the science community in particular. Unless it's attacked. Meanwhile we might be missing an opportunity to change the world." Lewan strove to look beyond the skepticism and honestly report on a potentially world-changing technology. In the book (p. 271), he concludes: "Given its potential as a new, clean, flexible and inexhaustible energy source, I cannot see any sensible arguments to halt research in this field. On the contrary, significant resources should be invested in discovering everything there is to learn about the phenomenon and to examine every possibility."

Lewan publishes technology and cold fusion-related updates on his blog, "The Biggest Shift Ever" (<http://matslew.wordpress.com/>); he recently co-founded and is managing editor of *Next Magasin*, a Swedish e-publication focusing on "the deep implications in people's lives of accelerating technology development." Lewan suggests that *Ny Teknik* will continue to publish about cold fusion when any new, important developments occur.

Rather than provide readers with one formal book review of *An Impossible Invention*, we instead present commentaries on the book by a few colleagues whose perspective on the E-Cat and Rossi's work are particularly useful. These "mini-reviews" and the interview with Mats Lewan that follows are likely enough to persuade our readers to purchase a copy of the book today.

□ □ □

— Michael McKubre —

Everyone should read this book; buy it and send it to your friends and our enemies. Fortunately for those of us still playing catch up, unfortunately for Mats Lewan and sadly for the world, very few will, yet. This situation may change in the coming months as business information and further testing results are released. It has been clear for a long time that one or more very good books could be written about the "cold fusion saga"—but only after we had won sufficiently obviously to convince the world of the practical reality. This book anticipates that awareness and significantly shapes it. The change-averse Luddites, sadly many in the physics community, will continue to delay and resist. As Tolstoy warned us (read the book) history has shown, and this book reinforces, that no test, no result, no analysis, no data and no theory can effectively change this reactionary mindset. Working machines can effect this change by avoiding the self-perpetuating gatekeepers. The words contained in *An Impossible Invention* open the door to a technological renaissance, seven centuries after the last, very appropriately from an Italian, working essentially by himself but not alone, and in the one area where we need it most, energy.

I have not met either Andrea Rossi or Mats Lewan. Having read *An Impossible Invention* in virtual form "from cover to cover," I see that was a mistake. This book is a tale of character, of two different sorts. Character that is sadly disap-

pearing in a world cowed and distracted by invented and irrational threats and wars. As a journalist Lewan is clinical, scrupulous, tenacious, courageous, but disinclined to appoint himself as judge. By his narrative I am persuaded that Rossi proves he has something of substantial value in the 475 kW (peak) leaky composite unit in Bologna in October 2011 operating in self-sustained mode for five and a half hours with no external power input. Lewan only allows himself to be convinced four chapters later with the January 2013 Levi report. The portrait of Rossi is a man of deep focus, self-confident perseverance and "true grit." Asthmatic as a child, Rossi overcame this to train as a boxer and long distance runner, breaking an Italian record set in 1891 by running 175 kilometers in 24 hours, alone! In contrast to the web caricature, Andrea Rossi is a serious person who deserves and needs to be taken very seriously.

Lewan begins his book powerfully with a dedication to his children and the following tribute: "In memory of Martin Fleischmann (1927-2012), Sergio Focardi (1932-2013), Sven Kullander (1936-2014), and of several other prominent scientists who were never recognized for their fundamental contributions to the field of cold fusion." Without stealing this thunder I would like to elaborate personally this list of notable contributors no longer with us: Naoto Asami, John Bockris, Scott Chubb, Talbot Chubb, Emilio del Giudice, Graham Hills, Yan Kucherov, Lena Kuznetzova, Andrei Lipson, Gene Mallove, Makato Okamoto, Giuliano Preparata, Andy Riley, Ken Shoulders, Jean-Pierre Vigier, Kevin Wolf. With this book Lewan validates the lives and effort of each of these and many more. Together Mats Lewan and Andrea Rossi have accomplished what the ICCF community has not in 25 years. They have shown not only that LENR happens but that it is useful. Read the book; if you have a soul and are connected to the cold fusion community you will enjoy the ride. If you care about the future read this book and watch it happen.

In the last chapter Lewan allows himself to speculate. The Appendix was apparently reviewed by Sven Kullander and might be read for that reason but few (especially in this community) will need this material to understand the text. In the first 19 chapters the book is patient, precise and easily readable with a breathtaking conclusion. Lewan makes the case, I believe convincingly, that Andrea Rossi has ushered in the nuclear renaissance that Sidney Kimmel anticipated when he established SKINR [The Sidney Kimmel Institute for Nuclear Renaissance] at the University of Missouri. Obviously we must be capable of learning from others—the issue is who to trust. By allowing me to trust the author and man Mats Lewan, his book clearly demonstrates that Essén, Focardi, Kullander, Stremmenos, and thus Rossi, can be trusted at least in the matter of his "Impossible Invention." The experimentalist in me fidgets to make measurements—which I would still love to do—but the proof of this pudding will be in working and useful technology that will provide all necessary impetus to backtrack the science. In case anyone thinks that my applause is excessive or my hope too irrational, please read the book and assess the evidence and history patiently and unemotionally presented there. I will hedge just a little and end by quoting my friend Jed Rothwell also quoted by Lewan at the technical end of the book: "I admit I could be wrong about all of this. But history shows you should not bet against irritating, exploitative, monoma-

niacal geniuses such as Edison or Jobs, and Rossi sure looks to me like one of them.”

— Brian Josephson —

The first part of the book covers Andrea Rossi’s previous inventions, showing how life is not easy for an inventor whose inventions pose a threat to other enterprises. This is followed by what Lewan has been able to glean about the invention since the initial demonstration.

Besides following the course of developments in detail, Lewan gives much attention to the question of whether the device is genuine, or whether fraud is involved. One important event was a long-period investigation, published at arXiv:1305.3913, providing strong evidence of the production of anomalous heat. Particularly interesting to me, in the light of my past dealings with arxiv, was the text of an accidentally leaked exchange between two moderators, wondering if they could find a rationale for blocking that report.

In the course of his attempts to bring his device to a commercial conclusion, Rossi had problems with collaborators, being suspicious of their motives, but it seems he has found an American firm that he trusts, who have been licensed to develop the device.

This fascinating book provides the answers to many questions about the E-Cat, and should be read by all skeptics.

— Jed Rothwell —

This is an accurate and well-written account. It is depressing. I am glad Lewan made public many events and people’s names, because it means I do not keep them secret any more.

The book harshly criticizes Rossi in places. I am a little surprised that Rossi is not upset with Lewan. Rossi has a generous nature at times.

There is a lot of great stuff in this book. The account is accurate as far as I know. You never can tell where the truth lies with Rossi, but this is pretty much what I have heard from various people. Lewan downplays the severity of some of the incidents, such as NASA’s visit to Rossi.

The history described in this book is depressing, but the present is somewhat brighter. I have a good impression of the people in North Carolina, Cherokee Investments Partners, who are now working with Rossi. I do not know much about them, but I have a good impression. I think Rossi likes them, which is essential for success. This is probably the best opportunity Rossi can hope for.

Lewan’s book describes several tests conducted by Rossi which ended in failure, and some that ended in fiascos. An example was the test for Hydrofusion:

The instruments Rossi was using to measure how much electrical energy was consumed to heat the device showed lower values than the instruments that the researcher from SP [Technical Research Institute of Sweden] had brought. The difference was not trivial—Rossi’s readings were between half and a third of the researcher’s measurements. If the researcher’s instruments were credible, the device was consuming two to three times more electrical energy than expected. It wasn’t producing three times more energy than the input but was delivering no net energy. It did not work. I believed the researcher’s instruments because I had immediately understood the source of the problem...

There was a test in Uppsala when the equipment came unglued because Rossi cemented it the night before and did not give it enough time to set. Then there was the visit by Jim Dunn and NASA, when Rossi came unglued. Lewan describes it diplomatically.

I knew about these tests, plus I know of two other failed tests not described in the book. This may sound paradoxical, but in a strange way these failures bolster my belief that Rossi cannot be a hoax, so his claims are probably true. As I have said before, if he is a confidence man, he is the most incompetent one on earth. He inspires no confidence in anyone, especially when he does tests that fail drastically for obvious reasons.

Why would a con man go around doing these things? It is not difficult to arrange a fake energy device that seems to work perfectly. At least until someone examines it closely with proper instruments. So why would you set up a fake energy device that looks like it is not working? Why would you spend vast sums of money and years of effort making a pretend 1 MW reactor with 51 complicated boxes in it? It seems to me it is far more likely he is what he appears to be: a brilliant but headstrong inventor who often does sloppy work. He often cuts corners because he assumes he is right. He has no regard for conventional scientific standards. He does not understand why other people do not believe his claims. He refused to do properly designed, careful tests with good instruments, because he said such tests will not convince anyone and will do no good. He had no reason to say that! He did not even try doing careful tests. So how did he know they would fail to convince people? I found that infuriating.

Many lone inventors share some or all of these characteristics. Inventors are not all alike of course but they all have great self-confidence which breeds these kinds of attitudes. If they did not have confidence, they would not continue working for years despite opposition, lack of money, lack of support and even danger.

I think I know why Rossi usually does unconvincing demonstrations. Lewan quotes me speculating about this, and then he says Rossi confirmed what I said. From the book:

Jed: “Edison knew he had solved the problem, but he had a lot of work left, [so] more intellectual property [was] there for the taking. Low hanging fruit. He did not want his competition to take him too seriously. On the other hand, he needed more big bucks from the investors and banks. It was a delicate balancing act: how to keep up the excitement while triggering the lowest possible level of serious competition. Rossi is doing exactly the same thing. I recognize that is his strategy. He is hardly keeping it secret. Countless inventors and companies have done this. It does not mystify me at all. To people unfamiliar with business it looks crazy.”

I asked Rossi about the matter and he replied bluntly that it was true.

I knew this was his strategy because Rossi and I discussed the matter and he grudgingly acknowledged it is. This strategy is getting old! Still it seems to have worked for him. He has financial backing now, and yet 99.99% of the world

thinks he is a crazy or a scam artist.

Lewan did a masterful job taking down Defkalion in his book. He leans over backward to be fair, but he covers everything they have done. He makes it clear they have published no data and scientific paper, even though they promised to do this many times. The closest thing to a scientific paper they issued was Mike Nelson's report. Lewan described it:

The report was fairly extensive but contained no data, only a sort of checklist of what had been implemented and a summary of the results. The summary was interesting, though Nelson stressed that the results must be considered provisional until more accurate tests had been performed. He stated that Defkalion's device produced 1.5 - 3 times as much energy as the input electrical energy, and that the reaction seemed to produce more energy than was possible by chemical means—so it should involve some type of nuclear reaction.

As I have said many times, if you want people to believe a claim, you have to publish a scientific report. No one gets a free pass. The people at Defkalion want it both ways. They want people to trust them and believe the claims, but they do not want to do anything to earn that trust. A video demonstration is no substitute for a paper. Defkalion's claims might be true. I do not know. But, by default, I never believe a claim without proof.

Mats Lewan has guts publishing this, and his earlier reports. He must have been attacked by many people.

— Jim Dunn —

I was pleasantly surprised with the release of Mats' new book, and his excellent coverage of a very challenging topic, the development of the E-cat, and the related "mystery" and drama of this intense three to four year period. Mats and I became acquaintances around the time of our E-Cat tests in Bologna with NASA, in early September 2011, after I had been working with Andrea for several months, putting a significant investment opportunity together. I believe that Craig Cassarino from Ampenergo had actually introduced us, along with Mike Nelson from NASA.

At first, I felt that Mats was overly supportive of Andrea, and somewhat biased in favor of the E-cat, particularly when there were major "holes" in the data that had been (poorly) collected by Rossi. In several cases, Mats had "saved the day"

for Andrea, by having the only usable data on the experiment, often from Mats' handwritten notes that he took every 15-30 minutes. Unfortunately, Andrea often failed to properly prepare the instrumentation for testing (in one case forgetting to put the memory chip into a new multi-channel temperature recorder). Throughout the test processes, I found Mats to be very fair and professional (although I occasionally accused him of giving Rossi the "benefit of the doubt" in his generally favorable reports).

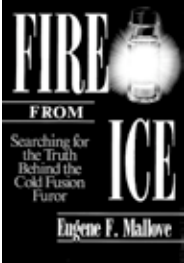
Mats, Mike Nelson, Craig and I frequently compared thoughts and opinions, and shared concerns about the mistakes and confusion over the testing efforts, and accusations from outside followers and nay-sayers. At the time, Andrea had developed a strong following of supporters, who thought that they would be able to buy an early home E-Cat which Andrea had suggested might be available in 2012 from Home Depot—for less than \$700! Although Rossi claimed to have nearly a million "preorders," I felt that this was mostly a "media play" with no real plans to ever bring out a home E-Cat, which would have been a poor application for this technology (as a furnace) due to the short duty cycle and seasonal nature of the application. During this period, Rossi often called those who didn't believe in his theories "snakes" and "puppets," with several highly visible "enemies" speaking out against him, most notably Steven Krivit of *New Energy Times*.

Mats got off to a rough start with Defkalion and, like Jed, was invited to observe DGT tests in Greece, only to later be "dis-invited" due to a minor misunderstanding with Alex Xanthoulis. Although Defkalion has gone through some tough times, after their move to Vancouver last year they claim to have the new Gen 6 reactor ready to begin testing, hopefully this summer.

I highly recommend reading *An Impossible Invention* to anyone who wants to get a quick course in the evolution and development of the LENR phenomena, with the most visible device available, the E-Cat. Mats' book focuses primarily on Rossi and Defkalion, with limited coverage of other important efforts in the U.S., Russia and Japan, etc., which he may be saving for a sequel. This is a must read for anyone tracking emerging energy technology which could revolutionize the energy and thermal-based industries.

— See interview with Mats Lewan on p. 12. —

Read the Pulitzer-nominated cold fusion book by Dr. Eugene Mallove:

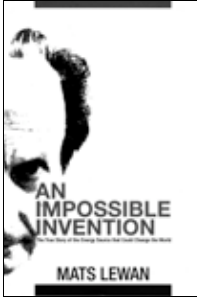


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An Interview with Mats Lewan, Author of *An Impossible Invention*

IE: You have faced criticism from skeptics and detractors about your ongoing coverage of Rossi, and your close involvement with many of the tests. You write on p. 195 that under this pressure, you still maintained, “I basically had no other stance than that the technology had such potential that I had to continue to monitor it, provided it was not proven to be based on mistake or fraud.” Can you speak a bit about the general reasons you feel so strongly about covering the cold fusion field, and what its impact could be?

LEWAN: It’s quite straightforward: Cold fusion or a process with similar properties could bring fundamental change to the world and solve a series of important problems on Earth, starting with clean water to everyone. The reason is that it seems to be a nuclear reaction, and thus has an energy density roughly a million times higher than all chemical reactions, and yet it doesn’t seem to have any of the problems we have with the only two nuclear reactions for energy production we know so far—fission (nuclear plants) and fusion (in the sun but not yet on Earth in controlled forms)—which both require big plants and produce huge amounts of dangerous radiation, and also radioactive waste or contaminated material.

Consequently CF/LENR would be a very compact and versatile energy source, which is both clean and virtually inexhaustible. You just cannot ignore such a possibility, if there are signs that it actually exists.

Furthermore, I believe that we in the future will find many other ways to harness the enormous amounts of energy that are stored in matter, according to $E = m \cdot c^2$ (which explains all energy gains in exothermal reactions, be it chemical or nuclear, but nuclear are much more effective). There’s really no energy problem in the universe—it’s just a technical problem to transform matter to energy!

Nuclear physics is such a young discipline—only roughly 100 years old—so it would be strange if there wouldn’t be a lot to discover yet.

IE: *Excess Heat* author Charles Beaudette, in a recent paper presented at the MIT Cold Fusion Colloquium, criticizes science journalists as not being capable of properly referencing cold fusion scientific papers or interpreting experimental data. It seems that you have done a great deal of said research. Did you begin following the cold fusion field before Rossi’s first announcement, or was the potential onset of a commercial device the impetus for you to look closely at the field?

LEWAN: I had an eye on cold fusion before, but basically I accepted what was being served to me through other sources—that it probably was an error of measurement or a result of wishful thinking. Not until I noted Rossi’s experi-

ment in January 2011, and received such a strong reaction of interest from our readers, did I start to study all that happened in 1989 and the following years. With my basic knowledge in physics (having a Master’s degree in Engineering Physics), it was not difficult to understand that it was a possible process, and that other factors probably had influenced what was reported, and how.

IE: Beaudette also spoke of the lack of good science reporting that exists at major publications. He said science reporters “do not have the scientific education or the background of experience that comes from a career practice in science. So how do they manage to make a career of reporting with a high order of accuracy (cold fusion notwithstanding) concerning new developments in various fields of science?” You have been closely involved with numerous tests conducted on the E-Cat, and your engineering background was very useful in making measurements. Have you at other times in your journalism career utilized your science background so extensively (hands on) in your science reporting?

LEWAN: No, never before so much hands-on. I have daily use of my understanding of physics and science, talking with inventors, scientist and entrepreneurs, and it’s often appreciated that I make informed questions based on a certain knowledge.

I believe that many journalists in many sectors stick to the method of referring to what different parties express and then let the public evaluate and make conclusions. It often works, but when you approach a subject where you start to believe that opinions are biased, that what most people say might not be an accurate picture of reality—be it science or attitudes towards immigrants, just to give examples—then you have to make a choice: Either you stick to the referring method, which then starts to be some kind of hiding, or you try to unfold another version of the situation. I chose the second way, and there are many other journalists who do the same thing better than me in other areas. That’s why I tried to call my method investigative science journalism. In the end science and technology journalism shouldn’t be different from other kinds of journalism, but maybe it is, out of tradition. People don’t expect science journalists to investigate. They should trust scientists who know so much more.

IE: You catalog in the book the many meetings you have had with Rossi, and some of the frustrations you have encountered with his approach to testing. On p. 193 you highlight many of the attributes that innovators often have which can be negatively interpreted by others. Which of these do you think is the most detrimental to allowing a new technology to come to market?



Mats Lewan
(Photo by Juliana Wiklund)

LEWAN: The belief that a good technology sells itself.

IE: What lessons could other inventors and innovators learn from the Rossi story, as presented in your book?

LEWAN: That's a difficult question. There is lots of good advice to inventors and entrepreneurs around. What makes the Rossi story particular is the tremendous potential of his invention if it works, and thus a strong interest for others to gain access to the underlying secrets and take advantage of him. This occurs from time to time with important inventions, but this is kind of at an extreme level. And I believe that maybe Rossi's previous experiences as well as his particular personal traits and character in the end might have helped him in this situation. We don't know this yet, but it's possible. On the other hand I'm not so sure that these aspects of Rossi would be an advantage when trying to develop a more common invention and bring it to market. Yet, maybe the book gives a perspective on the various difficulties you face when inventing new technologies and trying to develop them.

IE: Your book notes that Rossi is no longer interested in conducting independent tests of the E-Cat. But, if you could suggest the perfect conditions and parameters for one more definitive test, what would you recommend be done (differently, or the same)?

LEWAN: Lots of good suggestions have been made, most of them regarding the old E-Cat which was boiling water. One easy thing that could have been done would be to sparge the steam in water and measure the increase in temperature. That would have eliminated discussions on steam quality.

Another obvious thing that has never been performed well is a clear dummy test where you run the reactor without charge or with another gas than hydrogen first, and then the same set-up with an active reactor.

But there will always be discussions, since the result is so controversial. When you measure your weight on a bathroom scale you immediately trust the result, within a certain margin, because it's not controversial. Even though it would be easy to manipulate the scale. When you on the other hand measure something like the E-Cat, there will always be objections. Furthermore, as I write in the book, I'm not sure that Rossi really wanted to make a perfect demo. I think Jed Rothwell's comparison with Edison, which I quote, is good. Edison had to balance between showing enough to attract interest from customers and investors, but not too much which could help or incentivize competitors. In that way he gained time to pick low hanging fruit in intellectual property.

IE: Jed Rothwell posts fervently on various LENR-related forums. He has said of the various test failures: "In a strange way these failures bolster my belief that Rossi cannot be a hoax...If he is a confidence man, he is the most incompetent one on earth. He inspires no confidence in anyone, especially when he does tests that fail drastically for obvious reasons...Why would a con man go around doing these things? It is not difficult to arrange a fake energy device that seems to work perfectly...So why would you set up a fake energy device that looks like it is not working? Why would you spend vast sums of money and years of effort making a pre-

tend 1 MW reactor with 51 complicated boxes in it?" Your book supposes that Rossi may be comfortable with skepticism, to keep competitors at bay or for a myriad of other reasons. Do you think this has been a good strategy for Rossi?

LEWAN: Yes, as I said before, I believe Rothwell's analysis might be accurate, and Rossi also admits this in the book (even though sometimes when he answers questions I suspect that he might choose the answer which the person who asks the question wants to hear). But you can hide behind this Edisonian strategy only up to a certain point in time. Sooner or later you need to show hard facts and products on the market, and I believe Rossi's getting close to that point now.

IE: The level of effort and funds he expended are unlikely to have been done by someone trying to scam others. But, did you ask Rossi or ever get any sense why he would sell the rights to certain countries for as little as \$10,000?

LEWAN: No, I never asked this. I basically thought that there were too many uncertainties regarding the financial aspects of the story to be able to report on them, except in a few cases when I had several sources. However, I think it's interesting to note that Rossi has now offered to buy back those commercial licenses. Some of the licensees have confirmed this to me, and at least one has accepted, if I remember right.

IE: During the 1 MW reactor testing in October 2011, there were no measurements shown to the media, and the only data available was what Rossi offered at the end of the test. Did anyone ask to see the actual data collected in the LabView monitoring system?

LEWAN: I don't know if anyone asked, but my impression was that that data would not be presented to any external person.

IE: Also during that same test, why did Rossi continue to operate the large 600 KW diesel generator throughout the whole test, when he was through the heating phase, but only producing 470 KW of net heat, but could easily have shut off the big generator and run the pumps and blowers on his "house" power system? This was one of the biggest credibility elements in that test, which he could have easily addressed to overcome the skepticism.

LEWAN: I don't know. It could have been a requirement by the testers to have all electricity delivered from one point. In any case it shouldn't have been difficult for those persons to make sure that electricity to the heaters was cut off. Regarding the credibility towards us who were observing from outside there were too many unknowns anyway. Changing the source for the pumps wouldn't have changed much. Also the electrical heaters could in part have been fed in another way, and it was still difficult or impossible for us to verify the calorimetric measurement.

IE: You have only a few pages near the end of the book discussing the 100 hour tests of the E-Cat in Uppsala and Bologna, which many feel is the most compelling evidence of the E-Cat's functionality and promise. Do you share this view?

LEWAN: So far yes. That I spent only a few pages was maybe in part because I felt I was finishing the book and couldn't add much more detail, in part because the result speaks for itself, and in part because I wasn't present personally.

IE: If the E-Cat claims had not been "supported" by people like Levi, Kullander, etc. would you from your own direct experience with testing be as convinced, or has the support of well-known scientists bolstered your belief in the claims a great deal?

LEWAN: First, the basic support of the physical possibility of LENR processes by numerous scientists is important to me. I can see that they are experienced and qualified scientists, having made experiments and assessments that I could never do. Second, that Essén and Kullander went down and witnessed a test was not of fundamental importance, since that experiment had several weaknesses, but their positive travel report increased my interest. Finally, the Levi, Essén *et al.* report on the HotCat was important, since it was the first measurement with good accuracy. As time has gone by, listening to all critics and skeptics, I have often considered the possibility of measurement errors and fraud, and without the support of these scientists I would probably have been less convinced.

IE: Many, including you, seem to give more credence to Rossi's E-Cat than to Defkalion's Hyperion. Some suggest that their lack of confidence in Defkalion is based partly on the fact that they have not published many papers (though Rossi only did on his own site), or that they have not had as many independent tests performed and published. But, when one looks at the test protocols used in the known Hyperion and E-Cat tests, do you (as someone who was involved with tests for both parties) feel that the instrumentation and collection of data by Defkalion has been more thorough, professional and standardized? If so, was it simply the results of E-Cat tests that were more definitive, or the general behavior of the parties, that lends to one being more believable than the other?

LEWAN: I still have great doubts about Defkalion. During the whole story they have behaved much less transparently with me, and also the only measurement at which I have been present—the one in Milan last year—was less transparent than the ones I have witnessed with Rossi's technology. Their polished way of collecting data and presenting protocols is more of a surface to me. Speaking with people who have been involved with them has increased my doubts. In my blog, which I refer to in my book, I stated after the Milan demo, "If you believe the values presented..." and that is the basic problem, whether you can believe those values, because they are just presented to you.

IE: You have published the E-Cat story before a commercial product has been released. What was your rationale for that? Is it your plan to write another book as the story unfolds further, or are there other aspects of (or inventors from) the new energy field that you might consider writing further about?

LEWAN: I really don't know yet if there will be another book. First we'll have to see how this story unfolds. If I start

writing another book depends on whether I think I have enough unique information or analyses to have something interesting to offer the reader. My basic idea behind this book was that I thought that it was a story that had to be told, and I also hope that it might contribute to increased public attention for this field.

IE: One problem faced by the field has been the lack of younger people becoming involved. There has been a shift in the past few years of more young scientists becoming part of the community. Are there certain efforts that the field is not pursuing which might appeal to young scientists?

LEWAN: Having new skilled researchers is always good. You can never predict what ideas they will come up with, and as you say, the lack of new people has been a fundamental problem for this field. And again, if my book can contribute to a greater attention, and as a consequence also a decreased risk for young researchers who would choose to get involved, I'd be more than happy. It's absurd that researchers would have to avoid interesting research because of the risk of being criticized or accused!

IE: Do you think Rossi will ultimately be thought of as the primary "inventor" of LENR devices, or maybe Piantelli, or one of the Japanese like Mizuno?

LEWAN: Even if his invention turns out to be real I doubt he will be considered the main inventor of the technology. There's so much politics and various influence from opinion leaders in the scientific community in deciding who is the most important inventor or researcher. I also still know too little about fundamental contributions in the field to have an informed opinion.

IE: Do you have any recent information about the Rossi agreement with Industrial Heat, *i.e.* are things moving along as planned? Do you sense that there could be some "conflict of interest" between the Rossi agreement with Ampenergo and that with Industrial Heat?

LEWAN: I know very little about Rossi's agreement with Industrial Heat. IH has not responded to my requests for contact. However, I don't think that there's any conflict of interest with regard to Ampenergo. As I describe in the book, Ampenergo was involved at an early stage in discussions with a company that I believe must have been Industrial Heat/Cherokee Partners. As far as I know Ampenergo has a commercial license which would give right to royalties on sales of products based on Rossi's technology in North and South America. That could still be valid.

IE: When you released the book, you sent a personal statement to interested parties, in which you write: "Just as I'm writing these words I'm receiving new information on events that strengthen some pieces of the story in the book, and also some information that add to my doubts regarding certain stakeholders." Can you expound on that in any way, generic or specific?

LEWAN: Not yet. I'll share updates on what I know as soon as I can.

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