My Conversations With Einstein

By Paul E. Rowe 02649rowepaul@comcast.net May 29, 2008

Introduction:

In 2004, I wrote a play, "The Fall and Rise of the House of Cards". It included conversations I had (in dreams) with various deceased scientists. The play was so long and so dull that no one could read more than six pages and stay awake.
The play suggests the knowable universe is permeated with a concentrated matrix of protons and unpaired electrons, possibly Bose-Einstein condensed hydrogen. Could this be "Dark Matter" and/or the ether of classical physics? This paper includes the beginning of Act II and my conversations with Albert Einstein.
I hope someone will be able to read this part of the play. If anyone has trouble sleeping, I will send him or her the entire play:

Act II, Scene I

Curtain rises to show Paul sitting at the desk, writing in his notebook. He turns to the audience.
Paul: Welcome back. Let's have a show of hands. How many of you are completely confused by this play? Sorry about that! Now, is there anyone here who follows everything, understands completely, and believes every word? Well, are any of you actors impressed? Ok. Perhaps a short summary is in order:

1. I obtained much more gas than was theoretically possible by detonating explosives containing aluminum flake in vacuum.
2. A literature search revealed that many experimenters, some quite famous, reported obtaining surprising amounts of hydrogen gas in their experiments.
3. I produced hydrogen gas by igniting mixtures of cupric oxide and aluminum powder in vacuum.
4. Like Skinner, I produced hydrogen gas during electrical discharge in low, pressure helium. I also produced hydrogen in a fairly good vacuum.
5. I produced hydrogen gas by other techniques, including placing a glass tube containing a fairly good vacuum near an operating spark coil.

This has led me to believe that vacuum is not a void. It contains something that can be converted into hydrogen, under the proper conditions. My best guess is that the knowable universe is permeated with a matrix of protons

and electrons. This may be aether, the light-carrying medium, that scientist accepted as fact, in the late 19 th. and early 20 th. centuries. If this is the case, why isn't it obvious to everyone? How can I move my hand through the matrix with such little effort? I performed another literature search in an effort to answer these questions.

Later in Act II

Bohr: That is the response of a true scientist. By the way, you haven't explained gravity yet. (Albert Einstein enters at the back of the stage and stacks cards above the base that Bohr had assembled.)
Paul: I've been trying to build the proper background. I'm happy with the idea that magnetic forces are transferred through the electrons of the aether. I am not as happy with the idea that gravity is transferred through the protons of the ether. However, if one accepts that the neutron is a combination of a proton and an electron, the weight of any material is extremely close to the weight of the protons it contains. If one assumes that there is an attractive force between protons that remains after electrical forces are cancelled by electrons, one can come very close to explaining gravity.
Bohr: You are not happy with that description of gravity?
Paul: Not very. It needs more work.
Bohr: I see that you have a distinguished visitor. If anyone can pick apart your suggestions, it is Professor Einstein. (To Einstein.) Hello Albert. I assume you are here to take your turn. (To Paul.) Goodbye Paul. I enjoyed your monologue. If you eventually make it to heaven, it will be my turn to do the talking. (As Bohr leaves, he pauses to admire the enlarged house of cards.)
Paul: I'm sorry. Sometimes I get carried away. I look forward to your monologue, but I'm in no real hurry. (To Einstein) It is a great honor to meet you Professor Einstein. I won't introduce you because your fame has preceded you.
Einstein: It is a pleasure to meet you Paul. You needn't be so formal. Please call me Albert. .
Paul: Well, Albert, I hope you don't mind if I call you a genius. I have nothing but respect for your mathematics, but I would like to discuss some of your interpretations. After all, some of them are close to 100 years old. I have the advantage of the results of many more years of research by brilliant scientists.
Einstein: To prove that I have an open mind on these matters, I will quote from a letter I wrote to a fellow professor in March of 1949:

"You can imagine that I look back on my life's work with calm satisfaction. But from nearby it looks quite different. There is not a single concept of which I am convinced that it will stand firm, and feel uncertain whether I am in general on the right track."

Don't worry about my feelings. Your only goal should be to improve mankind's understanding of its universe.
Paul: I expected you to feel that way. Before we begin, I'd like to ask you a question. Do all great scientists end up in heaven?
Einstein: Of course not. Why do you ask?
Paul: I've conversed with many scientists in this play. I assume that they are all in heaven.
Einstein: Not necessarily. If someone from the other place wishes to be involved in a dream, he may petition St. Peter. If permission is granted, he may enter dreams. There is a problem, however. Their internal thermostats are adapted toward a different climate and they are extremely uncomfortable when away from hell. According to the "Guinness Book of Records" no one from there has been able to last more than 5 minutes in a dream.
Paul: It sounds like death is more complicated than I thought. Let me summarize my position. I am convinced that hydrogen gas has been created from vacuum. This leads me to suspect that vacuum contains something from which hydrogen can be produced. Other observations led me to suspect that vacuum contains a concentrated matrix of protons and electrons. Such a matrix (the aether?), agrees with the ideas of Huygens and Maxwell on the nature of light. The presence of unpaired electrons would cause the matrix be paramagnetic. This permits simple explanations for the forces between magnets separated by vacuum and accounts for the permeability of vacuum required by Maxwell's wave equations. I do not believe that you explained this effect in your papers. I hope you do not object to my taking advantage of your work in making my case.
Einstein: I would be thrilled, if you present a reasonable case.
Paul: I'll start by referring to Bose-Einstein condensation. (To the audience) Professor Einstein and Satyendra Nath Bose of India collaborated in developing Bose-Einstein statistics. This led them to conclude that, under the proper conditions, materials may form condensates of particles in their lowest energy states. They may remain in that state at temperatures above absolute zero. Liquid helium below 2 degrees Kelvin has strange properties and many scientists believe that it is Bose-Einstein condensed. It flows as if it were a zero viscosity liquid. For example, once started in motion through a granular material, it will continue to flow at the same speed indefinitely. This may remind you of Newton's conclusion that a body in motion will continue in motion, until it is affected by an external force. In other words, your hand can move through a Bose-Einstein condensate without restriction. Dr. Einstein explained this approximately as follows:
A Bose-Einstein condensate is at its lowest possible energy state at a temperature above absolute zero. It cannot absorb energy and remain in this state. He developed mathematical formulas that predict the highest temperature at which a material can remain Bose-Einstein condensed. Based on the weights of protons and electrons and their separation, my proposed matrix should remain Bose-Einstein condensed at extremely high temperatures. Such a condensate cannot absorb energy by the usual mechanisms.

The proposed matrix may be considered a polymer of hydrogen atoms that, though made up of charged particles, is neutral, in the sense that chemical salts, which are made up of oppositely charged ions are neutral. It

seems (to me) to have the properties scientists require for dark matter.
Einstein: I admit to being surprised by the conclusions to which our formulae led us and doubted that anything would come of it.
Paul: Recently, scientists have produced Bose-Einstein condensates of rubidium, potassium and sodium. These condensates transfer light, but at much lower speeds than vacuum. There was surprising difficulty in producing a similar condensate from hydrogen. More recently, a group led by Professor Daniel Kleppner, at MIT, formed Bose-Einstein condensed hydrogen but he had to have all the protons aligned in the same orientation. I suspect that he and other scientists had previously produced the condensate of hydrogen, but couldn't detect it, because they produced aether, which fills space. If you produce a little water in a lake, you would have a hard time detecting it. If you formed ice in the summer, you could easily detect it. The condensate with aligned protons may have been different enough to be detected.
Einstein: And people accuse me of having strange ideas. Let's see you explain the results of the Michelson-Morley interferometer experiments.
Paul: I'm surprised you mentioned that. (To audience.) In the late nineteenth century the presence of an aether that carried light was accepted as a scientific fact. It was assumed that the earth, in its orbit around the sun, was moving rapidly through the aether. If this were the case, light moving through the aether should travel at a fixed velocity relative to the aether, but at different velocities relative to the earth, depending on the direction the light traveled, relative to the earth. Their measurements seemed to show that the direction light traveled, relative to the earth, did not affect its velocity, relative to the earth. This was an important event in discrediting the aether concept. In spite of his results, Michelson continued to accept the presence of a material aether. In the 1920s and thirties, Sir Oliver Lodge continued to champion the ether concept. He pointed out that the results of the Michelson-Morley experiments are just as would be expected, if the portion of the aether in the vicinity of the earth moved along with the surface of the earth. The matrix of protons and electrons that I have proposed would have mass and would be expected to tend to move with the surface of the earth as do air and water.
Einstein: Why are you surprised that I mentioned Michelson -Morley?
Paul: Page 96 of the book, "Einstein" by Ronald W. Clark refers to statements you made which suggest that the Michelson experiments had little influence on you in developing relativity and that the experimental evidence which had influenced you most were the observation of stellar aberration and Fizeau's measurements of the speed of light in moving water.
Einstein: Actually, I brought up the Michelson-Morely experiments because they are still referred to in your time. Do you have any comment on stellar aberration or on Fizeau's experiments.
Paul: Yes. It seems to me they both tend to corroborate Lodges point of view.
Einstein: I would like to hear your explanations.
Paul: I'll discuss stellar aberration first. (To audience) When astronomers on earth try to fix the position of stars in space they correct their measurement for known effects like bending of light as it enters the earth atmosphere. In spite of these corrections, the position of any star seems to

change slightly as the earth rotates around the sun. In the northern hemisphere the greatest movement is observed with the North Star, which appears to move in a small circle. The apparent position depends on the date of the year on earth. No one believes the North Star's actual position is affected by the date on the earth. This effect is called stellar aberration.
(To Einstein.) If the portion of the aether in the vicinity of the earth moves with the earth as it orbits around the sun, at about 26 miles per second, light from a star bends as it approaches the earth. A similar effect occurs when a sound wave encounters wind. In the case of starlight, the direction of bending, relative to the star, reverses every six months. In the case of the North Star, one would expect the deviation to be circular. The observed position should be the same on the same date each year.
Einstein: Don't you think I considered that possibility?
Paul: I don't know. Did you?
Einstein: Possibly not. How do you explain Fizeau's results?
Paul: Let me discuss this with the audience. (To audience) Armand Fizeau was a French physicist. In 1849, he determined the first reasonably accurate velocity of light. He also showed that, when light traveled through moving water, its velocity was greater, relative to the earth, when it moved in the same direction as the water, than when it moved in the opposite direction. This suggests, to me, that the aether, which carries light, tends to move with the molecules of water. I consider this as corroboration of Lodges contention that the aether near the earth moves with the earth.
(A man in a state of anxiety runs onto the stage and approaches Einstein)
Man: (In French.) You see. This is what I have been telling you. My experiments were carried out to prove the existence of the aether. Somehow, you used them to discredit the aether concept.
Einstein: (To Paul.) Do you understand French?
Paul: Very little.
Einstein: Then let me talk with Armand and then translate for you.
Paul: Thank you. I would appreciate that.
Einstein: (To Fizeau. In French.) I'm sorry that you find my using your work, bothersome. I assure you that was not my intention. You must appreciate that anything in the scientific literature is fair game. Anyone can interpret it as he wishes. I am sorry that you died 10 years before I published my first relativity paper. I would have been happy to discuss these matters with you.
Fizeau: (In French.) I know that you are correct in this matter, at least. Your misinterpretation of my work has been bothering me for some time. I could not miss this opportunity. I am not feeling well. I have to leave. (Starts to leave. While leaving, mutters in French.) Stupid Kraut.
Paul: Wow! That was strange. What did he want?
Einstein: He wanted to tell me off for misinterpreting the meaning of his experiments. He felt that they went along with Lodge's ideas and, of course, yours. I tried to be nice and he cooled down somewhat.
Paul: What was the reference to Kraut?
Einstein: He called me a stupid Kraut, as he left. He wasn't feeling well. I think it bothered him that he couldn't stay for over five minutes and get in the "Guinness Book of Records"
Paul: I wish he could have stayed longer. It is nice to find a scientist who

agrees with one of my ideas.
Einstein: Perhaps you will meet him again some day.
Paul: If I am interpreting correctly, I hope not.
Einstein: You seem to understand. Is there anything else you wish to mention before I leave you?
Paul: I'd like to consider your ideas on the effect of velocity on mass and your twin paradox. I have much more to discuss with you, but I don't want to impose.
Einstein: I am enjoying our conversation but I must leave soon.
Paul: I'll try to be brief. As an airplane approaches the sound barrier, more and more energy is required to impart a given acceleration. The mass of the airplane is believed to remain constant. A greater force is required because the air through which the airplane is traveling increases its resistance to increased velocity. The medium for light may produce similar effects, as a rocket ship approaches the "light barrier". This is possible if the energy increase is in the material and not transferred to the aether. Huygens believed that matter is an open mesh through which the aether easily passes. However, as an object approaches the speed of light, aether particles may have increasing difficulty moving around the nuclei of its atoms. If so, the energy required for imparting a given acceleration increases with increasing velocity.
If one defines a unit of mass based on a standard that is at rest, relative to the aether, in its vicinity, one expects greater energy to be required to accelerate an object as the object approaches the speed of light. By this definition of mass, the force required to accelerate an object increases as the object approaches the speed of light, its mass does not change as you have proposed.
Einstein: How about my twin paradox? (To the audience) My mathematics led me to conclude the following:
If one of a pair of twins flew away from the earth at close to the speed of light and later returned at a similar velocity. He would appear to be and actually would be younger than his twin. In other words, time slows as velocity increases.
Paul: If materials that make up a rocket ship are porous to the ether, a pendulum clock in a rocket ship moves through the ether at a similar rate as the rocket ship, itself. As the clock approached the speed of light, the period of the pendulum would decrease and time, as measured by the clock, would decrease. The same effect would occur with modern time devices that are based on the periods of certain bond vibrations.
In the twin paradox, one twin remains on earth while the other twin rockets away at close to the speed of light, turns around and then returns at a similar speed. The speeding twins clock would run slower in both directions of flight, since in each case, it is moving rapidly through the aether. The earthbound twins clock is comparatively still, relatively to the aether in its vicinity, and would indicate the passage of more time. At the speed of light the pendulum and the vibration would stop.
I prefer a definition of time based on a clock that is stationary, relative to the aether, in its vicinity. In order to determine the correct time, a factor, based on the speed at which a clock is moving through the aether (or, if you prefer, the aether is moving through the clock) would be applied to the time it

registers. Time would, then, be more nearly universal and independent of velocity.
If I am correct, the vibrations of the chemical bonds in the speeding twins body would be slowed dramatically. This would slow all the chemical reactions in his body. If he survives, he may well appear younger than the stationary twin.
Einstein: You covered those subjects in a very short time. You can mention one more topic, if you hurry.
Paul: Great. Let me give you my guess as to the nature of the photon.
Einstein: Go to it.
Paul: When a DC current passes through a straight wire, a compass needle near the wire points perpendicular to the wire. It remains so oriented until the current is stopped. This suggests that moving electrons on the wire cause aether electrons in the vicinity of the wire to orient. When the current is reversed, the needle points in the opposite direction. At extremely low frequencies, the orientation of the needle changes with frequency. At higher frequencies, the needle of the compass cannot reorient fast enough, because of its inertia. Aether electrons have very little inertia and continue to orient with changing current direction, even at extremely high frequencies. (Could Planck's constant be related to the inertia of the electron to the type of rotation required?) Let us consider a half-wave dipole antenna operating at a FM frequency. I understand that the current moves along the surface of such an antenna and at the speed of light. According to Huygens' principle, each orienting ether electron passes all of its energy to a neighboring ether electron, etc. This effect moves away from the antenna at the speed of light. As the direction of the current changes, a line of energy starts forming at one end of the antenna. Just as the direction of the current changes again, this line of energy leaves the other end of the antenna. The result is a line of energy moving through the ether at the speed of light (a photon?). This line is in a plane of the antenna and at an angle of 45 degrees to the antenna. When the direction of the current changes again, a similar line of energy (photon?) is produced. This photon is also in a plane of the antenna but at an angle of 135 degrees to the antenna. Its aether electrons are orienting oppositely. What we consider one wave in the antenna may produce a pair of photons. Each photon might be considered a mirror image of the previous photon.
At any instant, an integer number of active electrons are involved in a photon (as I pointed out earlier there are no fractional electrons). For this reason, only specific amounts of energy can be carried as photons. As I suggested to Professor Bohr, this may be the basis for quantum mechanics.
Einstein: You know Paul, I am considered one of the most brilliant scientists ever and I can't keep up with the pace in which you have presented your ideas. Do you think anyone in the audience understands you.
Paul: No. If they are interested, I will give them a good deal on a copy of the play. I have to read such proposals a few times and then, sleep, before I understand them. If I made it too easy, there would be no incentive for them to buy a copy of the play. As a bonus, they may have some interesting dreams. Perhaps, the following summary will help:
Assuming that the knowable universe is permeated with a zero viscosity medium (possibly, Bose-Einstein condensed hydrogen) leads to simple

explanations for many, otherwise, difficult to understand phenomena. Such explanations may permit intelligent laymen to achieve a clear understanding of theoretical physics. They may also lead scientists to more efficiently direct their efforts. Acceptance of such an aether would require us to reconsider concepts developed based on the absence of an aether.
Einstein: I hope that helps. I will ponder your ideas and hope to discuss these maters with you in the distant future. By the way, I was never able to successfully combine the ideas of relativity and quantum mechanics. Can you combine your ideas and quantum mechanics.
Paul: I purposely avoided mathematics in this play. I suggested, in a paper I wrote in 1998, that Planck's constant may be related to the inertia of an aether electron toward the angular rotation required for transmitting photons through the aether.
Paul: Meeting you in the distant future sounds great to me. See you then. Thanks for listening. You've been very kind.
Einstein: Goodbye, Paul. (Walks to go off stage. Paul gets in the cot and pulls up the covers and starts snoring. There is a rumbling sound and things on stage start to shake.)
Einstein: (Shouting.) Neils, come here. I need you. We are having an earthquake. (Professor Bohr runs onto the stage and helps Einstein protect the house of cards.)

(The curtain closes.)

Einstein: (Shouting.) Gott in Himmel! (The sound of falling cards is heard throughout the theater.)

Act II, Scene II

The curtain opens to show Paul sleeping and snoring. The lights are normal, indicating this is not a dream sequence. The cards are a mess.
Kate:(Off stage.) Paul. Are you down there? (Paul stirs and opens his eyes.)
Paul: Yes. I'm here.
Kate:Diner is ready.
Paul: Great I'll be right up. I had the craziest dream. I'll tell you about it.
Kate:Was it about the aether.
Paul: (Getting up and walking back stage,) Yes.
Kate:Then don't bother. I thought you were going to wash windows today.
Paul: Oh! That's right. I forgot. (Looks at the messed up cards. Scratches his head. Turns to the audience and shrugs his shoulders.) (To Kate.) I'll wash them tomorrow, right after I pick up the cellar. (Walks offstage.)

The Curtain Falls

Act II, Scene III

(The same stage setting on the next evening. Paul enters and speaks to the audience.)
Paul: Boy, am I tired? It is been a beautiful day, so Kate suggested that I wash the windows before picking up the cellar. It is always easier to go along with her suggestions than to argue. Please excuse me. I have earned a

little nap before straightening out these cards. (Paul lies on the cot and, after a few seconds, starts to snore. The lights become bluish. Einstein enters and shakes Paul to wake him. (Paul stirs, stretches and yawns. He looks up and sees Einstein).
Paul: Good evening Albert. I thought you left.
Einstein: I did but my conscience bothered me. I decided to return and help you pick up the cards.
Paul: Thank you. I'll appreciate any help. Before we start, I would like to discuss a dream I just had.
Einstein: That would be fine, but I can't stay for long.
Paul: I'll try to be quick. I understand that an important basis of your special theory of relativity was Maxwell's field equations.
Einstein: That's true. I may not have conceived of special relativity without them.
Paul: In my conversation with Maxwell, I quoted from one of his books. In developing these equations, he assumed that light was transferred through a medium of touching particles.
Einstein: So?
Paul: Well, if you employed his equations in developing your theories weren't you using the same assumptions? I've heard that you felt your equations described physical phenomena without assuming a physical medium in vacuum. You have been quoted as saying, "If a thing can't be observed, why should it be necessary to assume its existence?"
Einstein: You are making me wonder if I should have returned to help you. I wish I were allowed to answer your question. As others have told you, we cannot reveal anything that we have learned after our deaths. I will try to answer questions that don't fall into this category. Where did you find that quote?
Paul: It is on page 315 of "An Outline of Atomic Physics", by Oswald H. Blackwood et al., second edition, seventh printing, published in 1946. It claimed that the quote was from 1905. The following quote is from your book with Leopold Infeld, "The Evolution of Physics", copyright, 1938, p. 152.
"In Maxwell's theory there are no material actors."
The next quote starts on page 159 of the same book:

"Our only way out seems to be to take for granted the fact that space has the physical property of transmitting electromagnetic waves, and not to bother too much about the meaning of this statement. We may still use the word ether, but only to express some physical property of space. This word ether has changed its meaning many times in the development of science. At the moment it no longer stands for a medium built up of particles. Its story, by no means finished, is continued by the relativity theory."

If space is void, can it have physical properties for transmitting light, magnetism and gravity? Can it have different properties in the vicinity of the sun than some distance from the sun? I suspect your prediction of the properties of Bose-Einstein condensates is the most important factor leading to the acceptance of a particle-based ether.
Einstein: Thank you for that. I must admit that the last quote seemed to

ramble a bit.
Paul: You probably won't be able to respond to this, but let me talk to the audience. Albert predicted that light passing close to a large mass is bent toward the mass. Measurements made during a solar eclipse have been interpreted to show that starlight passing near the surface of the sun is deviated toward the sun. More recent measurements indicate that light passing near a galaxy is deviated toward the galaxy. According to Maxwell's equations, this suggests that vacuum in the vicinity of masses has a higher dielectric constant and/or permeability than vacuum in free space. If there is a medium for the transfer of light, it must be denser in the vicinity of masses and the closer it is to a mass the greater its density. This is also true of gravitational attraction. Could the medium for light also be the medium for gravity? If space is void, how can it have different properties at various distances from masses?
Einstein: You are right Paul. I may not answer those questions.
Paul: It seems, to me, that present day theoreticians are going to ridiculous extremes to retain their present beliefs concerning relativity and quantum mechanics. They are proposing the need of ten or more dimensions and weird particles that exist for nanoseconds as necessary to explain important phenomena. This reminds me of the long delay in the acceptance of Copernicus' ideas of the sun-centered solar system, due to so-called, experts using complicated mathematics. Only an elite few appeared to understand the earth centered universe. When the Copernicus sun-centered solar system was finally accepted, intelligent laymen had no difficulty with his concept.
Einstein: Are you saying that I am responsible for delaying the progress of science?
Paul: Of course not. Science has made great strides since you published your relativity theories. I couldn't have conceived how materials move effortlessly through my proposed medium without knowing about Bose-Einstein condensation. In your lifetime, you pointed out that your theories would probably not stand the tests of time. If my ideas are accepted, they will be disproved or, at least, altered in a few years. Your work has dominated science for a century.
Einstein: Thank you Paul I appreciate your comments. I'm sorry, I can't help you with the cards, but I must leave now. (Einstein starts leaving.).
Paul: That's all right, I'd much rather have had this conversation, than your help with the cards. Anyway, I've decided to build my own house of cards, but I doubt that it will be a century before the next earthquake. Thanks again for offering to help. I look forward to meeting you in the future. Before you go, I'd like to make a prediction based the density of the medium decreasing with distance from masses.
Einstein: Go right ahead.
Paul: If the medium is denser the nearer it is to a large mass, the speed of light is less near the earth than in the space farther from the earth. It is less in the solar system than it is in the space between the stars. It is less in galaxies than in the space between galaxies than it is in galaxies. Since scientists assume the speed of light in deep space is the same as that in the vicinity of the earth, the distance to other galaxies may be considerably greater than they have calculated.
Einstein: That is very interesting. I had great difficulty in getting my ideas

accepted. I would have had much less of a problem, if I could have pointed out some immediate practical application.
Paul: You probably know that there is great concern today about the depletion of the earth's fuels and the deleterious side effects from our present sources of energy. All of the techniques I have discussed for converting the medium into hydrogen require the input of large amounts of energy to produce comparatively little hydrogen. Conversion of the hydrogen in water into the medium, would release considerable energy. The byproducts would be oxygen and the medium. If one could control the process, there might be no deleterious effects.
Einstein: Have you tried to accomplish this?
Paul: Yes, and I have had some interesting, but not dramatic results. I haven't been able to convince myself about the source of the energy. I certainly couldn't convince the scientific community. The source of the energy from lightning remains a mystery. I wonder if it could be the conversion of hydrogen in moist air into the medium, during electrical discharge.
Einstein: That is just the kind of thing I had in mind. I have time for one more prediction.
Paul: I'll make it quick. The electron that activates the face of the cathode ray tube may not be the electron that left the cathode. The effect may be passed from aether electron to aether electron until an electron at the face of the cathode activates a molecule on the inner face of the tube. This is similar to the mechanism Huygens proposed for light. The rate of energy transfer increases with the voltage across the tube. The electron microscope works because, on a statistical average, this is a wave phenomenon.
Einstein: Goodbye Paul. I'm off to paradise. I hope to see you there, in due time.
Paul: Auf wieder sehen Albert. I hope so, too. (As Einstein leaves, Paul walks to the back of the stage and starts building his house of cards. He sings)
Paul: I'll build a stairway to paradise, with a new step every day.

The curtain falls.

Curtain Call (If Required)

Curtain Parts. Paul Walks on Stage and faces Audience.
Paul: I thank you, especially anyone who is not a relative. Oh! By the way, I forgot to ask.
I didn't snore. Did I?

Curtain falls

(The recording of, "I'll Build a Stairway to Paradise", from the movie, "An American in Paris" is heard throughout the theater. It continues to play as the audience leaves the theater.)

The End

Play written August, 2004
Edited May 28, 2008

Paul E. Rowe, 71 West Way, Mashpee, MA 02649,

02649rowepaul@comcast.net