Foreword

A recent edition of a popular monthly astronomy periodical contains an article speculating that some of Einstein's assumptions in his theory of Special Relativity may be flawed. Naturally in order to save Einstein it is hoped the flaw will be refuted by the discovery of a particle of dark matter.

There are two reasons why this speculation is important. Firstly no one wants the great man to be in error for many and obvious concerns. The other is that after 100 years one can expect the best of theories to be subsumed in more sophisticated ideas. It is well accepted, that in physics, there are times when a totally new perspective is opened up with earlier theories that are experimentally supported being retained inside larger more encompassing frameworks. Just as often our growing understanding can be interspersed with sudden and unexpected discoveries. Such advances can come about when scientists seek new ways to answer old questions. In *Time – The Hidden Dimension of the Missing Physics* Frank Atkinson does more. He returns to Einstein's basic postulates, subjects them to a unique analysis and succeeds where the master failed. The flaws are laid out for our inspection before Atkinson moves on to present a breathtaking model and a paradigm shift in our thinking about cosmology.

The big questions of cosmology are as fundamental at the present time as they were in the time of Plato and Aristotle, being of great interest to many people from all walks of life. How did stars and planets and life emerge? Why is our universe the way it is? What imprinted the laws that govern it? Could other universes exist? Is our universe finite or infinite? If finite, how big is it? Was there a beginning to the universe? How old is it? How will it end?

Cosmology is both the study at the large scale of the most distant objects in our universe and also the study of the nature of matter on an unimaginable small scale. In the struggle for greater understanding scientists develop complicated mathematical theories on powerful computers to analyse their observations and make predictions. The theory known as the standard cosmological model, or the big bang cosmology, has as its major claim that in

the large scale average the universe is expanding in a nearly homogenous way from a dense early state. Evidence for the expansion, having accumulated for some 75 years, includes redshifting of light from distant galaxies; the uniform distribution of galaxies; the calculated age of the universe; the rate of expansion; the rate of change of expansion; the density of matter in the universe; the thermal cosmic background radiation and the growth of structure. Thus the standard cosmological model is accepted as the only explanation capable of providing answers to many of the fundamental questions asked of cosmology. Questions of what the universe was like before it began to expand, along with questions about the existence of God, remain fundamental mysteries.

It is here that the importance of any suggestion as to the possibility of flaws in Einstienian relativity becomes relevant. The standard cosmological model stands or falls on the validity or not of Einstein's special and general theories of relativity. To question any basic postulate of the model such as the existence of dark matter as reported in the astronomy periodical, or to propose a variable speed of light theory as is becoming prevalent among certain physicists at the present, threatens the standard model. Typically a scientist working in the field of physics would have to be very brave or very sure to go against established dogma.

Fortunately, as a number of popularisers of physics assure us, it is the case that there is no such thing as a typical scientist only as many different ways for people to come into science as there are ideas and points of view in science. In spite of whatever personal evolution a scientist has gone through scientists should all subscribe to the conviction that if a thought is to be ultimately worth something it will be agreed to by all of them. In this spirit then there can be no denying the ultimate worth of the thoughts within Frank Atkinson's work *"Time-The Hidden Dimensions of the Missing Physics".*

A thumbnail biography informs us that as a young man the author studied physics and maths, wanting passionately to become an architect. This path was closed to him in his eighteenth year with the onset of total loss of sight. A

change of direction brought him to the study of law. With astuteness and tenacity he established a successful law practice. The precision, reasoning and logical analysis required for such an undertaking enabled him to apply himself for ten solid years to the problem of theoretical physics that Einstein could not resolve. The unified field theory.

Albert Einstein, like a lot of theoretical physicists who over the last half-century or more never doubted the existence of a grand unifying theory, would be the first to applaud this book. In the pages that follow Atkinson sets himself the task of exposing and elucidating the ‘missing’ physics that bind the very large classical world with the very small quantum world in a single explanatory framework. That he succeeds, and on a scale in keeping with the theory he expounds, is beyond doubt as all who read it realise for themselves.

It is important to note the author has neither bias nor inherent interest in any particular perspective in science. Being outside the establishment he is also free of those restraining or motivating career pressures toward establishing a name, or status, that can stifle innovation. The drive is always for a better understanding of the world in which we find ourselves. Just as Einstein averred in the preface to his book ‘*Relativity*’ published in 1916, Atkinson’s intention is to give an insight to those readers who, from a general scientific and philosophical point of view, are interested in his new theory, but who are not conversant with the mathematical apparatus of theoretical physics. Having discovered a theoretical explanation that unequivocally breaks the crisis in physics Atkinson would encourage everyone to apply it to his or her particular field or specialism.

He decided that peer review was not appropriate for such a broad-spectrum work especially for someone without an establishment background. It seemed advisable to follow the time-honoured method of proceeding straight to publication. This leaves the task of taking forward the theory to a new and younger generation. It seems inevitable that established practitioners will have too much invested in their space-time, gravity waves, antimatter, black holes, and the rest of the reason defying standard model constructs to readily

embrace the new concepts. For many, postulating the impossible to explain the improbable has become dogma.

It is here we come to the power of Atkinson's' Tempo Field Theory as it sweeps through Einstein's' relativity, clearing physics of many of its blind alley beliefs. Through the pages the author takes his reader on an intellectual journey, unfolding on every page a roller-coaster of revelation after revelation, new ways of thinking about light, energy, gravity and matter all in strict accord with current observation and experiment. Straddling all this is a brilliant new definition of time and energy that is so simple and obvious it must be of merit, or at least is a truth closer to the reality we experience than many previous explanations.

In its completeness, coherence and consistency the theory is truly beautiful. Initially of course, the reader has to pass beyond the unavoidable moment of trying to find cause to question the proofs presented in the opening chapters. After this one begins the enjoyment arising out of an intuitive anticipation of the flowing logic. From then on there can be no more doubt as the rest of the work amply demonstrates, and corrects, the flaws in relativity. The speed of light, the measurement of length and distance, the variability of mass, energy, and eventually gravity, are among many reconstructions arising out of Atkinson's adherence to two principles. The first, of light, is itself an outstanding achievement. But towering above all the wonders of the work is his treatment of time.

The unique blending of time and energy arises out of a startling proposition. As he once pointed out in conversation it is common ground that everything is a process and to have process there has to be time and energy. To him time is symbiotic with energy in the matter of process; it is a logical deduction. If, for example, you regard gravity as energy then you have to have time. You can have time without gravity but not gravity without time. Time then, is the agent of gravity and one is justified in seeking its origin. Where Atkinson finds the origin is both logical and rewarding, allowing him to develop his all-encompassing theory.

It can be considered all encompassing because in developing a new relationship of time/energy the theory does more than satisfactorily explain the large-scale universe, its beginning, structure and its future. By turning gravity on its head, so to speak, it also explains much of the quantum universe. Without touching the mathematical numbers a new reality emerges decoupling gravity from the paralysis of big-bang relativity and freeing quantum mechanics from space-time fuzziness. We here become convinced that Einstein was indeed right to retain his conviction of an eternal and unchanging universe within his cosmology. Proof always lay within his theory it just eluded him. If instead of giving in to pressure and introducing a bizarre anti gravity he had returned to his basic principles, he may have recognised the flaws himself.

An infinite universe is a natural outcome to the linking of time/energy. It follows that there can be no cosmological tenet of a big bang beginning and a cold death ending. In this the theory effectively pushes the act of creation into the realms of metaphysics engendering any number of new insights and new directions.

For instance from our knowledge of the process by which stars and galaxies form, and having been introduced to an infinity of energy and time, we are forced to the conclusion that the big bang was actually a little bang. We thus infer an infinity of little bangs. The question thus becomes how small was our local little bang. It could well be that it has to be reduced to our local cluster, or even the Milky Way. We can also speculate that if evolution is to hold in our little bang it must also hold in all others. In an infinity of energy and time there is no reason to suppose the laws of physics are not universal. It follows that the infinity of little bangs will be as self-consistent and self organised as the little bang we inhabit and as such will be governed by the same laws. To dismiss this submission requires either proof that energy can be created and destroyed, which flies in the face of the laws of physics, or another resort to the domain of metaphysics.

It here becomes clear that Atkinson's Tempo field theory takes a definite stand on fundamental questions. There is no moment of universal creation; no initial conditions, no imponderables. At the root of everything is energy. Of course we might want to ask for the origin of energy but this would be like asking after infinity. Any possible answer must lie beyond the competence of science. This is made clear when we consider that infinite time out of infinite energy implies a definite direction for the unfolding of time. Physicist's concept of time is now brought into line with our everyday experience of psychological time. Views, such as that of time being made up of instant arrangements of all the things in the universe, become untenable. Things cannot be static and timeless; in the new theory they are by definition dynamic and eternal. Time is now no longer exclusively external, to be seen as a background against which we set our comprehension of reality. It is also an integral part of the physical world, internal to matter and therefore internal to our very thought processes. We are part of time.

This completely different explanation afforded by the theory is propitious in an age when personal time is increasingly seen as a precious commodity. It provides a new tool in the quest for answers to, for example, the many problems in psychology. New explanations can be sought in the studies of consciousness, our subjective experience of time, how we arrive at instantaneous solutions to problems, intuition, and to the consideration of the intractable mystery of thought.

The truth of our existence is not to be sought in non-existent black holes; wormholes; parallel universes and other such impossible escapes from reality. Endless time and endless energy presents much more opportunity for hope in the endless novelty of an eternal universe. The old saw about monkeys having time to assemble a Boeing 747 out of parts in an aeroplane scrap yard is no longer as improbable as it was. Whatever the application of the theory that the universe evolved from such a natural process as energy/time will lead to, will inevitably depend on perspective – philosophical, cultural, and scientific, and the many prejudices that colour our worldview.

What can be confidently predicted is that once started the reader will agree this book is a magnificent study and an exhilarating read. The mind is set alight with anticipation, primed with myriad emergent possibilities and questions, lots of questions only tentatively touched on in this forward. The one drawback is that for someone who loves to buy and absorb every popular science book that comes to market, it is somewhat frustrating to realise that what is currently available is made redundant by this one book. There is a raft of authors who are going to have to burn the midnight oil bringing themselves and their readers up to speed with how this theory relates to their own specialisms. They, more than most, will be aware our individual understanding of the kind of world we live in, and our relation to it, has a major influence on how we live and the way we conduct our lives. For this reason alone we should encourage the earliest dissemination of a theory so fundamental and revolutionary as Atkinson's Tempo field theory.

For far too many generations Einsteinian relativity has permeated every area of human endeavour. Throughout the fields of philosophy, psychology, physics, evolutionary theory, and many more, few, if any, have remained untouched. But now that the meme of energy/time has been released the new theory can be expected to engender significant changes. The examples offered above are some of the most obvious. Who knows what the combined efforts of the current student population and their progeny will produce once they pick up the ball and run with it. In their hands and with this tool the future can be greater than we could ever imagine.

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February 2006