Time Perspective Bias
Apparent decreasing of time intervals, over large scales (TPB)

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Abstract

One single paradigm shift provides a simple alternate explanation for "accelerated expansion", millisecond pulsars, The "galaxy outer rim rotation problem", wavefunction and the "double slit experiment".

TPB proposes that time is actually observed and measured with a perspective, analogous to 2D linear perspective in architecture.

Photons travelling to an observer, from remote past events, will **appear** to arrive with successively decreased time intervals. However, the difference is minute and only significant over scales, measured in LY.

TPB is a corollary to the assertion that "Whatever happens to space happens to time, too".

CONTENTS

1. INTRODUCTION

This simple proposal of time perspective provides a resolution to a great many, seemingly, unrelated mysteries. The Law of parsimony favors such simplicity.

2. TRAIN TRACK THOUGHT EXPERIMENT

Imagine an observer, with a reference scale, measuring the ties of a railroad track in perspective. See figure 1. The scale will measure each successive tie (n) with decreasing spatial intervals, according to the inverse linear perspective equation [1]

$$n' = \frac{n}{d} \tag{1}$$

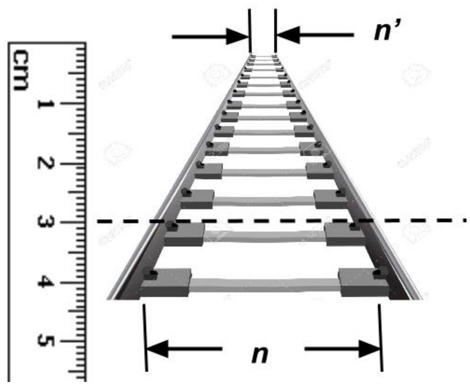

FIG. 1. 2D linear perspective

Now, imagine the observer with a reference clock, measuring some motion with velocity (v) across (n). See figure 2. In TPB, The clock will measure each successive (d/v) with apparent decreasing time intervals, according to the equation:

$$t' = \frac{t}{1 + dK} \tag{2}$$

Where (K) is a very minute constant, that is only significant on scales represented in light years.

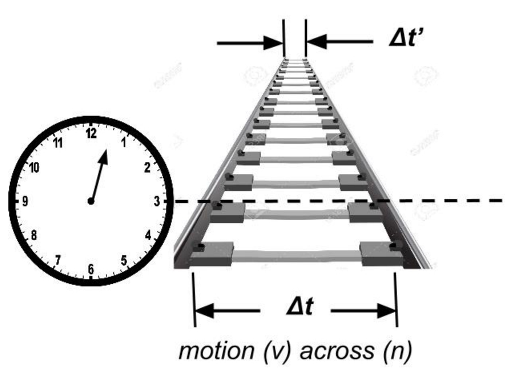

FIG. 2. Time perspective

3. DECREASING TIME INTERVALS APPEAR EQUIVALENT TO ACCELERATION

Figure 3 illustrates uniform expansion, without TPB. The (x) dimension is expansion and time intervals are uniform).

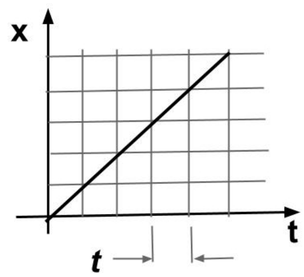

FIG. 3. Actual uniform expansion (without TPB)

Figure 4 illustrates time perspective, as proposed in TPB. Remote galaxies appear to be expanding with acceleration, as (t') intervals decrease. However, the acceleration is only an illusion of perspective.

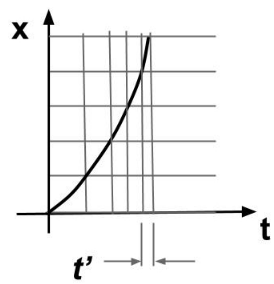

FIG. 4. Apparent accelerated expansion

The actual expansion is essentially a derivative of observed expansion.

TPB suggests that an assumption of accelerated expansion is, essentially, equivalent to assuming that railroad ties are multiplying and converging, as they recede into the horizon, without considering any perspective.

4. MILLISECOND PULSARS

Current theories of neutron star structure and evolution predict that millisecond (and sub-millisecond) pulsars would break apart if they spun at a rate of 1500 rotations per second or more.[2] TPB offers a simple resolution, which does not compromise the rate of gravitational radiation.

Imagine a series of pulsating objects, spaced at equal distances from each other. The reference clock is at $X = 1$ and the observer is behind the reference line at $X = 0$. Photons are travelling to the earth, from the remote past. Time intervals between flashes are uniform (t). See figure 5.

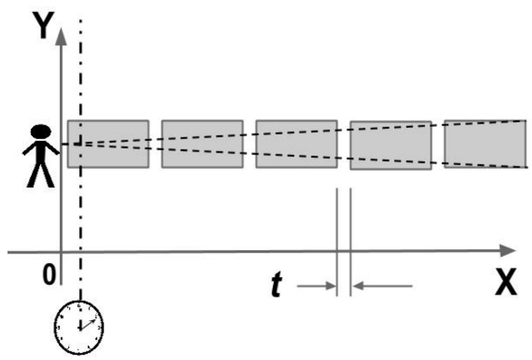

FIG. 5. Shows the actual uniform distances between flashes

Figure 6 demonstrates the TPB effect. Photons appear to be arriving with decreased time intervals. Between flashes, $(\triangle t)$ appears to be decreasing. Thus, flashes appear to be occurring more frequently, per (t').

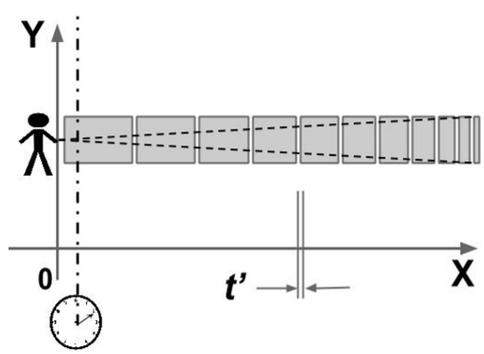

FIG. 6. Flashes appear to be occurring more frequently, per (t').

5. ROTATIONAL VELOCITIES OVER DISTANCES

All apparent increased spin and rotation of distant (pulsars, galaxies, black holes, etc) can be explained by the perspective distortion in TPB, as well.

Decreasing time intervals are interpreted to be increased rotational velocities. TPB predicts a positive correlation between distance measured and rotational velocity, according to (t').

Figure 7 imagines a series of galaxies at equal intervals from the observer, with equal size and rotational velocity, per the classic orbital velocity formula [3]

$$v = \sqrt{\frac{GM}{r}} \tag{3}$$

(x) dimension represents events in remote distance, as well as the remote past. Photons from each successive duplicate galaxy arrive at the observer with **apparent** shorter time intervals. Thus, each successive rotational velocity (v) appears to increase, according to (t'). Thus,

$$v \propto t' \tag{4}$$

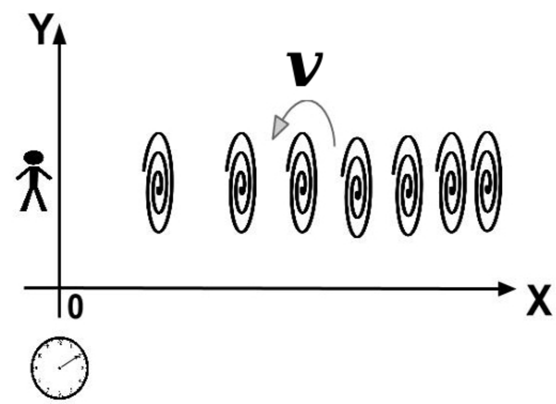

FIG. 7. Thought experiment with uniformly spaced galaxies.

6. OUTER RIM ROTATION VELOCITY PROBLEM

The "Outer Rim Rotation Velocity Problem" [4] can, conceivably, be resolved by comparing the geodesics between photons traveling from the outer rim to photons traveling from the locus. If the outer geodesic paths have greater arc-lengths, then the TPB effect is greater and, by extension, rotational velocity is greater, per (t').

In TPB, greater arc-lengths $\implies$ greater distance $\implies$ greater perspective distortion $\implies$ apparent increase of velocity.

7. QUANTUM SCALE TPB

In TPB, an observer viewing at quantum scale with a reference clock, will measure time intervals magnified, per t_2'.

$$t_2' = \frac{t_2 d}{d - K} \tag{5}$$

Time also appears to divergence in micro-scales (The opposite of converging space and time, in macro-scales) . TPB, in magnification, proposes that time has the same divergence, and convex distortions, as does spatial magnification [1] . See figure 8

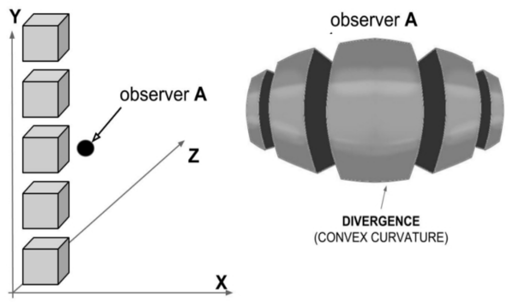

FIG. 8. Spatial perspective in magnification.

TPB offers an alternate explanation to the undetermined probability wavefunction Ψ, in favor of a more objective reality. See "On the reality of the quantum state" [5]

In TPB, time magnification, and divergence **appears** to be pluralistic in time and, subsequently, in position. The effect is essentially equivalent to a field.

The "collapse" is resolved when the measurement is no longer **between** scales of great magnitude. (This principle is explained in the following sections).

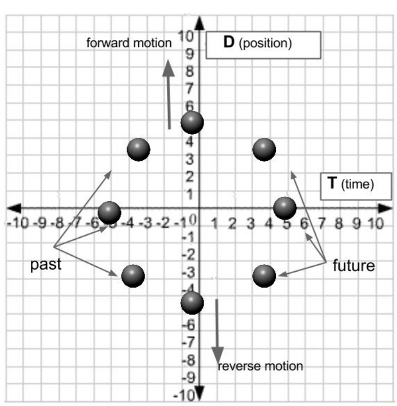

FIG. 9. **Apparent** field with multiple position and multiple times. An illusion of perspective in TPB

TPB suggests that the particle's wavelength λ [6] appears distorted by (t_2'). Since particle momentum $p = mv$, and m is invariant, the observed wavelength is proportionate to (t_2'). Thus,

$$\lambda \propto t_2' \tag{6}$$

Thus, TPB predicts that the wave length will vary with the distance between the particle and the observer.

8. TIME PERSPECTIVE WILL VARY WITH THE DISTANCE FROM THE OBSERVER, PER (t_2')

To reiterate, t' and t_2' are only significant **between** scales of great magnitude difference.

The **"Davisson-Germer Experiment"** [7] , is a classic example of such observations between the detector's angular measurements (at the observer's scale) and the scale of electrons.

TPB predicts that if detecting instruments can be scaled and positioned much closer to the point of beam scattering [8], the intensities would become more isotropic, proportionately. However, the instruments would need to be on a scale much closer to the particles, themselves.

This concept of perspectives **between scales** sheds some light on the "Double Slit Experiment". The following section reveals a solution.

9. ALTERNATE EXPLANATION FOR THE MEASUREMENT PROBLEM

The TPB effect only occurs between scales., which is the key to resolving the "measurement problem" [9]
In the experiments below, note that (s) is the source and (e) is the effect.

Figure 10 shows the case where (s) is at the quantum scale and (e) is at the observer's scale. Since the measurement between these two scales is of great magnitude difference, (t'_2) then becomes significant and TPB is demonstrated. Consequently, a wave / interference pattern is observed.

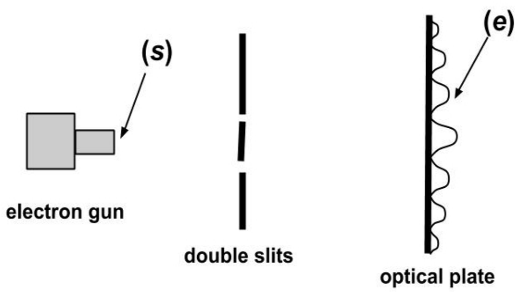

FIG. 10. Without a detector present, is a measurement **between scales.**

Figure 11 shows the case where (s) is the detector, which is at the observer's scale, and (e) is the optical plate, which is also at the observer's scale. Since, the measurement is precisely within the **same** scale, (t'_2) then does **not** become significant and TPB is not demonstrated. Consequently, a particle is observed.

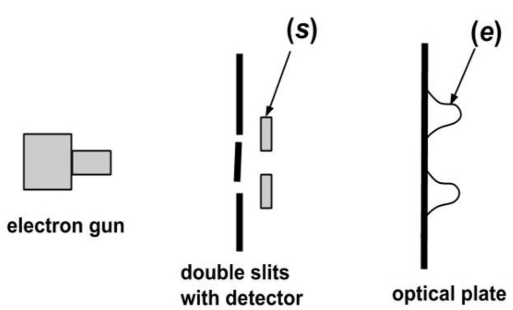

FIG. 11. With detector is a measurement **within the same scale.**

10. PREDICTIONS

Sine t' is a rational function, a graph of Doppler-shift over distance would have an asymptote, according to TPB. As opposed to the geometric graph, which conventional "accelerated expansion" assumes. However, distance must be measured by an objective system, other than the red-shift itself.

Spin rates of galaxy spirals, will appear to increase on the far side of the system and decrease on the near side.

Multiple gravitational lensing of super novas will each display the event with time differing intervals, depending on their geodesic lengths.

Approaching exocomets should appear to decrease in velocity.

Super-Nova debris should appear to decrease in velocity, as it projects forward toward our solar system.

Adjusting the scales between the observer and a various quantum particles should produce a corresponding wave / field distribution.

Multiple particle detectors (from opposing vantage points), in accelerators, will disagree about the speed, mass and charge of resulting sub-particles.

In The "Davisson-Germer Experiment" TPB predicts that if detecting instruments can be positioned much closer to the point of beam scattering, the intensities would become more isotropic, proportionately. However, the instruments would need to be on a scale much closer to the particles, themselves.

As technological advances provide greater measuring capabilities of macrocosms and of microcosms, a strong positive correlation will be demonstrated between such scales and the TPB effect.

TPB predicts that multiple vantage points, using a parallax system, will measure time periods of motion distinctly different. Thus, An exocomet, traveling normal to Earth, would appear to decrease in velocity to a vertex at the point where it is closest to Earth. This apex would be depend on the earth's position in parallax. See figure 12

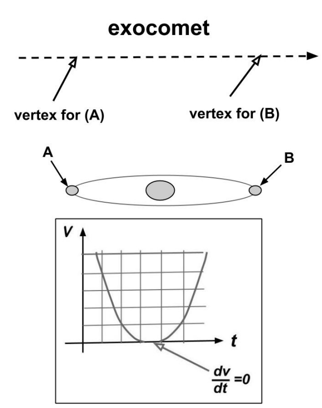

FIG. 12. Parallax experiment, to validate TPB in exocomet

11. TESTS TO VERIFY MY THEORY

Graph the Doppler-shift over distance from an objective system of measurement:
Sine t' is a rational function, a graph of Doppler-shift over distance would have an asymptote, according to TPB. As opposed to the geometric graph, which conventional "accelerated expansion" assumes. However, distance must be measured by an objective system, other than the redshift itself.

Double slit experiment: Construct a detector that verifies the presence of a photon (or particle) at a scale which is somewhere between the quantum scale and the observers scale. TPB should demonstrate a corresponding smaller wave. In theory this might be problematic, as the observer must view the results from the scale of his/her reference clock.

In The "Davisson-Germer Experiment" TPB predicts that if detecting instruments can be positioned much closer to the point of beam scattering, the intensities would become more isotropic, proportionately. However, the instruments would need to be on a scale much closer to the particles, themselves.

Correlate the spin and rotational velocities of various galaxies, black holes, pulsars, etc. Predicting a strong positive Pearson R value between such velocity and distance.

12. CONCLUSION

The law of parsimony [10] (Ockhams razor) favours the simpler explanation. Although, TPB makes a radical assumption. This single assumption seems to fit and explain quite a great deal of unrelated phenomena. I would argue that the combination of simplicity (without elaborate connotations) and ubiquitously observed in phenomenon is the strongest indication of a promising theory. TPB provides some resolution between GR and quantum mechanics. The same constant (K) is universal in macro and micro scales. (K) might be approximately equal to (h).

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