Re: Epistemology 201: The Science of Science

Source: http://sci.tech−archive.net/Archive/sci.physics/2005−02/7769.html

---

From: Albert (*albertwagner_at_cox.net*)
Date: 02/16/05

Date: Tue, 15 Feb 2005 18:55:53 −0600

Richard Herring wrote:
> In message <vNnQd.6740$zs.2469@okepread04>, Albert
> <albertwagner@cox.net> writes
>
>> Richard Herring wrote:
>>
>>> In message <U4eQd.6716$zs.5227@okepread04>, Albert
>>> <albertwagner@cox.net> writes
>>>
>>>> robert j. kolker wrote:
>>>>
>>>>> Albert wrote:
>>>>>
>>>>>> Do you know the why of that statement? Because an experiment has
>>>>>> been performed that yields evidence that a photon is a particle.
>>>>>> Another experiment has been performed that yields evidence that a
>>>>>> photon is a particle.
>>>
>>> wave?
>>
>> Yes, sorry.
>>
>>>>>> How does QM resolve the problem? They invent the hypothesis
>>>>>> that it is both and present it to the world as the truth.
>>>
>>> No, they say it's a particle whose dynamics are governed by a wave
>>> equation.
>>
>> A difference without a difference.
>
> No, a substantive one. If you don't understand the difference between
> what you said and what I said, you're manifestly not equipped to discuss
> QM.

And if you cannot explain the difference then you are manifestly
not equipped to pontificate about QM.

>>>>>> But if you find that process logical, then run with it.
>>>>>> Personally, I find it not only illogical but ugly.
>>>>>
>>>>>
>>>>> That ugly hypothesis made possible the computer with which you
>>>>> spew your nonsense.
>>>>
>>>>
>>>> Aren't we fortunate that enough of the hypothesis mapped to reality
>>>> to accomplish that?
>>>
>>> It's hardly surprising: that's what the hypothesis was defined to do.
>>
>>
*>> It's hardly surprising because the theory of transistors *followed**
>> the invention of transistors.
>
>
> Oh, please. Not that old chestnut again.
>
> Bloch's theorem: 1926.
> Brillouin's theory of band gaps: 1930.
> Wagner and Schottky on lattice defects: 1931.
> Wilson's band theory and the concept of holes: 1931.

Yes, there was a lot of physics going on. I assume that you
believe the above 4 cites to be part of QM and that because they
are dated before 1947 that of necessity the inventors of the
transistor relied upon them. It simply doesn't follow. Nor is
there any historical record that they did. As I said to Bob. I
stand by my statement and I defy you to prove the falsity of my
statement with historical evidence regarding just what the actual
process of invention consisted of.

>>>> Actually, that is only true for certain types of transistors
>>> Only if you redefine "certain" to mean "all".
>>
>> Not true.
>
*> True. Enough of the hypothesis maps to reality to describe *all* types*
> of transistors.

After the fact of invention.

>> The invention of transistors was not dependent on anything in QM.
>
> Since the inventors clearly knew about and understood QM, how can you be
> so sure? They weren't some bunch of uneducated tinkerers, they were
> solid−state physicists.

They also clearly knew about all previous work with
semiconductors by other than 'solid−state physicists'. Read the
history. There was a *lot* of tinkering going on and precious
little, if any, discussion of QM.

>> It would have happened anyway. There are newer types of transistors
>> that followed QM's application to a theory of semiconductors.
>>
>>> I'm not aware of any satisfactory classical theory of
>>> semiconductors, beyond the hand−waving kind of explanation that
>>> sneaks in its quantum assumptions without stating them.
>>
>> The invention of semiconductors did not depend on an 'classical theory
>> of semiconductors'. Such theories were invented after the fact.

−−
"Don't you see that the whole aim of Newspeak is to narrow the
range of thought? In the end we shall make thoughtcrime literally
impossible, because there will be no words in which to express it."
     −− George Orwell as Syme in "1984"