Subject: Re: What The Bleep Do We Know!?
Posted by NeoSaber on Sat, 02 Sep 2006 19:07:24 GMT
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Blazer wrote on Sat, 02 September 2006 12:54Bear in mind that, as HL said, the science is explained in such a way as to attempt to be understandable by people who have no grasp of science already. It's pretty hard to explain subatomic physics to folks who are not used to thinking about things that they cannot see with the naked eye and hold in their hands.

Maybe my standards are too high, but the book The Elegant Universe was written for people who don't understand this stuff, yet it still went into decent detail about things like the double slit experiment, probability waves, and the uncertainty principle.

Blazer wrote on Sat, 02 September 2006 12:54I think this clip of the "double-slit experiement" (it's not something that was in the film you watched), is a good "dumbing down" so that anyone can understand it: http://www.whatthebleep.com/trailer/DS_sm2.wmv

(EDIT: the clip above is 11.2MB)

That very experiment shows exactly how much we do not know about how subatomic things work, since we learn by observing the behavior of things, its hard for us to figure something out if the results are changed by observing or measuring.

The clip makes a huge leap that is probably the biggest fault in the movie as well. It equates measuring to observing. When you observe, you "take in" your surroundings. When you measure, you go and interfere with your surroundings. An observer doesn't send something at the particle to interfere with it, but if you want to measure it, you have to shoot something back at it in order to mark its position.

On a macroscopic scale, you shine a light on a brick to examine it. On a subatomic scale, what can you shoot at a particle that won't mess it up? The smallest, most delicate object you can shoot at it is another subatomic particle. It's equal in force and disrupts the experiment. That's where the uncertainty principle and probability waves come from. If you leave it alone, you get a wave pattern, but if you interfere with it you get a particle pattern. You can't test what causes wave patterns because the test isn't "delicate" enough. Scientists then rely on probability waves as an untestable explanation of how wave patterns form. That's probably my biggest gripe with quantum physics. If the theory claims to be untestable, then its not science.

Blazer wrote on Sat, 02 September 2006 12:54P.S. Even though you were mysteriously somehow able to download the 700MB movie with no problems, your previous experiences you describe still lead me to suggest that you contact your ISP and get them to fix your connection...although you should consider that perhaps it is already fixed, and you just proved it. Maybe since you believed it was broken, you stopped trying to do anything that you thought would fail. Kind of ironic, because one of the themes of the film you watched, was about how people set their own barriers

I know my problems are not fixed. I waited for my router to glitch in the morning before downloading it so it would be freshly restarted before I began. You're server must be insanely fast or something because I got the whole file in 35 minutes. Didn't give my router enough to glitch

again or my ISP time to cut me off. About an hour later, the router glitched again.

It did seem a little ironic to me though.