

Evolution of a Quantum of Action in Hubble Red Shift

Social and Historical Context of this Theory of the Hubble Red Shift

The Quantum does not tire. It gradually increases wavelength, and diminishes frequency.

All of frequency and its inverse, wavelength and its inverse, and energy and momentum change under certain conditions. At least three different kinds of shift are known to exist. These are

- I. Doppler velocity shift toward red or blue.
- II. Gravitational shift, also to red or blue.
- III. Hubble distance shift toward longer wavelengths.

Doppler shift is either way, depending on velocity of a source relative to an observer. In light from approaching sources, observed frequency increases and wavelength decreases. In light from receding sources, observed frequency decreases and wavelength increases. Velocity is not distance.

Gravitational shift is also either way, depending on whether light is rising from or falling toward a gravitationally massive object. In rising light, observed frequency decreases and observed wavelength increases. Distance, or Hubble shift changes the variables in only one direction - toward lower frequencies and longer wavelengths. It is a consequence only of distance between source and observer. It is of very slight magnitude, and many millions of light-years distance is required before Hubble's red distance shift can be clearly distinguished from Doppler Shift, in which it resembles light from sources moving away from the observer.

Galaxies do not typically move at velocities greater than four or five hundred kilometers each second, so that as distance increases, Hubble distance red shift gradually overcomes all velocity or Doppler shift. It is naturally impossible for a source to be at a negative distance from an observer. Immediately after Hubble's discovery of distance red shift, European interests moved to dominate the field with, among other things, a hasty and false claim that Hubble Red Shift could only be interpreted as a velocity shift. That contest for national supremacy must

be ended. That is likely to be a complicated political process, because that claim was used as a basis for the creation of an ideology called the Big Bang and Expanding Universe theories.

The Big Bang theory was proclaimed around 1955, just ten years after the 1945 explosion of an atomic bomb at White Sands in New Mexico. It was also just two or three years after the first fusion or thermonuclear weapons were tested in the Pacific Ocean. Little thought took place at that time regarding massively devastating effects on land and oceanic wildlife of every kind, and destruction of environment. The idea that the entire universe began with a Big Bang was a patent attempt to impose the condition on all mankind, that as far as human beings were concerned, the universe was beginning with the wartime success of the great military powers of the Allies which at the moment reigned supreme. Abrogating natural, evolutionary and geological history and the existence histories of all the civilizations of the world is no way to begin anew the billions of years of Earth's future.

The accompanying Expanding Universe theory was an obvious political construction intended to ensure the political, economic, military, civil and social programs of the nuclear nations would be expandable to dominate every tradition, culture, and civilization that had ever existed or that might challenge Allied supremacy. Now that extremely good measures have been made of the Earth and entire solar system, it is time for the truth to be comprehensive. A viable world, in which planet Earth is habitable and successful for millions of years, cannot be based on falsehood and deceit.

This theory presents the quantum as a shape-changing action wave in which the action, highly intense in frequency, energy, momentum and distance, gradually diffuses or leaks from manifolds in which these variables begin, through the topological boundaries into manifolds in which the conjugate dimensions of the action are least dense. That is, the action diffuses from energy into time within the wave, and momentum diffuses into wavelength. That diffusion can be seen as a process related or similar to entropy. There are only the two constants c , the speed, and h , the total action of the photon, and the variables of wavelength, energy, momentum, wavetime, wavenumber and frequency are all simply related and most commonly in use today.

As for me, I am a loyal and natural born citizen of the state of Washington in the United States, and a resident and inhabitant of this lovely Cascadia region. It took me twenty two years after 1958 when the observed Hubble Red Shift and

the official Big Bang and Expanding Universe theories were described to my physics class in Columbia High School, Richland, Washington. The equation was discovered in 1981, copyrighted immediately, and soon filed it with the Library of Congress.

Acceptance of what was once called "Tired Light" and "Photon Decay" for want of a better word was slow, until recently when it became clear the title "Quantum Evolution" was far more appropriate and in much better taste. I chose a minimum action path to present it to the world and I do not generally struggle with others to persuade them of it. Placing it on a web site was by far the most efficient and easiest tactic.

Acceptance came in unpredictable events, such as the release of the hit situation comedy "The Big Bang Theory" which was a good sign the nation is at last taking competition with the Official Theory with a sense of humor. PBS recently aired a show about cosmology in which it stated flatly that adherents of a stable universe are alive and thriving, or words to that effect. What the next event will be I cannot say.

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