

Herbert Dingle Was Correct! Part IX
A Metaphysical Philosopher Attacks Dingle's Conclusions
By Harry H. Ricker III, [email: kc3mx@yahoo.com](mailto:kc3mx@yahoo.com)

1.0 Introduction

This paper considers the attack upon Herbert Dingle's proof that the special theory of relativity is false made by a philosopher in a book with the title: Time And The Metaphysics of Relativity by Dr. William Lane Craig. An incomplete version of this book is available through the Google book search at the referenced address (See below). The reason for addressing this particular attempt to refute Dingle's mathematical refutation of relativity is that it is the work of a philosopher, and not a physicist or mathematician. Hence we can expect a different perspective, which is based on philosophical reasoning with a metaphysical emphasis as advertised in the title of the book.

We will discover, to no surprise of those who have been following the arguments of the papers in this series, that there is substantially nothing new in the argument presented by Dr. Craig and that there is in fact no refutation of Dingle's conclusions contained in his arguments. Hence the main reason for investigating them is not to refute them but to investigate how philosophy has been led to support the incorrect conclusions of the special theory of relativity and has dealt with the arguments which refute the philosophical support for that theory. Hence we are concerned with why a metaphysician thinks that Dingle is wrong and Einstein's metaphysics of time is correct.

2.0 Background

In 1966, a paper by Herbert Dingle appeared in a survey of the philosophical views of time with the title: The Voices Of Time, A cooperative survey of man's views of time as understood and described by the sciences and by the humanities, edited by J. T. Fraser. Dingle's paper appeared in Part IV, Clocks, Man and the Universe, which was the section addressed to the physical sciences. His title was: Time In Relativity Theory: Measure or Coordinate? This paper, like many of Dingle's published during his campaign to refute relativity, is relatively unknown appearing as it did in a philosophical review addressed to specialists in the philosophy of time. As was typical with many of Dingle's papers it had not received any critical comments until the book by William Lane Craig appeared. To this author's knowledge, this is the only published reaction which attempts to refute Dingle's arguments given in that paper.

Following Dingle's paper, there appears a section with the title: Comments-Of Time and Proper Time, prepared by the editor. Dingle's paper is succinctly dismissed as follows: "A separate view is that held by Prof. Dingle. His interpretation is rejected by most physicists because it requires a massless universe containing only two clocks." A reference is cited to a book by W.F.V. Rosser, which one would expect to explain this obscure and cryptic rejection of Dingle's viewpoint. This author after reading Dingle's

paper and the careful distinctions which are expressed regarding the theory of relativity, has the distinct impression that the editor's comments were conceived out of a failure to carefully read Dingle's paper. Having accepted that Dingle was wrong in his controversy over the clock paradox, the editor apparently decided that Dingle had nothing worthwhile to say. In this case one wonders why his paper appears in the book. One can see that it has remained in obscurity ever since.

3.0 Overview Of Dingle's Paper

In this section we will address the question: What were the views expressed in Dingle's paper, and we will try to answer the question: What were the specific arguments advanced by Dingle to support his rejection of the conception of time in the special theory of relativity?

Dingle's paper consists of an unnumbered introductory section and seven numbered and titled sections. In the introduction, Dingle states his thesis, which is familiar from his book The Special Theory Of Relativity, Methuen's Monographs On Physical Subjects, 1940 and later editions, that the special theory "...is concerned solely with the relation between the times assigned to events at different places and with the variation of those times with the state of motion which the observer ascribes to himself and his measuring instruments." Sections 1 and 2 proceed to give an historical introduction, leading up to section 3, which is the crucial one, which has the title: "Breakdown Of The Theory". The theme of this section is "that there must be some hidden inconsistency in the theory." We will discuss this in more detail later. Dingle's conclusion is that given two clocks and Einstein's synchronization criterion, the conclusion that clock B is slower than A can be derived as well as the conclusion that B is running faster than clock A. The reader should note that this conclusion appears different from his later statements of the contradiction.

This particular formulation of the inconsistency has not been fully appreciated. The implication goes beyond the claim of an inconsistency or a contradiction, it points to the unappreciated fact that the theory of relativity is impotent in actual fact to make any claim regarding the relation of clocks in relatively moving reference frames, because the theory is incapable of deciding which mathematical prediction is the correct one to be applied to the experimental results in a validation experiment. For every validly deduced claim that the theory predicts, for example, that a moving clock will go slow, there is an equally valid mathematical procedure which shows that the same clock will go fast. This is in essence the problem which Dingle exposed. It is a fatal flaw. The fact that experiment confirms one of these deductions does not rescue the theory, because it ignores the other equally valid prediction. Hence the apparent seeming validation of experiment is irrelevant, since the theory, given its lack of mathematical rigor, could have been confirmed by any outcome whatsoever. The only valid outcome with which the theory can be consistent, is that there is no time dilation at all. But this result is refuted by experiment.

In section 4, Dingle addresses the question of why "so simple a flaw in the theory should

not have been noticed very soon.” Three reasons are given. The first he gives was the concentration of all criticism upon Einstein’s theory “taking away all meaning from the simultaneity of separated events.” This is often referred to as his denial of absolute simultaneity. The second reason “lay in the habit,...of expressing the requirements in terms of *observers* rather than coordinate systems”, thereby allowing a solipsistic or observer dependent interpretation of the time measurements, rather than an objective observer independent determination. The third reason given was simply “that the theory has had such remarkable success in so many instances that it has become almost impossible to conceive that it might yet be wrong.”

This writer thinks that the main reason is a combination of all of these, which points to the very basic fact that the theory was lacking in the basic fundamental requirement of possessing mathematical rigor, and this fact was obscured by the polemical arguments over the other philosophical and interpretational issues. The primary fact was that the mathematics was never carefully checked for errors before it was accepted as true, because it was simply assumed to be correct. This stunning fact is an embarrassment to the reputation of the physics establishment, and one can understand their reluctance to admit that they made a very big blunder.

In section 5, Future Possibilities, the implications of the refutation of the theory are discussed relative to alternative theories. Dingle begins by noting that “We are back, then at the dilemma that faced us at the beginning of the century. Einstein’s brilliant attempt to reconcile his two postulates has been shown to have failed, and we must admit that one or the other must be false.” If the first is false, then we must return to Lorentz’s theory, and if the second is false we must consider Ritz’s theory. This is followed by a discussion of the implications for both of these alternatives.

In section 7, Space-Time, Dingle delivers an attack upon the conception of space-time formulated by Herman Minkowski in a very famous quotation. Dingle says: “This unfortunate remark is probably responsible for more misunderstanding about the wider implications of relativity theory than anything else.” Dingle’s argument in support of this statement is crucial to his conclusion that physics has nothing to contribute to the solution of problems of the meaning of time. Dingle argues that relativity can say nothing regarding “time by itself”, because it is solely concerned with time at a distance. Hence, the experience of time is outside the scope of the theory. Physics deals only with the measurement of time. He says “...the theory is such that not only the time, but also the place, of an event ...changes with the arbitrary choice of motion, and the changes are related in such a way that a certain combination of them has the same value for all choices....and it is this characteristic of the theory that has given rise to the illusion that there is an objective “space-time“ in nature, of which what we call “space“ and “time“ are partial aspects.”

In section 8, the conclusion is stated as follows: “...the physical phenomena which have led to the theory of relativity have no contribution to make to the solution of problems

concerned with time. On the contrary they require us to know what we mean by time before we can consider them...All the real problems of time are independent of physics.” This conclusion is contrary to all of the claims of physics, which have been accepted at face value by philosophers, without any critical evaluation of Dingle’s arguments.

4.0 Time And The Metaphysics Of Relativity

The attack against Dingle occurs in chapter 3 of Time and The Metaphysics Of Relativity. Before discussing it, we will consider the larger aims of the book in which it occurs. The following is the advertisement for the book: “The larger project of which this volume forms part is an attempt to craft a coherent doctrine of divine eternity and God’s relationship to time. Central to this project is the integration of the concerns of theology with the concept of time in relativity theory. Unfortunately, theologians and philosophers of religion do not in general understand Einstein’s theories, whereas physicists and philosophers of science, under the influence of verificationism, have largely focused philosophical reflection on spatiotemporal concepts given by physics. There is thus a paucity of integrative literature dealing with God and relativity theory. The collapse of positivism and the rejuvenation of metaphysics have led to a renewed scrutiny of the metaphysical foundations of relativity theory and the concept(s) time found therein. This volume provides an accessible and philosophically informed examination of the concept of time in relativity, the ultimate aim being the achievement of a tenable theological synthesis.” The entire book is not available on line, so the present writer can not evaluate it as a complete work. Hence, the argument will focus on the attack upon Dingle’s views and the context of that argument.

In the introduction of Chapter 1 the author advertises his book as a exposition of relativity accessible to philosophers and theologians, because members of these groups don’t understand relativity. After reading parts of Dr. Craig’s book, the present writer thinks that Dr. Craig has perfectly illustrated the reasons why this is true, because it is clear that Dr. Craig doesn’t understand relativity at all. This is most evident in the attack upon Dingle, which is based upon a very uncritical acceptance of claims made by Dingle’s opponents. Dr. Craig’s book appears to be an uncritical summary of the standard textbook opinions derived from what appears to be a very careful study of the literature, but without understanding of it.

This failure is certainly not unique. Any student of relativity who is an uncritical thinker has fallen into this trap. This includes almost all the writers of books upon the subject of relativity. The most prominent exception being Herbert Dingle, who when he published his second book on special relativity, The Special Theory Of Relativity, in 1940, attempted to present a more logically sound exposition of the theory than the standard version replete with its confusing and obscure arguments that can only be believed as true on the basis of authority. Dr. Craig’s book clearly illustrates the fact that the only way to truly understand relativity is through a suspension of disbelief and a blind acceptance of the authority of experts, who merely believe and repeat what they were taught without understanding it either. Hence the chain of belief is preserved, but is this the path to truth

and understanding of science?

An illustration of Dr. Craig's blind credulity occurs at the beginning of Chapter 2, where he describes Einstein's 1905 paper as "a model of clarity, concision, and boldness." Only readers inculcated with the rigid belief of Einstein's near divinity can make such a statement. For most readers will find Einstein's paper to be a model of ambiguity, confusion, obscurity, and deliberate obfuscation. It is exactly the opposite of what Dr. Craig describes. Since it touched off over 100 years of confusion and controversy in physics, the only way this description can be interpreted is that the author has fully embraced the ideas and concepts of relativity in an uncritical manner, fully accepting them and never once looking beyond the surface appearance of the claims made. There is absolutely nothing clear or concise in the paper, it is a model of studied ambiguity, imprecision, and vagueness. For example, in section 4.0 he states that "the time marked by the clock (viewed in the stationary system) is slow..." Does this mean the moving clock is in reality slow or only appears to be slow to the rest observer? There is nothing clear or concise about this ambiguity, which has been a perpetual source of argument and confusion.

The particular issue which concerns us here is exactly this. Why when a philosopher, presumably a very intelligent man who has put much time and effort into the problem of understanding relativity, should reject in a very simplistic manner, the most significant mathematical evidence available that it is false? The answer, is surprising. It must be that because he doesn't understand the arguments of the participants, and that he has chosen to support the majority viewpoint, in the belief that they are right, for no better reason than that there are more of them than those who argue against relativity. This is not a very solid criterion of scientific truth. Particularly when there is a solid mathematical proof that the theory is contradictory -- a criterion that disqualifies any scientific theory that is based upon a mathematical formalism. The issue here is quite clear. The proof that Dingle is wrong must be a mathematical one, presented without mistakes, and unmistakably clear in its results. Unfortunately, such a proof is impossible, because there is a conclusive mathematical proof that Dingle's conclusions are correct. Hence we are compelled to accept that fact, because a mathematical proof is conclusive and inescapable. (See Reference 3 for the detailed proof)

5.0 Craig's Insubstantial Attack On Dingle's Conclusions

In his footnotes citing Dingle's publications giving Dingle's conclusions, which Craig rejects, he says to "see especially" Dingle's paper in the voices of time. He then cites almost all of Dingle's other papers with the significant omission of his fundamental papers in which the reasons for his rejection of relativity are discussed. However, in his discussion of "the fallacy of Dingle's objection" he neglects to discuss the specific example cited in that paper, but gives a critique of Dingle's other examples. This demonstrates that he has certainly not taken the time to carefully read any of Dingle's papers, but has merely accepted without question the criticisms of others which he repeats, without understanding the issues.

The criticism relies upon the claim that Dingle's definition of time as an event is a faulty concept and that he uses this idea incorrectly. However, it is Dingle's criticism of the faulty concept of the relativity of simultaneity that is the key issue of the debate. One can not discuss whether Dingle's claims are true or false upon the thesis that Dingle misunderstood the concept of relativity of simultaneity, as relativists are wont to do, because it is exactly this concept that Dingle finds to be faulty. So any criticism of Dingle amounts to saying that Dingle's criticism is invalid because relativity of simultaneity is correct, despite anything he says, because relativity must be correct, by virtue of faith in Einstein's theory. This is of course not an argument of the mathematical correctness of Dingle's claims but an unprovable assertion that he is wrong. Hence the refutation amounts to nothing and is null.

The deliberate misrepresentation of Dingle's proof that relativity is false, shows an inability to understand the key issue in the debate. Dingle takes the same definitions of time as Einstein, and shows that by Einstein's mathematical method, and following Einstein's procedure, that it is equally valid to deduce in accordance with the theory that moving clocks run fast as it is to deduce that they run slow. Hence all of the claimed refutations miss the crucial issue of the debate. Dingle shows with mathematical certainty that the mathematical method of relativity is unable to produce a physical conclusion that is unique and not contradicted by another valid deduction of the opposite conclusion. Since both deductions are valid within the mathematical structure of the theory, it must be rejected because it produces contradictory results. Obviously any physical theory which produces more than one physically valid prediction must be rejected, even before it is given the test of experiment, because it can not be determined which of the predictions is to be tested. The theory fails to pass the test of mathematical consistency, therefore it is pointless to subject it to experimental validation--it has already been shown to be false.

6.0 Craig's Oxymoronic Time Dilation

The attack upon Dingle occurs within the context of Craig's definition of an oxymoronic time dilation concept. According to Craig time dilation is one of "the strangest consequences of relativity theory". This echoes the traditional texts and leads up to a definition of time dilation that is a classic oxymoron. "Time dilation means that relative to a clock taken to be at rest, a moving clock runs slow, so that relative to the moving clock the amount of time recorded by the clock at rest expands or dilates." This is not the definition given by Einstein or the physics textbooks, because it is so obviously absurd. It being a self contradiction. Expressed mathematically, it states that an interval of time recorded by B is greater than A, and that the time recorded by A is greater than B. This is a classic mathematical contradiction. It admits no mathematical solution.

There is in this definition two different definitions of time. In the first part, the moving clock is said to be slow, without a definition of what this means. It admits of two possibilities. That the clock dial reading of the moving clock is less than that of the moving clock when a second event occurs, given that the readings coincide at a first event

or that the interval of time passage for the moving clock is longer. The second definition states that an interval of time recorded on the rest clock relative to the moving clock is greater than recorded on the moving clock. It admits of only one possibility, that the interval of time is longer for the rest clock. These two different ways of defining time in the same definition of time dilation negate the meaning of the statement, and render it null, or simply make it an oxymoron because in using the same definition of time in both parts it creates a mathematical contradiction.

The above example illustrates the mess that relativity has created in the analysis of problems of time and its measurement. The concept of time has not been clearly defined in a manner which allows it to be made mathematical. There are two different and inconsistent definitions of time that are used. Time as a dial reading, and time as an interval or duration. Einstein used both and this created the confusion. But in doing so he made a big blunder. This blunder is what Dingle discovered, although he was not able to as clearly diagnose the difficulty as we can today.

Before we proceed to discuss Einstein's blunder, I want to repeat the difficulty in the above definition of time dilation. It admits of two different meanings, because of the failure to apply rigor to the definition of time used in it. A clock is said to be slow because relative to a reference clock, its dial reading is behind the dial reading of the reference clock. In relativity a clock is also said to be slow when the time interval it records is expanded or dilated, which means it is greater than the reading of the reference clock. In one definition the moving clock dial reads less than the rest clock and in the other more than the rest clock. This is a persistent error that obviates the theory at its foundation. Since there is no rigorous and clear definition of what is meant by time in the theory, it is clearly defective on this account alone. Since the advocates of relativity have never cleared up this mess, they are clearly culpable in propagating a defective physical theory.

I want to repeat that the hallmark of a scientific theory, based upon mathematics, is that it requires precise, rigorous, and non ambiguous definitions of its physical concepts. Relativity fails to do this.

7.0 Einstein's Big Blunder -- Ambiguity In two Different definitions Of Time

This section discusses a blunder by Einstein which has resulted in the failure to clearly understand that the theory of special relativity is false. I call it "Einstein's Big Blunder" in my other papers, which give the complete details. Here I will give a brief sketch of it. The problem is in how you define time. Einstein defined time as dial readings. Here I show that this leads to a contradiction. If we define time as a dial reading, we are ignoring how clocks work. A clock measures beats which are counts of periodic oscillations. In the old days the oscillations were pendulum swings, today they are typically crystal vibrations. Dial readings are inverse to the time period of the fundamental vibrations. So if we take the period of the vibration as our definition of time, the result is not the same as time defined by dial readings. They are exactly opposite, because when the time period dilates

or expands, the clock dial reading contracts, and when the dial reading dilates or expands, the time period contracts. In the first case the clock is slow and in the second it is fast.

In 1905 Einstein used dial readings as time and worked out the Lorentz transform to show that time was slow since the time interval on the clock in the moving frame was less than the same interval measured by dial readings on the rest clock. Then in 1907 he defined time as oscillation or vibration period and used the same Lorentz transformation to demonstrate that moving clocks run slow. But his mathematics is false. He fudged. It is impossible for this to be true using the two different definitions of time. When a clock is slow its oscillation period is longer in time so that fewer beats occur and the resulting dial measure is less--appears shorter in terms of dial measure. Hence it is impossible for both to be derived from the same Lorentz transformation of time. Different ones are required for the two different definitions of time. Relativity does not do this. In my papers I show that by the correct mathematics using the oscillation period definition of time and Einstein's Lorentz transformation, that clocks run fast. Oops!!! Wrong. So if he had done it correctly, it would have alerted him to the fact that his idea that time is a dial reading is false. But he fudged and incorrectly showed that the Lorentz transformation of time defined by dial reading is the same as the Lorentz transformation of time defined by oscillation period. But this is quite impossible as I prove in my papers. I think that this disproves the entire thesis he presents, and no further analysis is required. The theory is false. QED. (Different Lorentz transformations are needed to prove this. Einstein uses the same Lorentz transformation in both cases, so his proof is false.)

One wonders how Einstein made this mistake. Lets recapitulate the story briefly. In 1905, he defined time as a clock dial reading or indication. It is a numerical measure of time interval or duration. If the rest clock reads 60 minutes, then the moving clock is slow if it reads less than 60 minutes. Numerically calling the rest clock A and the moving clock B, we have that following relation between clock dial readings: $B < A$ or $A > B$. The usual expression of time dilation as an expansion or dilation of the time interval on the rest clock relative to the moving clock appears to be equivalent to saying that the rest clock is slow, but this is false. The rest clock is fast relative to the moving clock. Otherwise the mathematical expression leads to a contradiction. The problem is created by several false steps.

It is obvious that we have to be careful which clock is the reference. When the rest clock is reference, we require in terms of dial reading numbers, that after a duration numerically defined by the reference or rest clock A, we have that the B number is less than the A number, and these numbers do not change values when we reverse the order of the statement we have that it is also true for the same measurements that the A number is greater than the B number.

Now the theory of relativity states the following. When we change the reference or rest clock from A to B, we obtain the following result in terms of dial reading numbers: the A number is less than the B number and the B number is greater than the A number. (This follows from Einstein's analysis of the relativity of simultaneity and the assumption that

the velocity of light has a constant numeric value for all reference frames.) Hence we now have a contradiction, since with A as reference we have the result that $A > B$, and with the B clock as reference we have that $A < B$. These two equations have no consistent solution, unless we allow the solution $A = B$, in which case the theory predicts there is no time dilation at all. This has been the source of much confusion because many authors claim that there is no contradiction on the basis that when the B clock is reference, the correct relation is not $A < B$, but $A > B$. In this case the moving A clock is fast relative to the rest B clock, a contradiction of the principle of relativity. Hence, the contradiction is not escaped as some authors claim. Dingle was the first to point out that there is a contradiction in both of these cases. But he went beyond this to assert that there is no way that the theory can determine which case is true, since both are equally valid. Hence, we can not determine from the theory whether the moving clock runs slow or fast without encountering a contradiction.

In 1907 Einstein introduced a different definition of time. He asserted that time should be defined in terms of time interval, not a dial reading. This is where the mistake occurs. It is then assumed that this time interval transforms according to the same Lorentz transformation as the clock dial readings. It appears that Einstein assumed that time interval was the same as dial reading. He used this definition in this way in order to show that the frequency of the moving B clock, taking the rest clock A as reference, is less than the frequency of the A clock. He took the Lorentz transformation of time interval to be the same as that for dial reading. There was a mistake in the mathematics that caused him to wrongly conclude that the theory predicted that indeed the frequency of the moving clock is less than the frequency of the rest clock. The correct result is in fact that the frequency of moving clock B is greater than that of the rest clock A. This is exactly what Dingle claimed in 1962 after he discovered that relativity was false. The fact that Einstein's 1907 paper has a mathematical mistake, which renders his theory false, is the unique discovery of this writer. However, Dingle was the first to see that there was a mistake somewhere, although he could not pinpoint where it occurred.

8.0 The Relativistic Definition Of Time

In the conclusion of Dingle's paper "Time In Relativity Theory: Measure or Coordinate?", Dingle states the very important conclusion that before physics can answer any of the problems concerning time, we must first know what we mean by time. In the case of the special theory of relativity, it is assumed that time and space are of such a nature that time is defined so that light speed is always the same for any observer. This having become a metaphysical assumption converted into dogma, it requires our belief since it is prior to physics, and requires that physics adopt this view. However, as we have seen repeatedly, this conception of time fails in a mathematical way to produce a contradiction free mathematical theory of physics--witness all the unsolved paradoxes of relativity. The problem is that the definition of time as dial reading or as time interval is not a metaphysical but a physical definition. Since these two definitions are a contradiction, it is hopeless that physics can achieve a mathematically consistent physical theory using them. We therefore require correct definitions of time for use in physics, to

replace the failed definitions used in the special theory of relativity.

Another deficiency of Einstein's theory is his blatant disregard for his own principles. Having claimed a positivist method for physics, he defines time metaphysically, instead of in an operational manner. This is of course hidden in the ambiguity and obfuscation.

Here we define time as the numeric quantity measured by a clock. There are however different ways to define how a clock obtains this numeric measure in terms of a dial reading. In order to obtain a time measure we require that we define what we are intending to measure. This is exactly what Dingle has said. As a practical matter we appeal to nature to provide the standard or measure definition of time, which has traditionally been based on an astronomical definition of time as year, month, and day, divided into hours minutes and seconds. In the 20th century time has been defined by more accurate physical processes which make time intervals exactly identical, so that the flow of time is "uniform". This is all part of the process of knowing what time is before we can define it in terms of measurement.

Notice that none of the standards of time are dial readings, they are time intervals or durations of time defined naturally, according to some process ascertained to be uniform with respect to the uniform flow of time--this uniformity of time being the only metaphysical part of the definition. Clocks which measure time are discarded if they fail to conform to this ideal uniform measure. Hence we require a definition of a time standard, and this is the basis upon which clocks are calibrated to measure time as a numeric dial reading. Prior to the advent of the special theory of relativity, the phenomenon of time dilation would have disqualified clocks subject to its effect as clocks, since they would have failed to measure time uniformly, when moving and at rest.

In order to define time as a dial reading, we first require that we have a standard of time defined such that the clock used measures time in accordance with the standard definition of time interval or duration. This is called calibrating the clock. Hence the standard definition of an interval of time precedes the dial measure of time.

One of the fundamental failures of the special theory of relativity is that it is incapable of determining whether the claimed time dilation is or is not due to a change in the metaphysical definition of time or due to a failure to conform to the standard definition of time--in other words to determine if the clock's calibration is faulty or not. Relativity claims the former on the basis of metaphysical authority, but can provide no proof, lacking any type of clock which is capable of ascertaining this distinction. Relativity on the basis of its metaphysical claims attributes all differences in time measure to changes in metaphysical time rather than to differences in the physical mechanisms used to perform the time measure. Hence physics has in it two contradictory definitions of metaphysical time. The first claims that time flows uniformly and the second claims that relative motion dilates the uniformity of the flow of time. Both can not be correct.

Relativity has attempted to escape the contradiction by the claim that the traditional

metaphysical conception of time is an absolute concept, and that time should be relative. However, this leads only to further confusion, since once the absolute nature of time is denied, there can be no assumption of uniform flow and hence the entire theory of time measure is undercut so that there is no longer any valid definition of a clock to make a measure of time. Hence there is a paradox in the essential part of the problem. The definition of a numeric measure of time using a clock. But this is no real problem for relativity, since time is metaphysically defined as that which conforms to relativity, a clock is defined as any process which supports the metaphysical definition of time in relativity theory. This is a classic tautology.

This brings us to Dingle's counter examples. Dingle showed that it is equally a valid prediction of relativity to claim that a moving clock runs fast as to make the prediction that a moving clock runs slow. Here there is the problem that relativity must choose which is the correct one, but in doing so, it faces the difficulty of explaining why the second result is invalid. Because the claim of time dilation is fundamentally a metaphysical assumption of the theory, it is obvious that relativists must reject the prediction that moving clocks run fast as false, but there is also no physical reason why this should be the case, since there is no physical reason for time dilation--this is a metaphysical assumption remember. Again the contradiction, paradox, and the dilemma. Fundamentally there is no reason to expect on mathematical or physical grounds alone that moving clocks should experience time dilation as opposed to time contraction. That is why a metaphysical requirement that relativity must be true is needed.

It is obvious that the special theory of relativity must be rejected as false for the following reason: Its metaphysical requirement that moving clocks run slow is arbitrary and inconsistent with the mathematics of the Lorentz transformation. It can have no place in physics because it can provide no basis for the measurement of time that does not involve a contradiction.

To summarize, the specific innovation of the special theory of relativity is the substitution of a natural definition of time using light velocity as the criterion, for the traditional astronomical definitions of time interval. The new definition is however not a natural definition of time as claimed, because it requires the introduction of an auxiliary concept, the relativity of simultaneity. Dingle showed that the introduction of this auxiliary conception, was incapable of producing a consistent definition of time as a clock dial reading because it was fundamentally flawed in its conception. It could be used to produce the result that time for a moving clock ran slow or was dilated, or with equal validity produce the result that time for a moving clock ran fast or was contracted. Hence, Dingle concluded that the theory was false, and this conclusion has never been refuted by a valid mathematical proof. Claims that it is false consisted exclusively of unsupportable assertions that Dingle's analysis was false, based on nothing more than that Dingle misunderstood the concept of the relativity of simultaneity. No mistake in Dingle's mathematics has ever been found and no one has made this claim. Hence, his mathematical demonstration remains valid.

9.0 The Correct Definition Of Time

There are three different ways to formulate a definition of physical time. The first one is the usual definition of time as dial reading or numerical measure of time duration. The second is the definition of time as time interval, and the third is time as frequency of harmonic motion or vibration, such as that used in the physical implementation of clocks. Each one of these different definitions requires its own definition of the Lorentz transformation to be applied for its mathematical transformation.

Once a clock has been calibrated, or certified that it keeps time accurate to within a specified error margin relative to a specified standard clock, its dial readings can be taken as a measure of time interval between two events. It has thus become a standard measure of time. But this is true only to the extent that its physical mechanism for the measurement of time maintains its calibration to the time standard. As we saw above, the special theory of relativity ignores this criterion and claims that clocks in motion run slow because of a change in metaphysical time. However, there is no way that this can really be determined to be different from a change in the calibration of the clock due to different conditions of its operation.

If we take the position that motion changes the calibration of the clock, we have a different definition of time in motion than for time at rest. However, we can make them consistent by changing the definition of time in motion relative to time at rest so that the clock measures the same time in both cases---we do this by recalibration of the clock. In this case we define time as an interval or duration of the harmonic or vibratory motion of the frequency element. We call this the time period of the motion defined as a time interval. By taking the inverse of this time interval we obtain the frequency of the harmonic motion or vibration. We claim that motion can change the calibration of these definitions of time. Hence we inquire into whether they are subject to the Lorentz transformation formulas, and discover that there is a way to calculate the change in the calibration of a clock predicted by the Lorentz transformations. In fact it is claimed that time dilation is the result of a change in the time standard and not the dial reading.

As discussed above in Einstein's big blunder, the special theory does not give the correct formula for the transformation of time period and its inverse vibration frequency although this was claimed to be so by Einstein in his 1907 paper. Hence the theory does not correctly predict the change in frequency of the fundamental time determining vibration of moving clocks, when it does give the correct change in dial reading. This is a fundamental failure of utmost significance. It invalidates the theory.

If there is a change in the calibration of a clock, we expect there to be two different things that change. First there is a change in the fundamental period of vibration of the time determining vibratory element-- usually the crystal or other oscillating element whose vibration when converted into counts forms the dial reading. The other change is in the dial reading, so that it is impossible to distinguish whether a change in dial reading was due to a change in calibration or a change in metaphysical time.

The principle of Occam's Razor, requires that we select the simplest possible explanation in physics. When there is a change in a dial reading due to motion of a clock, the simplest explanation is not that there is a metaphysical change in the definition of time but that there was a change in the physical phenomenon upon which the clock frequency element is dependent. Hence, motion changes the clock calibration. The Lorentz transformation formulas allow us to determine this calibration change so that the clock can be recalibrated to give the same dial reading in motion as at rest. The procedure to do this is given in detail in reference 4. Once the clock is recalibrated according to the procedure specified by the Lorentz transformation, its clock dial reading is the same in motion as at rest relative to the standard reference clock. Hence there is no need to hypothesize a metaphysical change or redefinition of time. We can continue to assume that time is uniform for all states of motion as was assumed in traditional physics prior to the introduction of the special theory of relativity. This is the procedure used by the GPS system which works successfully, as experience demonstrates, and does not require a metaphysical redefinition of time as required by relativity.

10.0 Summary and Conclusions

In this paper I have probably been unjustifiably critical of Dr. Craig and his book. I fully appreciate that his book is not a critical work on the special theory of relativity but is an attempt to bring modern scientific views, as illustrated by the special theory of relativity, to the appreciation of philosophers and theologians. It is not Dr. Craig's fault that he does not understand that the special theory of relativity is false. Hence his criticism of Dingle is entirely borrowed from the authority of others, and he is certainly not responsible for repeating their errors. However, he is responsible for credulously accepting these incorrect views, and we must inquire as to why. Certainly, he has accepted the authority of experts, and is unable to judge, as a theologian and philosopher, the validity of the special theory and Dingle's refutation of its claims.

I have been particularly harsh in my critique of his definition of time dilation, which is totally inadequate. His confusion results from the inherent flaws in Einstein's approach. In 1905, Einstein gave a definition of time dilation in terms of a retarded dial reading for a moving clock relative to a rest clock when "viewed" from the rest clock. The dial reading viewed on the moving clock being less than that of the rest clock. We call this time retardation. (Here I am ignoring the problem of whether this dial reading retardation is the result of an appearance or a real retardation of time in the moving frame, which depends on what Einstein means by the word "viewed".)

In 1907 he introduced the idea of time dilation, such that the time interval as an oscillation period recorded by a rest clock is longer than the period for a moving clock. Over time this definition came to mean that the time interval recorded by a rest clock is longer than for the moving clock. These two definitions are only consistent as long as we use dial readings, but Einstein in his "big blunder", erroneously took the definition to mean time interval and this error has sown confusion ever since. It crops up in Craig's

defective definition of time dilation, because it confuses or more properly conflates the time retardation and time dilation definitions. In 1907 Einstein made the claim that the change is oscillation period, measured as a frequency, due to motion “reduces the (apparent) proper frequency”. This statement, which implies that the time change is only true for a relatively moving observer, contradicts his interpretation given in 1905.

About all that can be concluded from this is that Dingle is correct in his conclusion that physics can not tell us what time is, but that we must know this prior to any physical attempt at a definition of time. Relativity asserts that physical time must be defined so that the velocity of light is a constant for all relatively moving observers. However, this definition of time as a substitute for the traditional astronomical definition of time as possessing congruent or uniform intervals has no real advantages, and suffers from numerous defects which crop up as paradoxes and contradictions. Thus it is clear that time as defined in relativity is an inconsistent conception and must therefore be rejected for this reason. This leaves only the traditional definition of time as a useful definition of time in physics. Hence it must be concluded that the time dilation effect in physics is the result of a change in the physical processes that are used to measure time and not due to the metaphysical concept of time advocated in the theory of relativity.

This leaves the main question unanswered. Why has the false metaphysical conception of time advocated by relativists been accepted by philosophy? The only answer is that philosophers are incapable of making such a judgment in the face of the confusing and ambiguous concepts that entail the special theory of relativity. Hence they have acquiesced in the face of the apparent authority of the mathematical correctness of the theory. However, it is just exactly this mathematical correctness which Dingle has challenged. So it is clear that Dr. Craig has based his judgment upon the weight of authority and not upon the correctness of the arguments presented, which he apparently is unqualified to pass judgment upon. This is certainly an unfortunate situation. This author believes that the theory of relativity should be rejected, not only because it has been mathematically proven to be false, but also because its lack of rigor promotes confusion with the resulting inability of independent experts, such as Dr. Craig, to actually make a critical evaluation of it.

References:

1.0 The following address will take you to the page in which the attack on Dingle begins:
http://books.google.com/books?vid=ISBN0792366689&id=EY8KVI-05P0C&pg=PA48&lpg=PA48&dq=herbert+dingle&sig=5OMG_EcXK7aqdnTTcDOsJ_pK3O4

2.0 The following address will take you to the advertisement page and links to books by the same author:
<http://books.google.com/books?vid=ISBN0792366689&id=EY8KVI-05P0C&dq=time+and+the+metaphysics+of+relativity>

3.0 The following address will take you to the proof that relativity is contradictory and to

the fundamental contradiction theorem: www.wbabin.net/physics/ricker2.pdf

4.0 The following address will take the reader to William Lane Craig's web page:
<http://www.leaderu.com/offices/billcraig/>