

The Single Photon Version of the Double Slit Experiment: *Explanation Part II*

The key question *must be* the interaction of the moving Photon with the paving of stationary Empty Photons, particularly when the latter have formed into an interference pattern. But it must also include the inter-reactions throughout its trajectory. For example, if the speed of propagation of Light (or of any E-M Radiation) is actually the speed of induction of a quantum from one Empty Photon to another, then we have to ask, "*What will be the speed of the moving Photon?*" For such things as soon as they encounter the paving of Empty Photons will cause propagation within them, but "*How does this occur? Does the moving Photon maintain its integrity, and keep its quantum until it reaches the final screen?*"

And, if it does, where does the energy come from to elicit the propagation via the Empty Photon paving? For, if in some way it must come from the moving Single Photon, and if it isn't from the contained quantum, then it *must* come from some other energetic feature of that moving photon.

Now, if it came from the **speed** of that photon, we have a problem!

For to generate such accompanying Empty Photon oscillations (and many of them), the producer must be losing the energy required (and hence some of its speed of travel)

So, we return to the original conundrum, "*What will the speed of the moving photon be at various times?*"

And also, "*How can it maintain its direction?*"

Clearly, if the speed of propagation is as I have described, the then speed of the moving Photon may NOT be limited to the Speed of Light – because that is wholly determined by Photon-to-Photon inductions. The motion of a "particle" must involve momentum, and hence **Mass**, and though the idea of the positron/electron pair will seem to have zero Mass (as it has balancing Matter and Anti Matter components – that will be for detection purposes only, but intrinsically it will still have momentum and direction based upon its overall speed and direction and "contained total Mass".

Now, normal Photon-to-Photon propagation does not involve motion of the carrying entities: they remain stationary, and only the oscillation is passed along a veritable bucket-brigade of adjacent Empty Photons.

So, the energy there will be just for the E-M oscillations, and NOT for any required momentum.

Let us assume, therefore, that the moving Photon does indeed give up a proportion of its momentum (i.e. its speed) to agitate the interior of each of the Empty Photon it comes into contact with. But, at the same time, fully maintains its contained E-M quantum, and its direction of movement, though this would be clearly at a reducing speed for every agitated initial Empty Photon.

Thus, when it arrives at the Double Slit, it will go through only one of them, but will be immediately immersed in the interference pattern caused by the extended accompanying propagation in the background paving.

So, we then have a still-moving Photon, still carrying its full load internally, but reduced in speed and ploughing through that pattern, a double-fan shaped arrangement of cancelling or summing effects.

What still remains to explain is how the route of the moving photon will be affected by its passage through the interference pattern.

Now, the key feature of the "Electron Version" of the Double Slit Theory was that the electrons would have a range and a distribution of speeds determined by their common source, and these would be differentially diffracted by the Slits. And without the moving Photon being limited to a fixed Speed of Light, it could well be similarly affected by its source. So it may either go straight through (if encountering a series of cancellation patches in the interference, or be deflected (one way or the other) if it encountered a series of summing patches.

So, all we have to explain is how our moving Photon could be affected by such a field of interference.

In the electron version, it was obvious that the summed area would interact electrostatically with the charges of the electrons, and their passages would be explained.

But what could deflect a moving Photon with a zero summed charge? Just what are the electrostatic properties of the two mutually orbiting entities of equal size but opposite charges?

The usual assumption is that their "centre of Mass", around which they are orbiting, there is both zero resultant Mass and zero overall charge, but is this a valid assumption?

But perhaps we have forgotten the contained E-M oscillation!

That certainly varies between limits (both electrostatic and magnetic) with an overall *in-time* zero for both, but never simultaneously, at any given moment, zero for both. Indeed there are **no** times when both oscillations are zero together - for when one is zero the other will be at a maximum. This is because the electrostatic and the magnetic oscillations are 90° out of phase with each other.

Thus, if the Moving Photon can interact with the empty photons interference patten entirely due to the enclosed E-M oscillations, then Moving Photon could indeed be deflected by the interference pattern.

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