SCRIPT FOR FILM : “THE UNIVERSE OF MYRON EVANS”

Introductory Narrative.

This narrative is to go over introductory footage and animation, with music. I recommend using the animations and collages by Horst Eckardt, with some of his music, and other material.

Narrative

At the dawn of the twenty first century the ideas of physics or natural philosophy came across confidently on TV screens like the march of coal miners going to work on cobbled stones in the darkness before early light, the only light they saw. One cannot stop the march of ideas as Victor Hugo would have it. After, in 2000 did not we have the most advanced society in human history, despite the terrible and primitive wars of the previous century in which Europe did its best to tear itself to pieces and the rest of the world with it. Nature was firmly in human hands. Technology and science ruled OK and anyone who challenged this was an automatic outcast. Nothing changes in human nature, such was exactly the mind-set at the dawn of the twentieth century, when classical physics was the ruler. Anyone who challenged Newton’s ordered world must be mad or subversive. Yet between the years 1887 and 1930 that confident classical world was shattered. By 1930 the Newtonian physics was a small corner of the new relativity and quantum mechanics, household names to us today. This was the march of ideas, the universality of thought led to the acceptance of concepts which in 1887 would be consigned to the asylum, time that dilated, length that contracted, the ordered motion of particles of Newtonian times replaced by the wave particle dualism of great inherent mystery. Time and space fused together in an inexplicable, outrageous way. These ideas were held together and accepted at all because they were tested against nature. The latter revealed its inner workings in a way that was unprecedented in the entire history of human thought. Things in 1930 were stranger than could be imagined. These ideas became the basis of many technologies, so must be right, mustn’t they?

All was not right in this world of twentieth century physics, the various parts could not come together, the center could not hold as Yeats put it. A unified description of nature would not emerge. There was the precision of special relativity, tested to unimaginable accuracy, and the indeterminacy of quantum mechanics, where things were absolutely unknowable. These were starkly opposite philosophies which schismed physics throughout the twentieth century, in interminable debate and counter-debate. What you see on your TV screens is only part of the scientific truth. Slowly from 1930 onwards the philosophy of nature was undermined by the subconscious acceptance of ideas of the human mind which could not be tested against the measuring stick of nature. In the words of Francis Bacon, many idols of the cave emerged. These had exotic and impressive sounding names, so must be right mustn’t they? There were strings, super-strings, black holes, big bang, acausality, indeterminacy, principles of uncertainty, dark matter, strange particles and quarks taken from James Joyce. A plethora emerged of purely mathematical abstraction, workings of the human mind, but not of nature. The subject of natural philosophy, or physics, which should be simple and easy to understand, became saturated with tremendous obscurity and complexity - ideas that are so strange that sometimes only their instigators read them with any understanding. These came across confidently marching on TV screens - came across as the absolute, one and unchallengable truth. Gradually physics withered on the bough, turned to

bone, ossified as a subject, became immersed in dogma, became intolerant and censorious, talked to itself in public on TV screens lurid with abstraction like comic cartoons.

Around the year 2003 it was realized that nature could be described much more simply using a variation on the theme of relativity and using a more powerful kind of geometry than that used at the turn of the twentieth century, about a hundred years earlier. The idea of relativity is simple, the natural world must be described insofar as possible without the distortion of the human mind. There must be no idols or fantasies of the human cave in nature. The aim of objectivity can be achieved in one way by using geometry. This is an idea that goes back to the dawn of humanity itself, and to the early human mind, geometry was beauty. The Parthenon was built with a deliberate flaw so as not to offend the gods, no human construct could be perfectly geometrical, and perfectly beautiful. That was the domain of the gods. It was realized in the years 2003 to present that all physics can be described by geometry, the subjects of relativity and quantum mechanics were unified and the absurd ideas of indeterminacy rejected. The idea that something is inherently unknowable was discarded in favor of the older physics, that an event has a cause, and the way in which things work can be figured out by the human mind. The incomprehensible twentieth century dogma that marched on TV screens was dispensed with in favor of a simpler truth. Every equation of physics was found from geometry, using only one basic idea or hypothesis. The different fundamental force fields of nature were found to originate in a common source, from which great rivers of nature flow. Electromagnetism was unified with gravitation, the former is the spinning of space-time, the latter is the curving of space-time. Nature is indeed beautiful, nature is indeed simple. It is the human mind that suffers from perennial demons of obscurity. This new theory was named the Einstein Cartan Evans (ECE) theory. Einstein's was the imaginative mind that brought general relativity into being, about one hundred years ago. Cartan worked out a powerful geometry for relativity upon which Evans unified physics in 2003. The theory has caused turmoil in the ordered world of standard physics the world you see on your TV screens, the world of absolute and ossified truth.

This film is about the emergence of the ECE theory and the challenge it poses to the high priesthood of the twentieth century, where organized religion was superceded by organized science. There are no more than a thousand people who can understand general relativity in a world of several thousand million people. Less than one in a million understand the language of the scientific thought elite. In theology it proved convenient to preach in Latin, which the mysteries and dogma of which people could not understand. Nothing changes in human nature, but ideas always do. The ECE theory shows that the TV screens of today are as dogmatic as mediaeval vestments, because ECE has been meticulously tested against nature, and it is able to understand nature in a far simpler way than the monstrously complex ideas of the preceding century. Similarly, Kepler dispensed with the complexity of epicycles, replacing them with three planetary laws from which the great Newtonian synthesis emerged. The mediaeval world of priestly spheres was overthrown by objectivity. Let Newton be and all was light, well at least up to 1930. Then it was a new dawn, which as the day marched on, became a storm cloud of darkness again. Some of us fooled ourselves into thinking that we knew all about it. In this film, different viewpoints on the ECE theory are given by some of the people who played a leading role in its emergence. The standard physics was carried kicking and screaming into a new age. The ECE theory is quite similar in analogy to the Newtonian theory, in that it can be used for engineering, it can be used to try to find new forms of energy in an energy hungry world. Who would use super-strings to build an new electric motor? In other words strings and super-strings are empty of meaning - they exist no tin nature, but only in the human mind. Real theories of physics can be used by chemists and engineers. The first to give his views are Myron Evans, then Horst Eckardt,

followed by Diego Rapaport, Stephen Crothers and other distinguished thinkers

A Short History of Big Bang

The way that the universe works has always captured the imagination of humankind from earliest times. In mediaeval times the stars the stars were thought to be a fixed firmament organized by a deity, so the centre of this universe was obviously our world, the earth. The sun revolved around the fixed earth, which was obviously flat. This picture changed dramatically in the sixteenth and seventeenth centuries due to the ideas of Copernicus, Galileo, Kepler, Newton and many others. This change came about very carefully, because of the prevalent power of the church. It was dangerous to criticize too openly. To sailors such as Columbus the earth was obviously curved, the masts of ships disappeared below the horizon after a while, and it gradually became clear that one could sail all around the world and back again without falling off the flat earth. Even so it was still not a good idea to challenge authority. Copernicus's outrageous idea that the earth revolved around the sun gradually became accepted because of everyday experience and measurement in astronomy. Galileo produced the first telescopes and began to understand the laws by which nature worked. Kepler found that the orbit of Mars was an ellipse, not a circle as taught by doctrine. In 1665 a young Cambridge student called Isaac Newton realized that the force between two objects varies as the inverse square of the distance between them. This law, known as the inverse square law, neatly explained Kepler's earlier planetary laws, which he had found from observation. The attraction of the moon to the earth and the earth to the sun, and that of the apocryphal apple, could all be explained in the same way - universal gravitation.

This picture held good until experiments at the end of the nineteenth century began to give some strange results. The Newtonian view was no longer feasible. This happens in science, which is a kind of continuous evolution and change in thought. Towards the beginning of the twentieth century a theory emerged which rested on the idea that physics is an objective subject - the theory of relativity. This was developed by many scientists, notably Heaviside, Voigt, Fitzgerald, Lorentz, Poincare, Einstein, Minkowski and others. Relativity is based on the relative motion of frames of reference. At first special relativity was developed, in which one frame moves at a constant velocity with respect to anther. Due to Einstein and others, the theory of general relativity was developed into the Einstein Hilbert (EH) field equation in 1915. This equation made the entirely revolutionary claim that physics could be found from geometry, that the workings of nature are governed by the laws of geometry. This is not the age old geometry of Euclid, but a kind of curved geometry due to Riemann in the early nineteenth century.

A few years after the EH equation appeared, Hubble began to make measurements which found that light seems to be shifted towards a lower frequency in a systematic way when distant objects are studied through a telescope and spectrometer. This began to be known as the red shift, and was interpreted to indicate that distant objects seemed to be moving away from the earth. The further away the faster they seemed to be moving. So it seemed that the whole universe is expanding at an increasing rate. In the twenties, Friedmann, Lemaitre, Robertson and Walker solved the EH equation to give solutions that seemed to give the same picture theoretically, that of an expanding universe. It was never considered that there may be several other explanations for the red shift, by using optical arguments. Later, in the mid forties, Hoyle developed the idea that the universe is continuous, with no beginning and no end and it was Hoyle who put the name "big bang" to the idea of an expanding universe. By 1930, Einstein, like Hoyle, had rejected big bang as absurd. The EH equation was already in trouble by 1918, when flaws in it were pointed out by Bauer and Schroedinger. No notice was taken of these criticisms, and Eddington in the early twenties

claimed to have verified the EH equation using light bending by the sun. Again, though, we now know that Eddington had nowhere near the precision needed to make his claim.

For a long time in the mid twentieth century the subject of general relativity was quiet, because it was difficult and only a few hundred people in the world could really understand it. Einstein was sidelined by the younger generation of the Copenhagen school of quantum mechanics. In the forties and fifties however the subject began to gather momentum due to the work of scientists such as Hoyle, Bondi, Wheeler and Vigier. Hoyle developed his theory of nucleo-synthesis and became a famous figure. In this theory of the evolution of stars Hoyle did not use the idea of an expanding universe at all, and coined the term "big bang" in derision. He was saying that the idea is absurd. In the sixties however a new generation of scientists, notably the mathematicians Hawking and Penrose, took a contrary view to Hoyle and claimed to have proven mathematically that the universe must have started in a state of infinite density and zero volume. To any physicist however this claim is absurd and it is now known to be incorrect mathematically through the work of AIAS. This idea of big bang originates in a solution of the EH equation known as the Roberston Walker metric. This absurdity became the prevalent view even though Einstein had rejected it himself, and even though it was known by 1918 that the EH equation itself had deep flaws within it. This is a recipe for disaster in physics. The flaws in the EH equation have been pointed out repeatedly for ninety years, notably by the Nobel Laureates Schroedinger and Dirac, and by the pioneer of tensor algebra, Levi-Civita.

The debate over big bang between Hoyle and Hawking and Penrose seemed to result in acceptance of big bang, so that it gradually became dogma towards the end of the twentieth century. Hoyle resigned in disgust from his chair in Cambridge, to get away from the time wasting academic politics and aggravation. However, Hoyle and many others have produced conclusive arguments against big bang. There are many experimental data that clearly refute bg bang, even on a wikipedia site controlled by the small dogmatic faction of physics known as the standard model. The universe is a big place, and it is not clear that the human mind will be able to understand it. Big bang is certainly not the answer. Unfortunately, due to lack of understanding, physics as a subject began to balloon out of control towards the end of the twentieth century and became a plethora of absurd ideas which cannot be tested against data. There are far too many loose ends in string theory for example, strings are twisted to fit an idea, not the real world of nature. Dark matter for example is just a stop gap measure used to fit data, in this case data from the evolution of spiral galaxies. Dark matter does not come form any coherent philosophy, in particular, dark matter does not come from relativity. The danger is of slipping back into mediaeval times by accepting wild ideas about nature, and not using the test of experimentation. This is as if the enlightenment of Bacon and Newton for example had never happened.

In 2003, a new and powerful variation on the theme of relativity was devised by Evans, and was named the Einstein Cartan Evans (ECE) unified field theory. This theory uses a more complete geometry than that due to Riemann, a geometry that was devised by the mathematician Cartan in the twenties and which is actually well known. Evans used this geometry in new ways to give a coherent philosophy of nature. In 2007, the computer was used to reveal what had been suspected for ninety years, that the EH equation is incorrect due to its neglect of torsion of space-time. The torsion is the spinning of spacetime, whereas Einstein considered only the curving of spacetime. The ECE theory uses only the four dimensions of spacetime, so is much simpler and much more powerful than string theory, which unfortunately uses a multitude of dimensions that have never been observed in nature. During these years, from 2003 to present, Corthers showed that the methods used to infer the Hawking Penrose singularities are incorrect at a fundamental level. So from several angles it

was found that big bang and dark matter do not exist, despite all the propaganda on TV. The way in which a spiral galaxy evolves for example can be found using torsion as a basic idea. So the maps of dark matter are maps of torsion, an idea which comes from a self-consistent philosophy of relativity.

From 2003 to present the ECE theory has made a phenomenal impact on physics and throughout the world. This can be seen accurately from feedback software to the www.aias.us site of the AIAS. This has certainly not been to the liking of the small and dogmatic faction of standard physics, who have used very dubious methods to try to suppress the theory instead of accepting its advantages as they should. A new idea or paradigm such as ECE suddenly launches physics in a new direction. The great impact of ECE has been recognized by all except the standard faction, for example Evans was awarded one of the highest honours of the British Government in 2005, a Civil List Pension voted in by Parliament upon recommendation of the Prime Minister and the Royal Society. This was an honour unprecedented in over a century, and Evans joins an elite group of famous scientists. There have been only twelve of these appointed for work in the physical sciences in British history, the others being Herschel, Ivory, Brown, Dalton, Faraday, Joule, Adams, Fairfax-Somerville, Denning and Heaviside. Evans' immediate predecessor, appointed in 1896, was the great physicist, mathematician and engineer Oliver Heaviside, the pioneer of modern electrodynamics. The ECE theory has unified the fundamental force fields of nature: gravitation, electromagnetism, and the nuclear force fields, and has also unified relativity with quantum mechanics by discarding the unscientific mysteries of Copenhagen indeterminacy. This is in line with the thinking of such scientists as Newton and Einstein, and with data, for example those produced by the Croca group. The reason for the amazing impact made by ECE on working scientists worldwide is the fact that it has been so meticulously prepared and tested against data, revealing numerous advantages over the standard physics of strings and all that. Additionally, ECE faces problems in the eye, and does not duck them or wrap them up in abstraction as does string theory. The latter has not predicted anything new in forty years, whereas ECE has made several revolutionary advances in only five years. The fact that string theory cannot even be tested threatens the foundations of physics itself. There are many problems in the standard physics, notably the sudden and complete collapse of the EH equation in 2007. This is a terrible fiasco for standard physics and had been coming for ninety years.

In the area of cosmology, ECE theory comes down on the side of Einstein, Hoyle and Crothers, three notable thinkers who reject big bang entirely. In fact many scientists now reject big bang, because anyone who really puts their mind to it can see that the theory is untenable, both experimentally and theoretically. In light of the 2007 collapse of the EH equation the theory is complete nonsense. ECE has produced new cosmologies based on new methods of dynamics. There are so many advantages of ECE listed on www.aias.us that it is impossible, and intellectually dishonest, to adhere to the dogma of the standard model, and indeed it would be unscientific to do so. ECE has given a simple theorem of orbits to explain all known orbits with high precision, has given a rigorously relativistic explanation of the evolution of spiral galaxies, for example, replacing ad hoc dark matter by geometrical torsion. There are by now several able and sincere scientists who have a grasp of the technicalities of ECE theory, and there are already networks of engineers who use the theory daily to devise new energy and new propulsion devices. None of this is possible with string theory and dark matter, showing the meaninglessness of standard physics. To explore the universe now, the ECE equations must be used, not the self-destructed EH equation known to be wrong for ninety years. Only the most blinkered dogmatists would have adhered for such a long time to something which known to be wrong. Big bang is therefore rejected and

obsolete.

Second Part

This consists of interviews with leading scientists who have helped develop theories that are genuinely new in content and import. Among these is ECE theory, but there are others too. As suggested to me by the producer, this section is in question and answer format. The questions are asked of each scientist, who gives a different perspective in their answers. So the various answers are arranged after each question.

1) Can you give us a brief description of your background and career?

Myron Evans

I am the son of a coal miner and smallholder from Craigcefnparc, Glyn Eithrym, in the Lower Swansea Valley. I was educated at the then Pontardawe Grammar School and the then University College of Wales, Aberystwyth. I have worked at Oxford, IBM, Cornell and Zurich. In 2005 I was appointed the only scientist on the British Civil List for pre-eminent contributions to Britain in science. I am a fluent Welsh speaker and published poet in both languages, having produced about eight hundred scientific papers and books.

Cut to .....

Horst Eckardt

I was born in Lower Saxony in Germany, near Goettingen. I studied physics in the nearby city of Clausthal - Zellerfeld and completed my Ph. D. Thesis on topics in the quantum chemistry of solids. I showed that magnetic anisotropy in metals is a relativistic effect, and that certain resonances in photoelectron spectroscopy are due to localized excitations in solids. Later I went to Munich and have worked for some years in the electric industry. I joined AIAS in 2004, and have had the honour of being the co-author of many papers with Myron Evans.

Cut to.....

Stephen Crothers

I am Australian, originally from Sydney. I obtained a masters degree in astronomy from the University of Western Sydney in 2003. I bean theoretical physics at the age of 47.

Cut to .....

Franklin Amador

I was born in Chinandega, Nicaragua, and studied electrical engineering in California Polytechnic State Univeristy, San Luis Obispo and have worked in several major corporations.

2) What do you consider to be your greatest achievement in science?

Myron Evans

I have worked in several areas of chemical and theoretical physics and started research under Prof. Mansel Davies at Aberystwyth on molecular dynamics in the far infra red, helped to pioneer computer simulation under Prof. Sir John Rowlinson at Oxford and Enrico Clementi at IBM in New York State, discovered the B(3) field at Cornell. From feedback data that part of my work which made the greatest impact is ECE theory, developed from 2003 onwards.

Cut to.....

Horst Eckardt

No answer for this question from Horst as yet.

Cut to.....

Stephen Crothers.

I have proven that the theory of relativity does not predict black holes, expansion of the Universe or the big bang cosmology, bu tin fact precludes them, and that Einstein's theory of the gravitational field violates the usual conservtaion of energy and momentum.

Cut to .....

Franklin Amador

To find a link between ECE and electrical engineering through the great work of Gabriel Kron.

3) Why has the Telesio Galilei Association been formed?

Myron Evans

The Telesio Galilei Association (TGA) has been founded by Prof. Francesco Fucilla, a distinguished philosopher and businessman, to reform modern science, to free it of incorrect academic dogma and hopeless twentieth century obscurity. Bernardino Telesio was a high Renaissance philosopher form Cosenza who left his university for freedom of thought, the rigorously objective study of nature which was later formulated in the Idols of the Cave philosophy of Francis Bacon and which led the foundation of the Royal Society. Galileo Galilei is better known, and was one of the first scientists to understand some of the laws of dynamics and telescope based methods of astronomy.

Cut to ....

Horst Eckardt

In current physics research, the so called "standard model", publication is restricted to ideas that do not question the prevalent and transient dogma. Funding is restricted to projects which conform to mainstream ideas. Questioning of the dogma is not tolerated. At best,

genuinely new ideas are ignored, and the proponent of new ideas is ostracized from academia, not allowed to earn a living inside a university or research institute. In consequence there have been no really new ideas in standard physics in 50 years. The TGA aims in contrast to allow freedom of thought in physics, especially in view of the fact that concepts of the standard model are quite often incorrect, including the Einstein field equation. Fortunately we have a sponsor in Francesco Fucilla who is willing and able to award prizes for work in these really new areas of thought.

Cut to.....

Stephen Crothers

The Association has been formed by industrial benefactors and concerned scientists to counter the intellectual decrepitude that has dominated physics for many years, due to the infusion of a cocktail of dogmatic superstition, mysticism and systematic corruption.

Cut to .....

Franklin Amador

To promote genuine scientific ideas that would otherwise be censored by journals and so forth.

4) We see Standard Physics on the TV every day, so how can it be so wrong?

Myron Evans

The standard physics we see every day on TV is only one school of thought (known as standard physics or the standard model). There are other less well known schools of thought in physics which this film seeks to describe. The standard version of physics has degenerated into often incorrect dogma over the years, for reasons which this film will espouse. Standard physics has become so obscure as to be essentially useless for engineers, who need a clear, simple description of nature such as that given by my predecessors Newton, Faraday and Heaviside.

cut to.....

Horst Eckardt

Popular TV series try to illustrate modern science in a way that the non-specialist can understand. This is laudable but the programmes are created by science journalists who are not researchers usually and so take advice only from scientists of the standard faction. In this film, for the first time, advice is being sought from scientists who criticize the standard faction.

cut to.....

Stephen Crothers.

Contemporary physics has declined into a business, far from science. Demonstrably false and fantastic claims sell books, films and magazines, and can be used to misappropriate

public funds. Tell a lie often enough and it becomes the truth. A typical example is the black hole, a purely mathematical abstraction for which no experimental evidence has been or could ever be found. The public do not really know what this thing is.

Cut to.....

Franklin Amador

It is imperative for the viewers to question what they see on TV, otherwise they wil lbe programmed to believe one sided vies as the only truth.

5) What are the biggest problems facing humankind today?

Myron Evans

The greatest problem is shortage of fuel - new sources of energy are needed very urgently as we know from the news. The seemingly abstruse area of unified field theory may provide a new source of energy from the spinning of space-time itself, a property known as torsion and which is central to all physics and relativity theory. This is a rigorously logical outcome of the completed theory of relativity, ECE theory, and there is plenty of experimental evidence in the work of Tesla and others to show that this can be done.

Cut to .....

Horst Eckardt

These come undoubtedly from the energy crisis, environmental pollution and over-population. There is not enough fossil fuel to support the demands by humankind for a high standard of living. Politicians try to give the false impression that this crisis can be surmounted by futile measures known as alternative energy, for example wind turbines. Some countries do not give sufficient import to the clean production of energy, for example scrubbing emissions from power stations. Overpopulation may only be tackled with drastic measures such as those in force in China.

Cut to .....

Stephen Crothers

Unbridled human greed, the degradation of the environment, and the close control of food and fuel production by big business.

Cut to .....

Franklin Amador

Energy. We need ECE type devices that tap in to spacetime around us, an infinite and free source of energy for all humankind, without the need to burn fossil fuel.

6) Who do you think is the greatest physicist of the twentieth century?

Myron Evans

I come from a background of chemical physics, to which the greatest scientist is Erwin Schroedinger, the founder of modern quantum mechanics.

cut to .....

Horst Eckardt

I would like to mention Einstein, Schroedinger and Dirac. Einstein opened up a completely new view of physics through his theory of general relativity, based on geometry, Schroedinger established quantum mechanics, and Dirac unified special relativity and quantum mechanics. Full unification has taken place recently in the ECE theory.

Cut to .....

Stephen Crothers

I am not sure but it is not Einstein, who has become merely an iconic figure.

Cut to.....

Franklin Amador

My greatest inspiration is Nikola Tesla, the greatest engineering scientist and founder of the electrical industry.

6) What is relativity in a nutshell?

Myron Evans

Relativity asserts that the whole of physics must be an objective subject, without anthropomorphic distortion. ECE theory is generally recognized from feedback data to be the most complete manifestation to date of this particular philosophy. However, this does not mean that ECE is the final say, that would just be dogmatic again. Thought is forever changing.

cut to .....

Horst Eckardt

The basis of relativity is the coordinate transformation between frames of reference. The laws of physics must be independent of the frame in which they are written, and so the laws themselves cane be derived by frame transformation in an elegant way. Einstein's equivalence principle is a result of this geometrical approach to nature.

cut to .....

Stephen Crothers

It is a theory that postulates that the speed of light in a vacuum is the upper limit on the speed that any material body may acquire. The motion of objects is relative motion for which the laws of physics retain their form for all observers. The general theory of relativity describes frames of reference in arbitrary motion with respect to each other, but as formulated by Einstein, contains significant flaws.

Cut to .....

Franklin Amador

It is meant to apply objectivity to science, so human distortion is removed. Gabriel Kron developed relativity in circuit engineering using unconnected and connected R. L. C. elements. These circuits can be used to solve ECE equations for new energy.

So the film continues in this way with the other questions formulated in the pdf files already distributed. Each speaker will elaborate in his own way, so I have just given the gist of the answers in the above summary. There is already more than enough material for the film, so the best parts of the questions and answers can be used.

ADDITIONAL QUESTIONS AND ANSWERS BY HORST ECKARDT

1) How can science contribute to solving humankind's problems?

The solution to the environmental and energy problems must come from science. To an impartial layman, the scientists are making little or no effort to coordinate themselves to face these problems. Scientists must systematically investigate all possibilities in the hope that some will come to fruition. The AIAS accepts this challenge, but standard physics is bogged in very expensive dogma.

2) What is meant by unification of fields?

There are thought to be four natural force fields in nature: gravitation, electromagnetic, weak and strong. ECE makes the revolutionary paradigm that electromagnetism is the spinning of spacetime so that the Cartan geometry may be used to give a unified description of all four force fields. This is called a unified field theory. The Cartan geometry contains concepts not available in the Riemann geometry and these allow the weak and strong fields to be described self-consistently with the gravitational and electromagnetic fields.

3) How can energy be obtained form spacetime without violating conservation of energy?

In Einstein's theory the vacuum is empty, this result is in sharp contrast to quantum physics, where the vacuum is a sea of virtual particles with a huge energy density. This quantum sea gives rise to the radiative corrections of physics such as the Lamb shift or Casimir effect. In standard physics this is a huge and irreconcilable discrepancy. In ECE theory both worlds are reconciled, the background in ECE is filled with a potential energy defined directly by the tetrad of Cartan. The potential energy is physical and cannot be arbitrarily changed as in

gauge theory. The radiative corrections come from fluctuations in this potential of the generally covariant unified field. Energy transfer in ECE can take place through resonance equations known since the seventeenth century. This energy from spacetime in ECE comes form the background potential energy. There is a transfer of energy but the total energy is constant. The conventional continuity equation can be generalized (paper 116) in such as way that curvature and torsion of spacetime can produce charge carriers. Such effects have actually been observed experimentally.

4) What does ECE Theory tell us about the universe?

ECE has a very broad range of validity, form Planck length to galactic super-clusters. A good example of the power of ECE theory is its simple explanation of galaxy evolution in terms of torsion. In standard physics 90% of the universe is said to be dark matter, which is just a way of saying that standard physics is in the dark about 90% of the universe. In ECE there is a consistent picture, there are four laws of celestial mechanics instead of one - the traditional Newton law. Torsion is absent both from Newton's and Einstein's thinking. In ECE the universe consists of expanding and contracting regions, which can be observed not only by red shifts, but also by blue shifts.

ADDITIONAL QUESTIONS AND ANSWERS BY STEPHEN CROTHERS

1) What do you consider to be the central theory of physics?

Newtonian mechanics, because it is so widely used. Quantum mechanics and relativity still have serious shortcomings.

2) What do you think is the most effective description of objectivity?

Physics relies upon mathematics as a description of nature. However, it should not be forgotten that physics is an experimental subject, one cannot twist theories to suit facts.

3) What do you think are the main errors in standard physics?

Any fantasy now can be advanced as a scientific theory, particularly if so complicated that no one can understand it, for example big bang, and black holes.

4) What do you think of twentieth century physics?

The twentieth century was a dark age for physics, because pure mathematics displaced observation and theories became far too dogmatic because it was thought that nature had been explained to great precision.

5) What do you think are the main areas of scientific advance in the twentieth century?

The biological sciences and the applied sciences of electronics and medicine. Theoretical physics has not kept pace and has atrophied. The findings of experimental physicists have not been properly assesses by theory.

6) What is the way t unify classical electrodynamics and gravitation?

I don't know and might be impossible. Maxwell's electrodynamics and Einstein's relativity are irreconcilable and experimental data call for reassessment of current theories. The latest attempt to unify gravitation and electrodynamics is the ECE theory based upon general relativity but with the addition of torsion.

7) What do you think are the fundamental force fields of nature?

Currently it is believes that there are four: gravitation, electromagnetism, weak and strong, the latest attempt to unify all four being ECE theory. There is a school of thought that proposes that electricity plays a more important role in an astrophysical context than gravitation. Plasma physicists feel that the universe is composed mainly of plasma.

8) What is your approach to natural philosophy?

Physical science must be based on observation, and mathematics is a handmaiden of physics, a tool with which to codify our observational knowledge of the physical world. I think that relativity is incorrect, physics cannot be reduced to geometry and I think that physics and mathematics are two different things. The physical universe existed before the appearance of Man, but mathematics did not, so mathematics is merely a human contrivance. Scientists must always be allowed the freedom of thought to criticise the foundations of science. A transient and small faction who call themselves standard physics tries with futility to stop the advance of ideas.

SOME ADDITIONAL QUESTIONS AND ANSWERS BY FRANKLIN AMADOR

1) What do you think of the Riemann geometry used by Einstein?

It is a good example of spacetime being described by geometry. Cartan expressed the geometry elegantly, and Cartan geometry has been used by Myron Evans in ECE. Th elatter can be developed with the methods of Gabriel Kron.

2) What do you think of the importance of Cartan torsion in differential geometry?

This is an important part of the idea that physics can be expressed as tensorial equations which do not change their form on coordinate transformation - the idea of general relativity.

3) Why is torsion ignored in standard physics?

Perhaps it is because they feel it would complicate their equations that they call standard physics. I feel that there is a mental block among scientists who cannot grasp that everything in nature spins, including the atoms that make up their physical being.

ADMINISTRATIVE QUESTIONS AND ANSWERS

1) Do you think that the considerable public expenditure on standard physics is justified?

Myron Evans

I do not think that public expenditure on projects such as LIGO or CERN can be justified under any circumstances, because they are based on already obsolete and / or incorrect technology.

Stephen Crothers

Absolutely not. These projects are known to have no scientific merit, yet tens of thousands of millions are spent on them. The LIGO project has not detected gravitational radiation, and the CERN project has reduced already to absurdity with the claim that mini black holes will destroy the world. The very idea that physics can progress only with the help of large teams I spurious. The best ideas come form individuals.

Franklin Amador

If proof of concept is not established initially, no public expenditure is justified, let alone tens of billions of dollars.
2) Do you think that the funding is better spent on research into new forms of energy?

Myron Evans

It is obvious from the everyday news that the vast amount of money spent on these projects would quickly result in several new forms of energy. I think that people are more interested in the price of food than in gravitational radiation.

Stephen Crothers

Certainly, this is an important problem that needs to be solved, oil gas and coal cannot be burned indefinitely.

Franklin Amador

New forms of energy must slowly replace fossil fuel burning. Solar, wind and geothermal energy projects are marginal and should also be phased out. Energy from ECE should ultimately replace these methods.

3) Do you think it is advisable to spend such a disproportionate amount of public funds on abstruse and obsolete pure physics at the expense of chemical based subjects, engineering and medicine?

Myron Evans
Reforms are needed to stop the standard faction from essentially funding itself through the use of advisors who are themselves of the standard faction.

Stephen Crothers

The huge amount of money wasted in these areas is better spent in the areas of chemistry, engineering and medicine, above the urgent need for new sources of energy.

Franklin Amador

It is imperative to have coordination between different disciplines and expand new energy research through ECE theory.

4) Do you think that reforms in the physics administration are needed?

Myron Evans

Reforms are needed to stop the standard faction from essentially funding itself through the use of advisors who are themselves of the standard faction.

Stephen Crothers

Yes urgently, the major journals of physicss and also its electronic archives are openly censorial. The editors and referees are allowed to systematically reject unfavored theories, or criticisms of standard physics. A similar situation holds for conferences and books. The funding of physics is carefully restricted to favored ideas which are increasingly obsolete.

Franklin Amador

Administration needs to be reformed if it is not encouraging truthful discussion.

5) Do you think that an ombudsperson is needed to make sure that physics does not simply fund itself without proper public control?

Myron Evans

A scientific ombudsperson would act as a moderator - and make sure that the politicians are at least aware of the fact that the point of view put forward by the standard faction I snot the only point of view in existence. The ombudsperson would also balance the distribution of funding between field particle physics and other subjects of far greater practical importance.

Stephen Crothers

Governments should be required by law to take advice across the whole spectrum of

scientific opinion, and to fund accordingly. Currently worthless science is funded to the extent of tens of billions, while desperately needed research into new energy is routinely suppressed and described as crank science. A mechanism must be found to remove conflict of interest.

Franklin Amador

Te public should vote on science funding in a special ballot section.

6) Do you think that politicians take the time to understand what they are funding in science?

Myron Evans

The weakness of the present funding system is that the politicians themselves have little grasp of what they are funding, especially in ultra abstruse areas such as the Higgs boson. The politicians are not able to judge the relative importance of ideas in science.

Stephen Crothers

Yes of course, and this should be required by law. Politicians should be required by law to take advice from parties of scientists with opposing views, not just from a transient elite.

Franklin Amador

Lack of understanding is not an excuse for improper funding.

7) What do you think of the editorial and peer review system of standard physics publication?

Myron Evans

The editorial and peer review system of the standard faction has lost its integrity. It is designed wholly to stop new ideas from being published, and to stop the funding of new ideas. I write this as one of the most peer reviewed scientists in the world.

Stephen Crothers

It is a self serving and deceptive system which has become very corrupt.

Franklin Amador

Over and over again we see the current standard faction try to censor new ideas. This is wholly ineffective because of websites and so this censorship must not be allowed to continue. Openness must be required by law.

8) What do you think of the blacklisting of new thought that can be shown to exist in standard physics publication?
Myron Evans

The blacklisting of new thought occurs in the Institute of Physics for example. Ordinary secretaries with no scientific training are instructed to reject papers in which appear ideas critical of the standard faction. This practice has been severely condemned by the profession worldwide, as we see from www.aias.us feedback.

Stephen Crothers

This practice is widespread, and if it goes on science will suffer badly.

Franklin Amador

A scientist is a seeker of truth, and must allow truth to come out in others.

9) Do you think that the refereeing of grant applications to publicly funded committees is a fair procedure?

Myron Evans

The refereeing of grant applications takes place through committees or agencies such as PPRAC in Britain or NSF in the US. The referees are of the same standard faction, so automatically reject new ideas. This has also been severely condemned by the profession as can be seen in the overwhelming interest in the new ECE theory.

Stephen Crothers

Absolutely not. The committees are not directly responsible to the general public, they do what they like and get pad into the bargain, often taking care to fund their own committee members - the so called “musical chairs” method.

Franklin Amador

Grants are restricted to the standard faction only.

10) How should physics be run and funded?

Myron Evans

Physics should be run and funded as we run the www.aias.us website, where we use open, collegial, checking without anonymity. This was the system up to the nineteen forties. The

result is that the website is among the most read in physics, if no the most read physics website of all. The censoring of ideas will never work, the age old lesson of history.

Stephen Crothers

By law, public funds must not be abused, and science funding is no exception. Public input at elections should determine the distribution of funding.

Franklin Amador

By the People, for example in California the electorate voted to legalize Stern cell research.

11) Do you think that career pressures are brought on staff and students who criticize physics?

Myron Evans

Various career pressures are brought on staff and students to conform to the transient ideas of the time. Ths has always been the case in human society. The pressures on staff are typified by the source documents on www.aias.us., the notorious episodes at UCW Aberystwyth and UNCC for example.

Stephen Crothers

There is not doubt at all that this is common practice. I have experienced it myself many times, the worst being in the University of New South Wales.

Franklin Amador

Funding is the key to a scientific career, and new ideas threaten the flow of funds.

12) What do you think of the concept of academic tenure?

Myron Evans

The concept of academic tenure is mediaeval in origin. It has no discernible purpose in contemporary society.

Stephen Crothers

Tenure should be replaced by job performance assessment subject to the law of industrial relations. Academics should be compelled to spend a larger amount of time on teaching.

Franklin Amador

I don’t see anything wrong with tenure if properly used.

13) What do you think of the cyberstalking and harassment tactics of contemporary physics?

Myron Evans

The notorious cyberstalking and harassment tactics of some fringe individuals of the standard faction are criminal activities, and of course must be condemned outright as wholly unprofessional, amounting to academic misconduct.

Stephen Crothers

The internet provides a simple means by which harassment can be perpetrated, and harassment has become a common method by which the orthodox elite attempt to intimidate those who disagree with them. It has been legislated as a criminal offence in Britain for example, and probably in the EEC and USA too.

Franklin Amador

There is no need for cyberstalking and harassment in science, these are criminal activities.

14) What do you think of the intimidation of free thinking scientists?

Myron Evans

This is an age old failing of human society and of human nature. In our generation it is no different.

Stephen Crothers

Contemporary elitism in science tries with futility to suppress openness of discussion. Science has become big business, so methods akin to organized crime are used to persecute free thinking scientists by career pressure, career termination, ostracization, systematic harassment and so forth. Most of us know what happened to Galileo.

Frankin Amador

There should be no intimidation in a society of enlightened beings. Intimidation, cyberstalking and harassment, career termination and so on are barbaric acts committed by some contemporary standard physicists.

SOME DIALOGUE BETWEEN THE STANDARD MODEL AND ECE.

1) Standard Model

It is obvious that the standard model of physics is correct in all its main aspects, and that any criticism of the standard model is fringe activity.

Einstein Cartan Evans (ECE).

On the contrary, the standard model is riddled with errors (see www.aias.us). For example, its gravitational sector is general relativity, whereas its electromagnetic sector is still nineteenth century special relativity. This is a complete mismatch. Its classical part comes from the seventeenth century, where an event or happening is caused by something, and its quantum part is based on the concept of indeterminacy, where things are unknowable and are not caused by anything at all.

2) Standard Model

It is obvious that the famous Einstein field equation is correct in all its main aspects and has been tested to high precision.

ECE

Not at all, the Einstein field equation is wildly incorrect because of its neglect of a basic geometrical property known as space-time torsion. All the exact solutions of this equation known to date can be proven by the computer to conflict with basic geometry. Recent work by the AIAS team has shown how to describe all known orbits with high precision by using the correct geometry and discarding the obsolete Einstein field equation. This AIAS work has caused great interest all across the world.

3) Standard Model

It is well known that the Maxwell theory is a fully tested and precise theory of electricity, magnetism, light and radiation. To challenge this is absurd.

ECE

You couldn't be more wrong. The Maxwell equations were in fact given by Heaviside, the inventor of vectors. It ought to be called the Maxwell Heaviside (MH) theory. This is a classical theory of special relativity, not of general relativity as required. The Einstein and MH theories cannot be put together, or unified, without the use of a powerful geometry due to the French mathematician Cartan. This was done properly only in 2003, by the British Civil list scientist, Myron Evans, who found that the classical theory of Maxwell and Heaviside must be a theory of general relativity, thus producing ECE theory. The latter has been described as the most significant advance ever made in the sciences.

4) Standard Model

It is well known that the Heisenberg uncertainty principle is true in quantum mechanics, anyone who rejects this is a fringe scientist.

ECE

Wrong again. This should be called the indeterminacy principle, and its meaning is profoundly obscure. It asserts that things are unknowable, there can be happenings without anything making them happen, that things can go backwards in time, that atoms are unobservable and so on. This is a weird fantasy world that cannot be reconciled with general relativity. Evans rejected this fantasy in favor of general relativity, and derived quantum mechanics from geometry. There are many experiments that show beyond doubt that the principle of indeterminacy is, again, wildly wrong.

5) Standard Model

It is obvious that the Big Bang theory must be correct and that those who oppose it are fringe scientists.

ECE

Nothing could be further from the truth. The Einstein field equation upon which big bang is based is geometrically incorrect, because it conflicts with Cartan's geometry as shown recently by the AIAS group. The Robertson Walker metric is also incorrect as was shown in 2007 with computer algebra. There are many data that reject big bang. Crothers has shown that there are basic geometrical errors in the methods of Hawking and Penrose and their followers.

6) Standard Model.

It is obvious that dark matter exists throughout the universe and can even be made into maps.

ECE

Nonsense. There is no dark matter in nature, and the ECE theory shows how the evolution of a spiral galaxy for example takes place from the underlying torsion of spacetime.

(Here use animations by Horst Eckardt)

7) Standard Model

String theory is modern physics, anyone who thinks otherwise is a fringe eccentric.

ECE

The standard ideas of strings and super-strings have been heavily criticized for thirty years as pseudo-scientific. There has been no testable prediction of string theory in forty years. It is a hugely complicated morass that flies mud in the face of simplicity and even of the basic need to test against experimental data. It all started with a failed attempt at unification by adding unphysical dimensions, and then ballooned completely out of control

8) Standard Model

The Einstein field equation is the most successful of all time, and Einstein was a great genius. Anyone who thinks otherwise is a scientific lunatic.

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ECE

Who's crazy? It has been known for ninety years that the Einstein field equation is riddled with errors and obscurity. There has been a cover up of cosmological proportions. Finally in 2007 the equation was refuted by the AIAS group using the computer, and replaced by well tested ECE theory. So predictions of an incorrect equation, such as big bang, black holes, dark matter, and all the rest of it are incorrect too.

9) Standard Model

Physics is the most precise subject of all time, it is a subject of unimaginable precision and anyone who challenges this is a crank and a crackpot.

ECE

Not at all, when one looks closely at the so called precision tests for example of general relativity or quantum electrodynamics the result is shocking. The fact is that the very basis of general relativity, the Einstein field equation, is wildly wrong because of its neglect of torsion, essentially its neglect of half the geometry it should have used ninety years ago. Torsion is now known to be central to the whole of the natural sciences. The mirage created by the precision tests of general relativity is now well understood. It is due to the fact that the Schwarzschild solution of 1916 was forced incorrectly by others to reduce to Newtonian limits. This fact of history and geometry has been pointed out very clearly by Crothers in such a way that any student can understand it. The ECE theory's orbital theorem (111^{th} paper) is one simple way of describing all known orbits to observed precision without the use of the Einstein field equation at all. In quantum electrodynamics the 85^{th} paper of ECE showed up some unbelievable self inconsistencies, and quantum electrodynamics the standard faction's jewel in the crown. ECE has again proposed a far simpler and far more effective way of dealing with the radiative corrections discovered in the mid forties.

10) Standard Model

It is obvious to a fifteen year old that electrodynamics was a complete subject by the eighteen fifties, and that Maxwell's equations are one of the greatest achievements of all time. To challenge this is total ignorance combined with the pathetic arrogance of an amateur subversive crank.

ECE

You couldn't be more wrong, look in your own mirror. The so called Maxwell equations were devised by Heaviside in their familiar vector format. In fact Heaviside devised vectors themselves. Maxwell wrote down an insoluble system of twenty quaternion equations. The Maxwell Heaviside (MH) equations contain many flaws, pointed out by sincere scientists for over a century. They are not equations of general relativity, as required, they contain self contradictory assumptions, notably that the potential field can be arbitrarily adjusted - the basis of gauge theory. Once we start to think a little deeper we see that the minimal prescription used for example by Dirac to devise ESR, NMR and MRI contains a physical potential. The latter is not a mathematical abstraction as assumed in the standard physics. Once we start to consider photon mass, proven by light bending, we see that the gauge theory collapses entirely. In MH there can be no unification with gravitation because in MH there is no B(3) field. These are just a few of the many arguments against the completeness of the MH equations, and they have been completed in ECE theory so that they become part of a generally covariant unified field theory.