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

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July 12, 2015

Abstract

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

Photons traveling 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 very large scales.

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

TPB offers an alternative to ”accelerated expansion”:
Receding expansion, with decreasing time intervals, is interpreted as accelerated expansion.

TPB also offers alternative explanations to increased rotational velocity, The ”galaxy outer rim rotation mystery”, Schrodenger’s wave function probability and the ”double-slit-experiment”.

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. The scale will measure each successive tie (n) with decreasing spatial intervals, according to the inverse linear perspective equation:

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

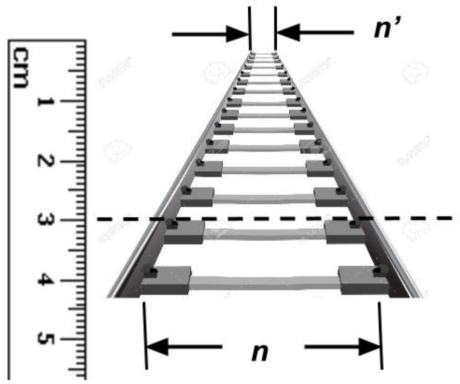

Figure 1: 2D linear perspective

Now, imagine the observer with a reference clock, measuring some motion with velocity (v) across (n)
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.

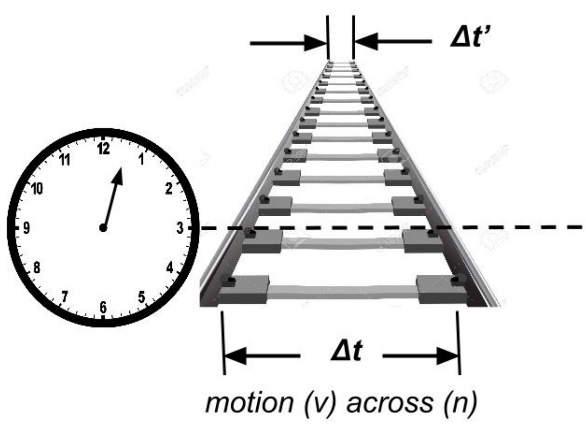

Figure 2: Time perspective

3 Decreasing time intervals appear equivalent to acceleration

Figure 3 illustrates actual uniform expansion (factoring out the TPB effect).

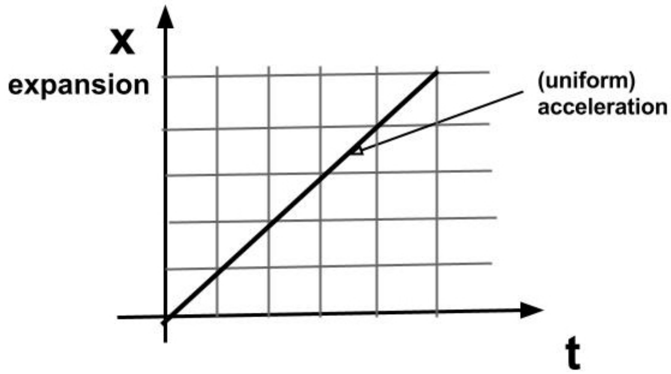

Figure 3: Actual uniform expansion (without TPB)

Figure 4 illustrates time perspective, as viewed from Earth. Remote galaxies appear to be expanding with acceleration. However, the acceleration is only an illusion of perspective.

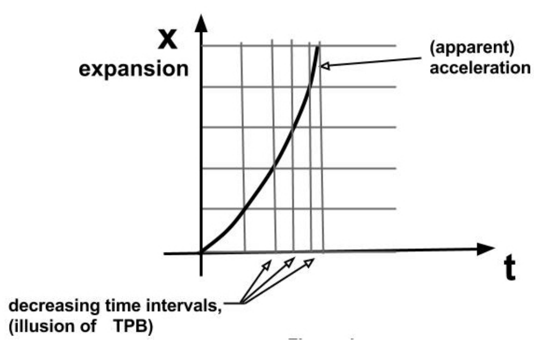

Figure 4: Apparent accelerated expansion

The actual expansion is essentially a derivative of observed expansion.

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

4 Alternate explanation for accelerated expansion

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,

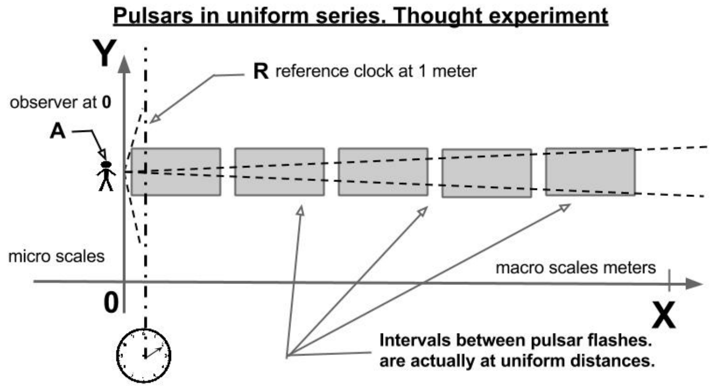

Figure 5: Shows the actual uniform distances between flashes

Figure 6. (below) demonstrates the TPB effect. Photons appear to be arriving with decreased time intervals. Flashes appear to be converging in time.

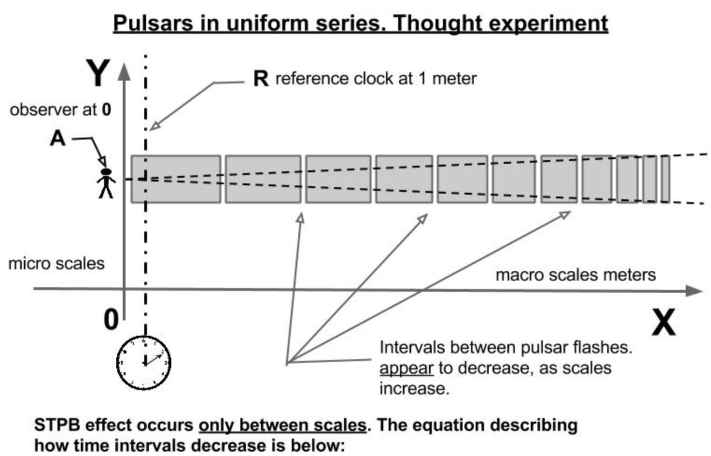

Figure 6: Flashes appear to be converging in time.

5 Rotational velocities over distances

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

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

Figure 7 (below) imagines a series of galaxies at equal intervals from the observer, with equal size and rotation. (X) dimension represents events in remote distance, as well as the remote past. Each successive duplicate galaxy's rotational velocity appears to increase, according to (t')

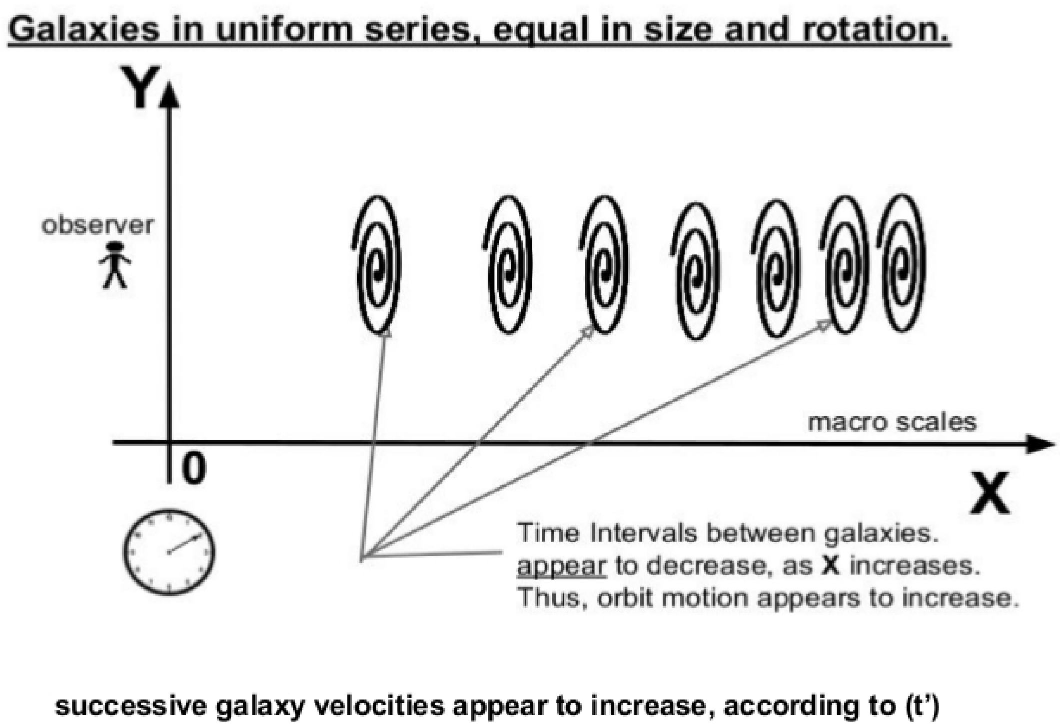

Figure 7: Thought experiment with uniformly spaced galaxies.

6 Outer Rime Rotation Velocity Mystery

The "Outer Rime Rotation Velocity Mystery" might 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 magnified, per (t'). In TPB, greater distance implies greater perspective distortion, which implies apparent increase of velocity.

7 Quantum scale TPB

Analogous to spatial convex distortions, as viewed in magnification:

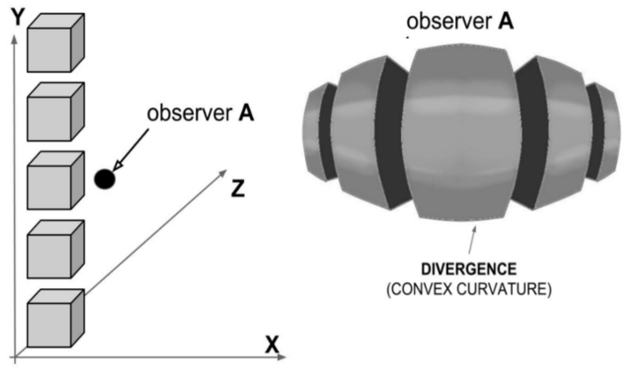

Figure 8: Spatial perspective in magnification.

In TPB, an observer, with reference clock, will measure time intervals of quantum particles with negative convergence, or divergence. Time is essentially magnified by t_2

$$t_2' = \frac{t_2 d}{d - K} \tag{3}$$

This divergence in time corresponds to a divergence in a particle's position (as time is related to position). The result is a spread out field.

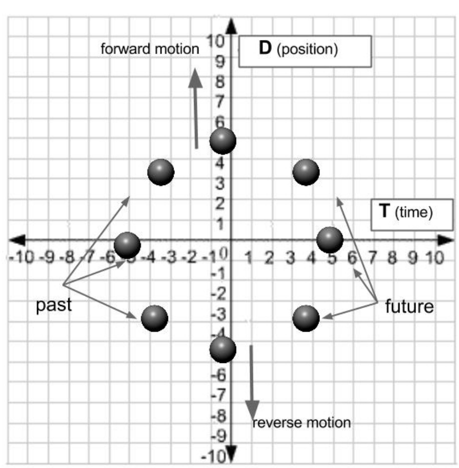

Figure 9: Apparent field with multiple position and multiple times.

TPB sugests that particle velocity (v) appears distorted by (t_2'). Since momentum $p = mv$, and m is invariant, the observed wavelength is proportionate to (t_2'). Thus,

$$\lambda \propto t_2' \tag{4}$$

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"**, is a classic example of such obervations between the detector's angular measurements (at the observer's scale) and the scale of electrons.
TPD 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.

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.

Figure 10 shows the experiment with the observer's (and reference clock) at the scale of the optical plate. However, the particle is at the quantum scale. Thus (t'_2) becomes significant.

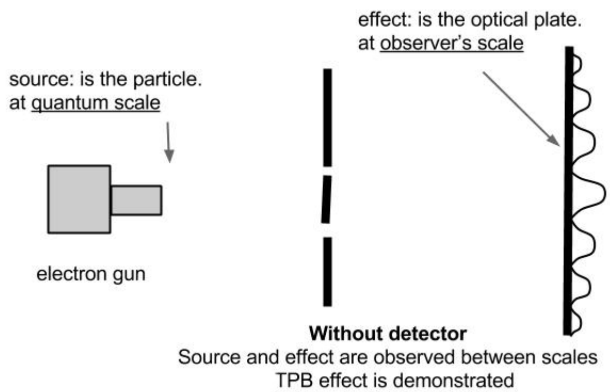

Figure 10: Without detector is a measurement between scales.

Figure 11 shows the experiment with the detector at essentially the same scale as the observer. (t'_2) is only measuring at the same scale (without any TPB effect), and therefore not significant.

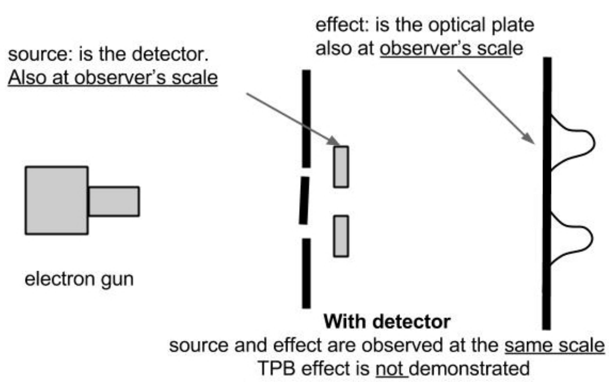

Figure 11: With detector is a measurement among same scales.

10 Predictions

- Spin rates of galaxy spirals, will appear to increase on the far side of the system and decrease on the near side.
- 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.
- 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) with signature curved / convex distortions and convergence to various horizon points. An exocomet, traveling normal to Earth, would decrease in velocity to point wher it is closest to Earth. This apex would be depend of the earth's position in parallax.

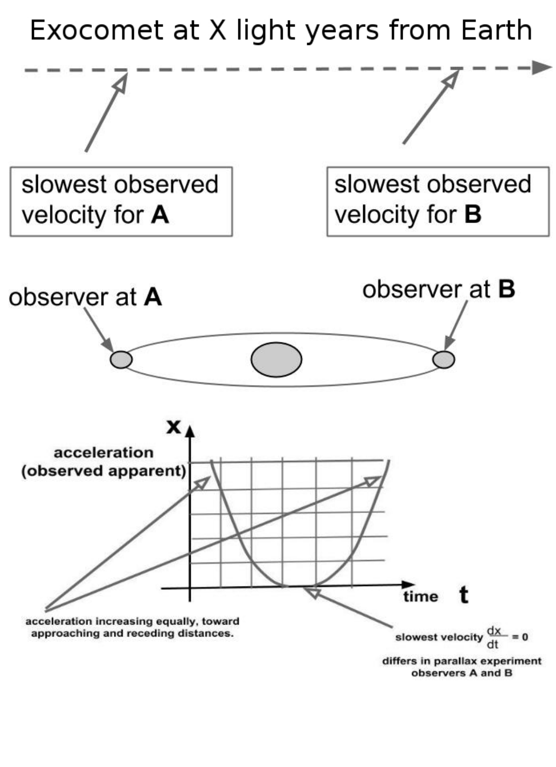

Figure 12: Parallax experiment, to validate TPB in exocomet

11 Tests to verify my theory

- Measure the above predictions: 1, 2, 3 and 4.
- 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 (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).