THE FANTASIES OF MODERN PHYSICS

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CONTENTS

Foreword

I never set out to challenge Einstein's Theory of Relativity. In fact, quite the opposite. Being an exciting new theory, I really wanted to understand it. I read and re-read Einstein's explanation of the Lorentz Transform—which is the entire mathematical basis of Einstein's Special Theory of Relativity—but something always seemed wrong.

One day, I thought that perhaps there was some error in the mathematics. Nobody, including me, expected a mathematician of the stature of Lorentz to make mistakes amounting to schoolboy howlers. It only takes an examination of the first three equations to realise that the entire thesis is invalid. There are so many mathematical blunders in the transform that it should never have been published.

A major experiment that also led Einstein off the track was the Michelson-Morley experiment of the late nineteenth century. The result of acceptance of these errors has been a holdup of scientific progress for over 100 years.

Peer Review

The system of peer-reviewing articles as a prerequisite to publication has developed into a method of censorship of scientific thought. It was never meant to be this as it was originally introduced to ensure fairness of publication. In days gone by, scientific journals were published in hard-copy form on a periodical basis. Because of the limited space of these journals, editors had to be selective in what they published. Obviously, some contributors would believe that they had been unfairly denied publication, so editors would select a panel to be sure that the most useful or interesting articles were included.

Peer review is no guarantee of scientific accuracy or scientific worth. It only amounts to a recommendation that a particular article is worthy of consideration.

With the progress of time, certain academics have used the concept of peer review to deny publication to those with contrary views—the argument being: if your article has not been peer-reviewed, no one should read it. Peer review is therefore used to preserve the sanctity of certain academic ivory towers by denying competition.

Nowadays, we have the Internet which has unlimited publishing space so we no longer need peer review. If the accepted opinion is wrong and contrary views are denied, how can we possibly progress? It has always been outsiders who have led science forward—never those accepting the

prevailing dogma. Galileo was almost burnt at the stake for his ideas; Martin Luther would never have been heard of if he had sent his ideas to Rome for peer review before publishing his 95 theses on the door of the Wittenberg castle church.

With present-day access to the Internet, we should not allow academics to continue to censor ideas with the excuse that they are not peer reviewed. Anyone reading a learned journal can decide very quickly whether an article is worthwhile or not.

Feynman's Axiom

Many years ago Richard Feynman, the American Physicist, stated:

You can often be proven wrong but you can never prove that you are right.

No doubt, this statement was a throw-away line born of frustration at the time. The following discussion suggests that Feynman's statement must always be true (which means that it becomes an axiom):

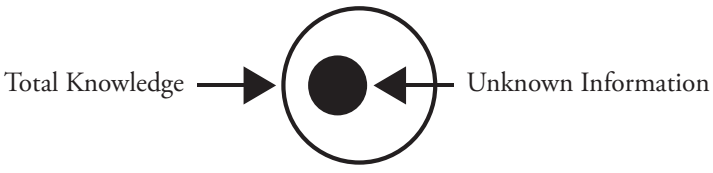

Fig 1

Let us say that the sum total of all possible knowledge in the universe can be represented by the large circle above. Further, let us say that human knowledge consists of all the knowledge except that represented by the small black circle.

If, now, I argue that God does not exist, consider the following. I argue that there is no evidence proving that there is a God and I challenge you to prove there is any. But as human knowledge is limited, the proof of God's existence might be forthcoming as our knowledge increases. That is, as knowledge advances into the black circle above, there might be definite proof that God does exist.

From the scientific point of view, the implications of Feynman's axiom are vital.

Let us say that you have created a hypothesis. As you must already have some solid evidence to suggest that your hypothesis is correct, how much more evidence should you accumulate before publishing your world-shattering discovery? According to Feynman's axiom, no amount of further evidence will confirm that it is correct but one piece of evidence contradicting it will prove it false.

Whenever a theory is put forward, there are two tests which must be applied:

1. **Look for evidence that contradicts the theory**. As it only takes one valid piece of contrary evidence to prove a theory wrong, it is much more efficient to find this piece of evidence rather than accumulate a thousand pieces of favourable evidence. Where evidence contradicts the theory, it is not good enough to ignore it or hope that it is a figment of the imagination. Contrary evidence does not necessarily mean that the investigator is on the wrong track but it will require him to modify or abandon the theory in its present form.

2. **Consider the repercussions of the theory**. If the theory leads to impossible consequences, then the theory must be wrong. For example, it is postulated that the speed of light is a universal constant. If I now show that red light travels faster through water than blue light (which is the reason we see rainbows), I immediately demonstrate that the speed of light cannot be a *universal* constant. The postulate must be wrong.

Virtually every blunder and scientific fantasy of modern physics has resulted from failing to apply one or other of the above two scientific principles.

1 The Einstein Industry

At the beginning of the 20th century, Einstein captivated the scientific world with his Special and General Theories of Relativity. Even though he made postulates that have never been satisfactorily proved, a large industry has developed to investigate these postulates. Because so much money is now involved, the scientific world has no interest in publishing any facts that would prove Einstein wrong. We even come across mind-boggling statements like, "Such and such cannot occur because that would be contrary to Einstein's theory of relativity". In other words, if nature does something that contradicts Einstein, then nature is wrong!

The theory of relativity is nothing more than a re-statement of a concept that has been obvious for centuries—namely, that your perception of reality depends on where you stand in relation to it. Over the years, scientists have tried to make observations *objective* so that reality will be the same to all observers once corrections have been made for observer error and difference in vantage point.

Every first year physics student learns the importance of observer error and the need to calibrate instruments. But Einstein is above all this. To Einstein, the observer is always right, no matter how absurd his conclusion. And instruments never need to be calibrated because they are always right. There is never any suggestion of the possibility of observer error or inaccuracy of instruments in either of Einstein's theories of relativity.

Time: Einstein postulates that time slows under two conditions—with increasing speed or with increasing gravity.

But time can't get faster or slower. If time can change its rate, what is this change relative to? One cannot move faster or slower relative to one's self!

Time is constant. When the Sun makes two successive transits over the Greenwich meridian, a solar day has passed. Hours, minutes and seconds are all defined sub-units of that solar day. All of our clocks—even the most accurate Caesium atomic clocks—are calibrated according to the rate of rotation of the earth. If your clock reads 4:15 and the Sun is directly overhead, I can state without any fear of contradiction that your clock is wrong.

To alter the rate of the passage of time, we would have to alter the rate of rotation of the earth. How can any mass with a high gravitational force, or a traveller approaching

the speed of light in the outer reaches of the universe alter the rate of rotation of the Earth? If the earth did alter its rate of rotation in response to every individual travelling at different speeds, we would all be scrambled eggs!

But, surely, experiments have been done to prove that time is affected by gravity? One notable proof involved placing two accurate atomic clocks—one at the top of a tall building and the other at the bottom. And, do you know what? The clock at the bottom went slower than the one at the top just as predicted by the theory of relativity. Irrefutable proof surely? Regrettably, no.

First, time at all points on the one longitudinal meridian of the earth is the same. Clocks at the top and the bottom of a tall building are clearly on the same meridian. If two clocks on the same meridian read different times, then one or both of the instruments must be wrong.

Second, both of these clocks must be in the same frame of reference (otherwise, how could you compare their readings?). How can time progress at two different rates in the one frame of reference?

Theorem of the Bleeding Obvious: There is at least one frame of reference that includes all points in the universe. If time progresses at different rates at two or more points, this implies that time must progress at two or more different rates in the one frame of reference. Thus, either Einstein's

hypothesis of variable time rates must be absurd or time is a useless and meaningless scientific parameter.

Third, as any first year physics student knows, the period of swing of a simple pendulum is given by the formula:

$$T = 2\pi\sqrt{\frac{l}{g}}$$

Where T is the period of swing of the pendulum
l is its length
And g **represents gravity**

In other words, gravity slows the period of swing of the pendulum. Hence, gravity is not slowing time, it is slowing the *mechanism* by which we measure time.

At this point, it behoves us to clarify what, exactly, we mean by "time". The "T" of the above equation is the period of one oscillation (movement from one extreme to the other and back again). Let us say that we engineer a pendulum on earth to oscillate at one oscillation per second. Sixty such oscillations would therefore comprise one minute. Now, if we took this pendulum to Jupiter, where gravity is 2.5 times that of earth's, the period of oscillation would be 0.63 sec. Thus, 60 oscillations would only take about 37.8 sec (earth time). Is this what we mean by gravity slowing time?

So, how did the scientists calibrate their clocks to ensure that gravity was not interfering with their apparatus? The

answer is: they didn't. They just *assumed* that their clocks were highly accurate under all conditions. As stated already, all clocks must ultimately be calibrated astronomically, so if two clocks on the same meridian read different times, then at least one of them is wrong. To see if gravity is affecting the mechanism of their clocks, all the scientists have to do is spin the clock in a powerful centrifuge for an adequate period of time and then see if it is still accurate. I guess I won't get any takers for a bet on the result—but hope does spring eternal.

The speed of light: Einstein's postulate that the speed of light is universal constant is demonstrably wrong. If it were true, spectacles would be useless and we would not be able to see rainbows.

Spectacles, microscopes and telescopes would not work if light did not travel through glass at a different speed than it does through air.

A rainbow occurs because the different light-wave frequencies (or wavelengths) travel through water at different speeds. Thus, blue light appears to bend more than red light. So, how can the speed of light be a universal constant if its speed varies depending on the media through which it travels? And if different frequencies of light travel at different speeds, which frequency of light is supposed to be the constant one? If all frequencies of light travel at different speeds in different media, how can one possibly

contend that the speed of light is constant? But this belief is required if Einstein's postulates are to be accepted. Nature is acting contrary to Einstein's theory and therefore must be wrong.

Frames of reference. Frames of reference and are *all quite arbitrary and imaginary*. There are no lines of latitude and longitude drawn on pavements for example. A frame of reference is simply a convenient way to describe a position or a motion. If I say, "Go down the high street to the Unicorn Pub, turn left and my house is the first house on the right", I am describing a frame of reference. But I could also refer to a street directory or give the position a latitude and longitude.

Frames of reference are *not* mutually exclusive even though Einstein's assumptions infer that they are. One can neither leave nor enter a given frame of reference—we are all within all unbounded frames of reference perpetually. If I sit in my lounge room, I might describe my position as being two metres from the door. You might describe my position as being 12,000km away in another country. But I am in the one place and both descriptions are correct even though we are using different frames of reference to describe it.

The fact is that there is only one "frame" of reference—which lay people call the universe. Within that frame, one can arbitrarily designate an infinite number of zero points

from which one can extend any number and types of axes.

This brings us to the famous "travelling twin/stay-at-home twin" argument. Einstein argues that if one twin travelled from the earth and back at somewhere near the speed of light, he would be younger than his stay-at-home twin. However, both twins remain within the one frame of reference and neither of them has ever left it. If the travelling twin did leave the original frame of reference, at what point exactly did he do so?

The mathematical basis of Einstein's theory of relativity is the Lorentz Transform. This is a scientific paper that should never have been published. It should preface all books on mathematics as a compendium of virtually every possible mathematical blunder you can make.

Nearly every assumption and postulate in Einstein's theories of relativity are demonstrably wrong. Why, then, are they still taught?

There are three good reasons:

1. When people do not understand a complex concept, they will tend to agree with it rather than admit their ignorance. Descartes (1569-1650) made the following statement: "…(in geometry)…those who are not entirely adept more frequently err in approving what is false, in order to give the impression that they understand

it, than in refuting the true." (Descartes' introduction to *Meditations*).

This is the classical "The Emperor's New Clothes" story. In that fairy tale, none of the villagers was prepared to admit what their eyes clearly saw because they thought that everyone else believed that the Emperor was wearing a fine suit of clothes.

The reality is that none of today's scientists understand the Lorentz Transform or Einstein's theories—but they don't want others to realise that. Such an admission would suggest that they are not clever.

2. **We all want to believe in time travel**. We believe because we *want* to believe! Any discrepancies of logic are overlooked on the basis that the theory must be right and there will later be some explanation of the anomalies once we gain greater insight.

3. **There is now an Einstein industry**. Many scientists earn their living by investigating or teaching Einstein's theories. Destruction of this industry would be catastrophic for them. Further, how many scientists are now prepared to admit they have been fooled for over a century by arguments that they would regard as laughable if presented by a high school student?

The problem with suppressing knowledge is that it also hinders the advancement of science and leads

people to waste their time with experiments which must lead nowhere. We presently have scientists trying to bring Einstein's theory of relativity into conformity with Quantum Theory. As Einstein's theory is wrong, there is no possibility of this being successful. The attempt has resulted in exotic theories of creation such as "string theory" which is also a total waste of time—particularly as the strings are impossible to observe.

Clearly, the scientific world does not want to know that Einstein was wrong and the ignorance is protected by shouting, "not peer reviewed" to any non-believer.

The Lorentz Transform and Einstein's theories of relativity have now wasted over a century of scientific progress!

Geometry of The Ellipse 2

The basis of the ellipse, which is a very important scientific construct, was devised by humble gardeners. These artisans realized that the way to map out an elliptical garden bed was to take two stakes and place around them a continuous loop of string. By keeping the string taut and using a marking stick, they could then mark out an ellipse.

Mathematicians have always realized that the sum of the two distances from each focus to any point on an ellipse is constant. If they had realized what the gardeners already knew, they could have made their lives much simpler. Not only is the sum of the two distances from the foci to any point on an ellipse a constant but the sum of the two distances from the foci *plus* the distance between the two foci is also constant—that is, the circumference of the triangle F_1–P–F_2 is always constant.

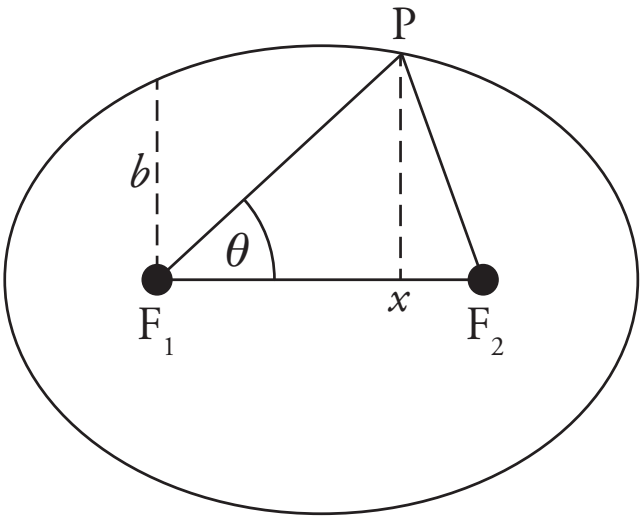

Fig 2.1

Let us first MAKE AN ASSUMPTION, which we shall later prove. The origin of this assumption is that planetary motion around the Sun is a simple harmonic motion. Simple Harmonic Motion (SHM) is a simple type of periodic motion where the restoring force is directly proportional to the displacement and acts in the direction opposite to that of the displacement. If we can show that the distance of a planet from the sun (R) is proportional to the *X*-coordinate of the planet, then the requirements of SHM would appear to be satisfied.

Initially, let us assume that the distance from one focus of the ellipse to a point on the circumference is directly proportional to the distance from the same focus to the *X*-coordinate of that point.

That is, $R = kx +$ (some constant)

Using the diagram above, this formula would translate into $R = kx + b$ (b must be the constant as it is the value of R when $x = 0$).

Let us create an ellipse described by a 3,4,5 triangle (see Fig.2.2 below). The distance from either focus to the circumference directly above it must be the same.

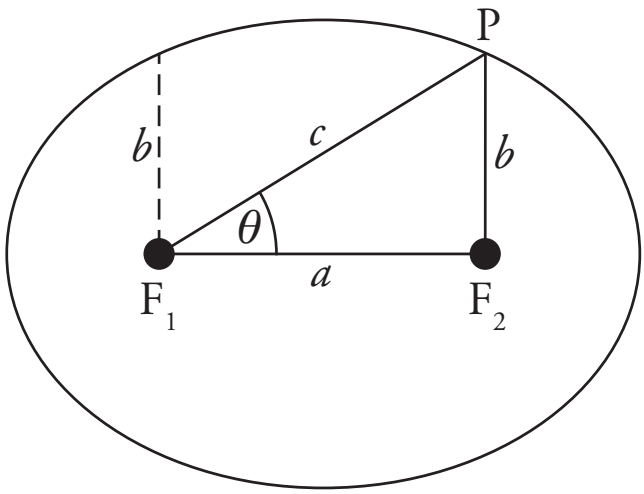

Fig 2.2

As R = $k.x + b$
$\therefore\ c = k.a + b$
$\therefore\ 5 = k.4 + b$
$\therefore\ k = \frac{1}{2}$

The formula for an ellipse described by a 3,4,5 triangle is therefore $R = \frac{1}{2}x + 3$

For a 5,12,13 triangle it is $R = \frac{2}{3}x + 5$

It can be shown that an ellipse described by any right-angled triangle will conform to the above general formula.

This demonstrates the linear relationship between the radial distance from one focus to the perimeter and its X-coordinate and hence, an elliptical orbit satisfies the conditions for a simple harmonic motion.

The constant ***k*** for any ellipse can be derived simply from the magnitude of the sides of the right-angled triangle which describes it by using either of the following formulae:

$$k = a/(c+b) \text{ or } k = (c-b)/a$$

$$\begin{aligned} &\text{As } a^2 + b^2 = c^2 \\ &\therefore a^2 = c^2 - b^2 \\ &\therefore a.a = (c-b)(c+b) \\ &\therefore a/(c+b) = (c-b)/a = k \end{aligned}$$

As ***a*** tends to zero, ***k*** also tends to zero. In the limit where ***a*** = 0, we have the special ellipse known as a circle.

When ***a*** = ∞, the geometrical figure is a straight line.

The cosine of the angle from the primary focus (F_1) to the circumference of the ellipse above the mid point between the foci is also ***k***.

As $\boldsymbol{a} / (\mathbf{c} + \boldsymbol{b}) = \boldsymbol{k}$

Then $\frac{1}{2}\boldsymbol{a} / \frac{1}{2}(\boldsymbol{c} + \boldsymbol{b}) = \boldsymbol{k}$ - as the sum of the two sides of the triangle other than the interfocal distance must always equal $(\boldsymbol{c} + \boldsymbol{b})$ and each of these sides must be equal at the point on the circumference directly above the mid-point of the interfocal distance.

The formula, $\boldsymbol{R} = \boldsymbol{k}.\boldsymbol{x} + \boldsymbol{b}$, is a hybrid formula of two coordinate systems—i.e. half polar and half Cartesian. However we can easily convert this formula to pure polar:

$$\text{As } x = R \cos\theta$$
$$R = k.x + b = k.R\cos\theta + b$$
$$\therefore\ R - k.R\cos\theta = b$$
$$\therefore\ R(1 - k\cos\theta) = b$$
$$\therefore\ R = \frac{b}{(1 - k\cos\theta)}$$

Our original assumption that the distance from one focus of the ellipse to a point on the circumference is directly proportional to the distance from the same focus to the X-coordinate of that point can now easily be confirmed as correct. If we apply the above formulae to known points on the 3,4,5 ellipse—the extremities (x = -2, +6), the points above and below the foci (x = 0, +4) and the points above and below the mid-interfocal point (x = +2), we will find that they all fit.

The gradient: The first differential (dy/dx) is best derived in Cartesian co-ordinates:

$$R = \sqrt{x^2 + y^2}$$

$$\sqrt{x^2 + y^2} = k.x + b$$

$$x^2 + y^2 = (k.x + b)^2$$

$$x^2 + y^2 = k^2x^2 + 2kbx + b^2$$

$$y^2 = (k^2 - 1)x^2 + 2kbx + b^2$$

$$y = \sqrt{(k^2 - 1)x^2 + 2kbx + b^2}$$

$$y = [(k^2 - 1)x^2 + 2kbx + b^2]^{½}$$

$$\frac{dy}{dx} = ½ [(k^2 - 1)x^2 + 2kbx + b^2]^{-½} [2(k^2 - 1)x + 2kb]$$

$$\frac{dy}{dx} = [(k^2 - 1)x^2 + 2kbx + b^2]^{-½} [(k^2 - 1)x + kb]$$

NOW: $(k^2 - 1)x^2 + 2kbx + b^2 = (k^2x^2 + 2kbx + b^2) - x^2$

$$= R^2 - (R \text{ Cos } \theta)^2$$

$$= R^2 (1 - \text{Cos}^2 \theta)$$

$$= R^2 \text{ Sin}^2 \theta$$

AND: $(k^2 - 1)x + kb = (k^2x + kb) - x$

$$= k(kx + b) - x$$

$$= kR - R \text{ Cos } \theta$$

$$= R(k - \text{Cos } \theta)$$

SO: $[(k^2 - 1)x^2 + 2kbx + b^2]^{-½} [(k^2 - 1)x + kb]$

BECOMES: $$\frac{R(k - \text{Cos } \theta)}{\sqrt{R^2 \text{ Sin}^2 \theta}} = \frac{k - \text{Cos } \theta}{\text{Sin } \theta}$$

$$\therefore \frac{dy}{dx} = \frac{k - \text{Cos } \theta}{\text{Sin } \theta}$$

From this, it can be seen that the magnitude of the gradient of the ellipse vertically above or below either of the foci will also be ***k***.

The ratio of the interfocal distance to the major axial diameter of an ellipse is also ***k***.

It can also be shown that the ratio of the minor axis of the ellipse (a_x) to the major axis (A_x) is $\sqrt{(1 - k^2)}$. Also $k = \sqrt{(1 - (a_x / A_x)^2)}$:

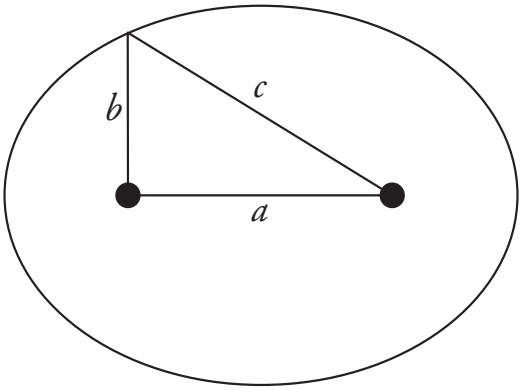

Fig 2.3

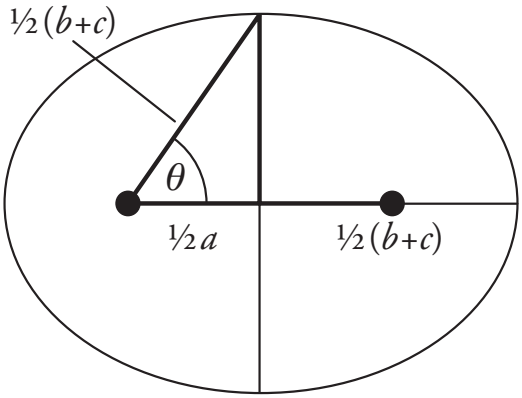

Fig 2.4

As can be seen from figure 2.4, half of the major axis equals ½ (b+c) and half of the minor axis equals

$$\sqrt{[½(b+c)]^2 - [½a]^2}$$

The ratio of the two axes therefore equals

$$½\sqrt{\frac{(b+c)^2 - a^2}{½(b+c)}}$$

$$\frac{a_x}{A_x} = \sqrt{\frac{(b+c)^2 - a^2}{(b+c)}}$$

$$= (b+c)\sqrt{\frac{1 - a^2/(b+c)^2}{(b+c)}}$$

$$= \sqrt{(1-k^2)}$$

ALSO: $k = \sqrt{1 - \left(\frac{a_x}{A_x}\right)^2}$

From the above, it is obvious that k = Cos θ and a_x/Ax = Sin θ of figure 2.4 above. As $\text{Sin}^2\,\theta + \text{Cos}^2\,\theta = 1$, then $(a_x / A_x)^2 + k^2 = 1$.

If you are ever stumped in relation to an ellipse,
the answer is probably k.