

You are Probably Here

When you have eliminated the impossible, what ever remains, however improbable, must be the truth.
-- Sir Arthur Conan Doyle --

Clearly a lot of people have at one time or another resorted to one of those maps on the wall with an arrow pointing to a spot that says, YOU ARE HERE. But are you?

Much of what we believe about reality is based upon our perceptions. We see and feel reality all around us and are quite sure that concrete is solid, gravity keeps us firmly planted on the ground, the earth orbits the sun, and our pay-checks will be less than our desires. Still, there is sometimes a nagging doubt that things are exactly what they seem.

In the world of Quantum Physics this is often exemplified by a mind experiment referred to as Schroedinger's Cat. This thought experiment was used to illustrate the issues surrounding the dual nature of matter as both particles and waves. For example in some cases we observe electrons behaving like particles that bounce off of one another and impact things just like particles. On the other hand we can propel electrons through a pair of slits in a barrier and watch the interference patterns they generate that tell us that electrons are behaving like waves rather than particles. Which is the truth? Which is reality?

Ernst Shcroedinger proposed a thought experiment that showed an inherent paradox in this approach to understanding what is going on. This is the Schreodinger's Cat experiment. What Schroedinger proposed, but never actually did, was to put a cat in a large box with a vial of deadly poison. The poison is set up to be released when a radioactive substance decays and hits a trigger mechanism. The probability of this happening is totally random. Then he theorized putting a cat in the box with the poison and sealing the box so there is no way to see what is going on. At any time the cat could be dead or it could be alive. That is to say there is an uncertainty in its position, or state. If we were a physicist we could write a wave equation that describes the state of the cat (but we aren't so we won't). What the equations, based upon Quantum Theory, tell us is that there are probability waves indicating that somehow the cat is both dead and alive at the same time due to an inherent uncertainty in its state. But then something interesting happens.

At some later time, if we open the box to see of the cat is Dead or Alive, the cat stops being in an indeterminate state and is found to be dead or alive. Not both. What we have just done is somehow changed the cat from being both dead AND alive to being dead OR alive just by observing it. In Quantum Theory we say that the cat's wave function has collapsed to a single condition.

If we apply this to the earlier examples cited for an electron, we see that a particle before it is observed can be in any allowed state. By observing the particle we change its state to the one we see, only one possible state out of many allowed. This appears to be a paradox. Somehow particles can exist in any state possible before we measure them. Then, in measuring them, we have altered them. While this is what Quantum Theory tells us, it just seems wrong.

Let's "be the cat" for a moment (clearly a Zen comment). From our perspective as the cat, we would quite clearly know if we were alive even if an outside observer could not see us. You could say that we might not "know" whether we are dead, but that's another issue. In any event, our "aliveness" is not dependent upon someone outside the box being able to see us. We would consider this an objective reality that is not dependent upon being observed. Yet, is it possible that we really could be both dead and alive at the same time and not know it.

In the Nicole Kidman movie, *The Others*, we are faced with a woman (Grace) and her children (Anne and Nicholas) who have become virtual prisoners of their own making. For their own safety, they have confined themselves to living in their huge mansion on the Isle of Jersey during the closing days of WWII. Grace does everything possible to protect herself and her children as strange events start to take place within the confines of their home. Eventually, Anne describes and then sketches a boy named Viktor, whom no one else can see. Ultimately we find that perhaps believing that we are alive doesn't mean that this is reality. Viktor and his family have just moved into the mansion being "haunted" by Grace, Anne and Nicholas.

So who is to say if what we perceive is reality if perhaps we can't even be sure if we ourselves are real? As has often been pointed out, it can be incredibly difficult to prove that a given person exists since almost everything that could be used as "proof" could be fake or illusory itself. The novelette, *We Can Remember It for You Wholesale*, by Philip K. Dick features a classic meshing of reality, false memory and real memory. The story, later adapted as the movie "Total Recall", illustrates the possibility that everything we believe about ourselves is wrapped up in our memories. Yet, even memories may be suspect if it turns out that it is possible to implant memories in our head to give us a false sense of who we are and what our history has been all about.

In "We Can Remember it for You Wholesale" the attempt to implant some Mars memories of Quail as a secret agent reveals that Quail actually is an undercover government assassin with a mind full of dangerous secrets. The staff of Rekal (the company that implants memories for a price) gets Quail out of there. However, upon arriving home, he finds physical evidence to support that his implanted memories are more than just wishful thinking. The government that was responsible for covering up Quail's very real background as a secret agent tries to kill him but instead Quail manages to make a deal. He returns to Rekal to have his Mars memories once more erased, and is offered alternative heroic false memories. The Rekal staff again begin the process of inserting false memories only to discover yet another set of suppressed memories revealing that the unbelievable memories they are about to insert are already there and are true. Amazingly, all the things Quail wants to remember doing he has already done!

Yet reality must be more than just a memory especially for some unique people among us. Before her death, Caris Corfman was an accomplished actress with an interesting problem. After removal of a cancerous brain tumor Caris became incapable of forming any new long term memories. She had long term memories, just no way to create new ones. Every day was a restart (like the heroine in "Fifty First Dates"). Over the fourteen year period between the surgery and her death Caris did develop a slight ability to retain a few long term memories, but this was very spotty and undependable and mostly consisted of impressions that things had

happened rather than clear memories. Yet, despite this there is little doubt that Caris was real and even succeeded in returning to the stage for a short time prior to her death. So, even with a degree of damaged self awareness, she knew she was alive despite having trouble remembering her life from one day to the next.

There is something more to life than our being “real” just because someone else observes us. So, the next time you find yourself in front of that map that says YOU ARE HERE, consider this; you probably really are here.