PRINCIPLES OF ECE THEORY

A NEW PARADIGM OF PHYSICS

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This book is dedicated to
all wholehearted scholars of natural philosophy

Preface

The idea of basing physics or natural philosophy on geometry goes back to ancient times. The Greeks for example regarded geometry as beauty. The amazing intricacy of the Insular style of the Book of Kells was based on the triskelion to a large extent. The idea was used for example by Kepler in the seventeenth century enlightenment which overthrew the Aristotelian, earth centred, philosophy that had held sway since the classical time of Aristotle. Newton's "Principia" is written in terms of geometry. The most famous revival of the idea is Einsteinian general relativity, based on a type of geometry developed by Riemann, Christoffel, Ricci, Levi-Civita, Bianchi and others from the eighteen sixties onwards. Eventually Einstein based his 1915 field equation directly on what was then known as the second Bianchi identity, inferred at the Scuola Normale Superiore in Pisa, around the corner from the University in which Galileo worked.

The ECE theory is named the Einstein Cartan Evans theory to distinguish it from the Einstein Cartan theory, and the first ideas for ECE occurred in early 2003. They emerged from O(3) electrodynamics, whose papers can all be found in the Omnia Opera section of the www.aias.us website. The key idea for O(3) electrodynamics was the B(3) field, which was inferred at Cornell Theory Center in November 1991 after a year in the University of Zuerich and ETH Zuerich in Switzerland. Vigier (who worked with de Broglie) quickly realized that B(3) infers the existence of the Poincaré / de Broglie photon mass, and confirms its existence because B(3) was deduced from experimental data in the inverse Faraday effect. The B(3) field meant that the entire subject of electrodynamics had to be restructured, and this process is recorded in the Omnia Opera of www.aias.us from 1992 to 2003. The restructuring was named "O(3) electrodynamics", a transition theory.

It gradually became apparent that the restructuring meant that a new unified field theory was necessary, one that was based on geometry. This is because previous attempts at a unified field theory, including Einstein's own attempts, were based on a mixture of concepts and many adjustable vari-

ables, so many that the old theories became essentially meaningless. The key idea for ECE theory emerged after a reading of a book by Carroll: "Spacetime and Geometry: an Introduction to General Relativity", in particular the end of chapter three, which gives a short synopsis of a geometry due to the mathematician Elie Cartan. This is a more rigorous geometry than the one used by Einstein. The Cartan geometry is based on the definition of torsion and curvature. The Einstein type of geometry contains only curvature.

In the Spring of 2003 I noticed that the defining equations of torsion and curvature have a similar structure to the defining equations of O(3) electrodynamics, so the first years of ECE theory were dedicated to deducing as much of physics as possible from these geometrical defining equations, with as few hypotheses as possible. It was quickly realized that all the main equations of physics can be derived from Cartan geometry, from its two structure equations, and identities. The ECE theory quickly branched out in many directions and became hugely popular, its readership has always included the best in the world: universities, institutes, government departments, corporations and scholars. The development of ECE theory coincided with the sweeping societal changes brought about by the knowledge revolution. By now ECE is among the most studied theories of physics in history. The readings of items on www.aias.us and www.upitec.org since about 2003 can be estimated in terms of hundreds of millions of printed page equivalents.

Gradually I realized that the Einstein theory of general relativity omits half of geometry: spacetime torsion. Nearly all the textbooks of the Einstein theory assumed zero torsion, most made this assumption axiomatically, some authors were not even aware of torsion. Starting with the classic UFT88, read hundreds of thousands of time, and written in 2007, it has become clear that the neglect of torsion means that curvature also vanishes, and that the Einstein theory collapses completely. It has been replaced in many ways in the 346 UFT items now available on www.aias.us. This is Alwyn van der Merwe's "Post Einsteinian Paradigm Shift" of the avant garde physics of the twenty first century. The tremendous power of website publishing, closely monitored by feedback analysis, and meticulously checked for quality, has meant that new ideas can be brought to any student, however poor, who wishes to study the new ideas. The ideas of ECE and of the obsolete parts of the standard model, now co exist. The main idea of ECE is to improve the old physics, to cut away the deadwood and keep the good parts of the old physics.

ECE and ECE2 have played an important role in applied physics and engineering, notably their ability to explain new and ubiquitous sources of energy. This work culminated in UFT311, which verifies this aspect of ECE

and ECE2 theory using a circuit design that is able to trap the unlimited amount of electrical power in spacetime. ECE and ECE2 have also given a plausible explanation of low energy nuclear reactors, now being considered by Congress in Washington D. C. as a source of new energy. The old physics has no plausible explanation for energy from spacetime or LENR.

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Craig Cefn Parc, 2016 *Myron W. Evans*

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