

The Double Slit Experiment & the Role of the Observer I

Before I attempt to deal with this point, I must preface it with a word about Form. The Forms displayed in the various versions of the Double Slit Experiment are not the same because the **actual causes** for each of the phenomena are the same. Just as all phenomena displaying wave motion don't have exactly the same causes. They are merely recurring formal patterns, and as such they are **universal**, occurring everywhere, rather than essential and causative. I have spent some time on a host of phenomena displaying similar forms, and they share NO common essence, but merely a common Form.

A repeated question concerning my design for an animation of the Double Slit Experiment with electrons, is the one involving the "effect" of **observation** upon what actually occurs. I'm afraid that this extra "constraint" appears nowhere in my considerations, and my reasons are important.

When a dog runs through the immaculate wave patterns on a puddle, I do not attempt to include it in my theories of wave motions.

It is not just laziness, but scientific principle that demands a very different approach.

I do not expect a **single solution** to cover all versions of this experiment, neither do I think that an equation is ever the final objective. For an equation is merely the best and most succinct way of **describing** a shape or pattern, when that Form is treated totally separately from the actual concrete conditions.

By itself such a Form **explains** nothing.

To arrive at a scientific Theory, involves going well beyond description to actual **cause**.

And, in my experience, there are vastly more causes than there are equations. The arrival at an equation occurs very early in the process of investigation of a phenomenon, and sometimes a truly vast time elapses before some phenomena are even partly and **concretely** explained.

Thus, though I have now covered all the various phenomena connected with the different Double Slit Experiments, they certainly do NOT have the exact same causes, even when they appear to display the exact same patterns.

There is a major and general flaw in how most scientific experiments are carried out, and how a supposed Theory is arrived at.

That is not to say that all the results are wrong: that is certainly not the case. But what many researchers think they have found, and what they have actually found can be significantly different.

And this is down to the universally subscribed to Principle of **Plurality**.

This sees the world as analysable into various Wholes, which in turn can be further reduced to its series of Parts. And these Parts are considered to be quite **separable**. What this means is that wherever these appear they are caused by the **same law**, and hence are presumed to have exactly the **same causes**.

They aren't, and they don't!

This inversion of the World seeks abstract equations, which are supposed to **cause** the World to act as it does. They don't!

Indeed, laws are not eternal, nor are they primary. They are the **products** of concrete Reality. Many simultaneous relations affect and indeed **change** one another, and only then produce a Law.

All laws are the last thing to be produced and not the first.

The exact opposite opinion is that believed in by the Copenhagen School of Sub Atomic physicists, who insist that the only objective things in the Universe are these essential Laws. Almost a century ago they

abandoned Explanatory Physics, for instead, this worship of the equation, which has led to the most ridiculous ideas (especially on Modern Cosmology).

To give you some idea of my chosen alternative approach, I did not seek any equations in addressing the Double Slit Experiment with Electrons. Instead, I looked only for physical causes.

No probabilities were necessary!

No individual electrons passing simultaneously through both slits, and NO electron interfering with itself on the other side was presumed to have occurred.

Yet the phenomenon was explained, as has been the Double Slit Experiment with Light, the Double Slit Experiment with Photons, the Double slit Experiment with single photons (sent one-at-a-time), and, finally, a whole series of ideas about the Universe, none of which contains the usual Copenhagen version of Pair Productions and Pair Annihilations.

The secret (if there is one) was to abandon **Plurality**, and to instead look at how many inter-related and mutually affecting factors can cause phenomena, *and* generate Forms, and hence to always see these as mere products and NOT driving essences.

I appreciate why this may not appear satisfactory to many who are interested in these questions, but to them I ask an important question, “*Do you seek equations and their use?*”

For, if you do, you may quite legitimately be a mathematician or a technologist.

But I want to understand! To know “Why?” I am a physicist!

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